

Kealakekua Bay State Historical Park Master Plan Improvements

FINAL ENVIRONMENTAL STATEMENT

October 2020

Prepared by
Belt Collins Hawaii
for the
Department of Land
and Natural Resources

BELT COLLINS

Department of Land and Natural Resources
State of Hawaii

HAWAII STATE PARKS

Table of Contents

PROJECT SUMMARY SHEET ..... **i**

1. INTRODUCTION AND SUMMARY **1-1**

1.1 Kealakekua Bay State Historical Park 1-1

1.2 Proposed Action 1-1

1.3 Background 1-11

1.3.1 Kealakekua Bay in Hawai‘i’s History 1-11

1.3.2 Creation of the Park and Historic District 1-11

1.3.3 Previous Park Plans 1-12

1.3.4 Studies of Kealakekua Bay State Historical Park Resources 1-12

1.3.5 Recent and Current Use of the Park 1-14

1.4 Purpose and Need 1-15

1.4.1 Project Objectives 1-15

1.4.2 Purpose of This Environmental Impact Statement Document 1-16

1.5 Relationship to Land Use Policies 1-16

1.6 Required Permits and Approvals 1-16

1.7 Summary of Alternatives 1-17

1.7.1 Alternatives Considered Further in this EIS 1-17

1.7.2 Alternatives Proposed Earlier, but Not Considered Further in this EIS 1-18

1.8 Summary of Potential Impacts and Mitigation Measures 1-18

1.9 Summary of Secondary and Cumulative Impacts 1-20

1.10 Summary of Irreversible and Irretrievable Commitments of Resources 1-20

1.11 Summary of Unresolved Issues 1-21

2. PROPOSED ACTION AND ALTERNATIVES **2-1**

2.1 Process of Developing Alternatives 2-1

2.2 Master Plan Alternatives 2-1

2.3 Proposed Action 2-16

2.3.1 Survey and Further Stakeholder Input 2-16

2.3.2 Synthesis of DSP and Stakeholder Input in the Proposed Action 2-17

2.4 Phasing 2-24

2.5 Preliminary Cost Estimates 2-24

2.6 Fit of the Proposed Action and Alternatives with the Purpose of the Master Plan..... 2-24

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES..... 3-1

3.1 Climate and Air Quality..... 3-1

3.1.1 Existing Conditions..... 3-1

3.1.2 Climate Change..... 3-1

3.1.3 Potential Impacts and Mitigation Measures..... 3-2

3.2 Geology and Topography..... 3-2

3.2.1 Sites within the Park..... 3-2

3.2.2 The Surrounding Region..... 3-3

3.2.3 Potential Impacts and Mitigation Measures..... 3-5

3.3 Groundwater, Hydrology, Surface Water and Drainage..... 3-5

3.3.1 Existing Conditions..... 3-5

3.3.2 Potential Impacts and Mitigation Measures..... 3-8

3.4 Terrestrial Ecosystem, Flora and Fauna..... 3-8

3.4.1 Existing Conditions..... 3-8

3.4.2 Potential Impacts and Mitigations..... 3-11

3.5 Marine Environment and Biota..... 3-12

3.5.1 Existing Conditions..... 3-12

3.5.2 Potential Impacts and Mitigations..... 3-16

3.6 Natural Hazards..... 3-16

3.6.1 Earthquakes..... 3-16

3.6.2 Volcanic Hazards..... 3-16

3.6.3 Tsunami Inundation..... 3-17

3.6.4 Hurricanes..... 3-17

3.6.5 Potential Impacts and Mitigation Measures..... 3-17

3.7 Historic and Cultural Resources..... 3-17

3.7.1 Background and Existing Conditions..... 3-17

3.7.2 Potential Impacts and Mitigation Measures..... 3-21

3.8 Scenic Resources..... 3-22

3.8.1 Existing Conditions..... 3-22

3.8.2 Potential Impacts and Mitigation Measures..... 3-22

3.9 Socio-economic Environment 3-22
3.9.1 Existing Conditions 3-22
3.9.2 Potential Impacts and Mitigation Measures 3-31
3.10 Traffic and Circulation 3-32
3.10.1 Existing Conditions 3-32
3.10.2 Potential Impacts and Mitigation Measures 3-36
3.11 Vessel Traffic in and to Kealakekua Bay 3-38
3.11.1 Existing Conditions 3-38
3.11.2 Potential Impacts and Mitigation Measures 3-41
3.12 Public Facilities and Services 3-42
3.12.1 Police 3-42
3.12.1.1 Existing Conditions 3-42
3.12.1.2 Potential Impacts and Mitigation Measures 3-42
3.12.2 Fire Protection and Emergency Services 3-42
3.12.2.1 Existing Conditions 3-42
3.12.2.2 Potential Impacts and Mitigation Measures 3-43
3.12.3 Medical Services 3-43
3.12.3.1 Existing Conditions 3-43
3.12.3.2 Potential Impacts and Mitigation Measures 3-43
3.12.4 Education 3-43
3.12.4.1 Existing Conditions 3-43
3.12.4.2 Potential Impacts and Mitigation Measures 3-43
3.13 Infrastructure 3-44
3.13.1 Water 3-44
3.13.1.1 Existing Conditions 3-44
3.13.1.2 Potential Impacts and Mitigation Measures 3-44
3.13.2 Sewage 3-46
3.13.2.1 Existing Conditions 3-46
3.13.2.2 Potential Impacts and Mitigation Measures 3-46
3.13.3 Electrical 3-48
3.13.3.1 Existing Conditions 3-48
3.13.3.2 Potential Impacts and Mitigation Measures 3-48

3.13.4 Telecommunication 3-48
3.13.4.1 Existing Conditions 3-48
3.13.4.2 Potential Impacts and Mitigation Measures 3-48
3.14 Cumulative and Secondary Impacts 3-48
4. Relationship to Public Policies and Programs 4-1
4.1 Introduction 4-1
4.2 Relationship to Federal Laws and Executive Orders 4-1
4.2.1 Clean Air Act 4-1
4.2.2 Clean Water Act 4-1
4.2.3 Coastal Zone Management Act 4-2
4.2.4 Endangered Species Act 4-2
4.2.5 Fish and Wildlife Coordination Act 4-3
4.2.6 Migratory Bird Treaty Act 4-3
4.2.7 Marine Mammal Protection Act 4-3
4.2.8 Magnuson-Stevens Act 4-3
4.2.9 National Historic Preservation Act 4-4
4.2.10 Compliance with Executive Orders 4-4
4.2.10.1 EO 12898, Environmental Justice in Minority Populations and Low-Income Populations 4-4
4.2.10.2 EO 13045, Protection of Children from Environmental Health Risks and Safety Risks 4-5
4.2.10.3 EO 13089, Protection of Coral Reefs 4-5
4.2.10.4 EO 13112, Invasive Species 4-5
4.3 Relationship to State Laws and Policies 4-5
4.3.1 Hawai‘i Revised Statutes, Chapter 343 4-5
4.3.2 Hawai‘i State Plan 4-6
4.3.2.1 Overview 4-6
4.3.2.2 Hawai‘i State Plan 4-6
4.3.2.3 State Functional Plans 4-12
4.3.3 State Environmental Policy 4-13
4.3.4 Hawai‘i Coastal Zone Management Program 4-13
4.3.5 Hawai‘i State Land Use Law 4-17
4.3.6 Hawai‘i Revised Statutes, Chapter 6E, Historic Preservation 4-18

4.3.7 State "Complete Streets" Policy 4-20
4.4 Relationship to County of Hawai'i Policies 4-21
4.4.1 Hawai'i County General Plan 4-21
4.4.2 Hawai'i County Land Classification 4-25
4.4.3 Kona Community Development Plan 4-28
4.4.4 Special Management Area 4-31
4.5 List of Required Environmental Permits and Consultations 4-33
5. Additional Issues 5-1
5.1 Significance Criteria 5-1
5.2 Relationship between Short-Term Uses of Environmental Resources and Long-Term Productivity 5-1
5.3 Irreversible and Irretrievable Commitments of Resources 5-1
5.4 Unresolved Issues 5-2
6. PUBLIC INPUT AND CONSULTATION 6-1
6.1 Public Input in the Master Plan Process 6-1
6.2 Agency Consultation for this EIS 6-1
6.3 Public Input on the EIS 6-4
6.4 Community Interviews and Ethnography 6-7
7 **REFERENCES 7-1**

List of Figures

Figure 1-1: Location Map 1-3
Figure 1-2: Vicinity Map 1-4
Figure 1-3: Sections within the Park 1-5
Figure 1-4: TMK Map 1-6
Figure 1-5: Ocean approaches to the Park 1-7
Figure 2-1: No Action, Kaʻawaloa 2-8
Figure 2-2: No Action, Nāpōʻopoʻo 2-9
Figure 2-3: Alternative A, Recreational Focus, Kaʻawaloa 2-10
Figure 2-4: Alternative A, Recreational Focus, Nāpōʻopoʻo 2-11
Figure 2-5: Alternative B, Recreation and Historical Balance, Kaʻawaloa 2-12
Figure 2-6: Alternative B, Recreation and Historical Balance, Nāpōʻopoʻo 2-13
Figure 2-7: Alternative C, Historical Focus, Kaʻawaloa 2-14
Figure 2-8: Alternative C, Historical Focus, Nāpōʻopoʻo 2-15
Figure 2-9: Proposed Action, Kealakekua Bay 2-18
Figure 2-10: Proposed Action, Kaʻawaloa 2-19
Figure 2-11: Proposed Action, Nāpōʻopoʻo 2-20
Figure 3-1: Submarine Groundwater Discharge in Kealakekua Bay 3-6
Figure 3-2: Flood Hazard Map 3-7
Figure 3-3: Habitat Types 3-9
Figure 3-4: Marine Habitat Zones 3-15
Figure 3-5: Nāpōʻopoʻo Census Blocks, 2010 3-24
Figure 3-6: Hōnaunau-Nāpōʻopoʻo Census Designated Place and Comparison Census Geographies. 3-26
Figure 3-7: Existing Land Transportation Access 3-33
Figure 3-8: Intersection of Nāpōʻopoʻo Road, Puʻuhonua Road and Beach Road 3-35
Figure 3-9: Water Improvements for the Proposed Action 3-45
Figure 3-10: Proposed Utilities, Nāpōʻopoʻo Section 3-47
Figure 4-1: State Land Use Classification 4-19
Figure 4-2: County Land Use Pattern Allocation Guide (LUPAG) 4-26
Figure 4-3: County Zoning 4-27
Figure 4-4: Special Management Area 4-32

List of Tables

Table 1-1: Components and Objectives of Proposed Action 1-8
Table 1-2: List of Anticipated Permits, Consultations and Approvals 1-17
Table 1-3: Impacts and Mitigations of the Master Plan Improvements 1-19
Table 2-1: Master Plan Alternatives: Themes and Objectives 2-2
Table 2-2: Master Plan Alternatives: Components 2-3
Table 2-3: Components and Objectives of Proposed Action 2-21
Table 2-4: Preliminary Cost Estimates (2020 dollars) 2-24
Table 2-5: Likely Realization of Master Plan Objectives, by Alternative 2-25
Table 3-1: Population Change, Hawai'i County and Districts, since 1980 3-23
Table 3-2: Population Characteristics: Age 3-27
Table 3-3: Population Characteristics: Race and Place of Birth 3-27
Table 3-4: Poverty and Disability Status 3-28
Table 3-5: Housing and Household Characteristics 3-29
Table 3-6: Economic Characteristics 3-30
Table 3-7: Level of Service in Studied Intersections 3-37
Table 3-8: Daily Visitation in Kealakekua Bay by Vessels 3-39
Table 3-9: Visitation in Kealakekua Bay December 2009 3-40
Table 3-10: Permits Issues between July 1, 2018 to June 30, 2019 3-41
Table 4-1: Hawai'i State Plan–HRS Chapter 226, Part I 4-6
Table 4-2: Coastal Zone Management–HRS Chapter 205A 4-14
Table 4-3: County of Hawai'i General Plan: Goals 4-22
Table 4-4: Kona Community Development Plan 4-28
Table 4-5: Permit, Approval or Consultation 4-33
Table 6-1: Agency and Public Comments 6-1

List of Appendices

APPENDIX A Historic Sites and Cultural Resources
APPENDIX B Cultural Impact Assessment
APPENDIX C Biological Resource Survey Report
APPENDIX D Swim with Dolphin Activities in Kealakekua Bay, Hawai'i
APPENDIX E Transportation Impact Analysis Report
APPENDIX F Water Usage Calculations
APPENDIX G Kealakekua Bay State Historic Park Stakeholder Survey
APPENDIX H Comments on the Environmental Impact Statement Preparation Notice
APPENDIX I Comments on the Draft Environmental Impact Statement
APPENDIX J Community Interviews

List of Acronyms

ADA	Americans with Disabilities Act
AIS	Archaeological Inventory Survey
BCH	Belt Collins Hawaii LLC
BMP	Best Management Practices
CAA	Clean Air Act
CDP	Census Designated Place
CFR	Code of Federal Regulations
CIA	Cultural Impact Statement
CWA	Clean Water Act
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DAGS	Hawai‘i State Department of Accounting and General Services
DBEDT	Hawai‘i State Department of Business, Economic Development and Tourism
DHHL	Hawai‘i State Department of Hawaiian Home Lands
DLNR	Hawai‘i State Department of Land and Natural Resources
DOCARE	Division of Conservation and Resource Enforcement, DLNR
DOH	Hawai‘i State Department of Health
DOT	Hawai‘i State Department of Transportation
DSP	Division of State Parks, DLNR
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EO	Executive Order
ESA	Endangered Species Act
FWCA	Fish and Wildlife Coordination Act
HAR	Hawai‘i Administrative Rules

HRS	Hawai‘i Revised Statutes
KBSHP	Kealakekua Bay State Historical Park
LUC	Land Use Commission
LUPAG	Land Use Pattern Allocation Guide (Hawai‘i County)
MBTA	Migratory Bird Treaty Act
MLCD	Marine Life Conservation District
MMPA	Marine Mammal Protection Act
NAAQS	National Ambient Air Quality Standards
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge System
OCCL	Office of Conservation and Coastal Lands, DLNR
OHA	Office of Hawaiian Affairs
PVC	Polyvinyl chloride
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SHPD	State Historic Preservation Division, DLNR
SMA	Special Management Area
SUP	Stand-Up Paddleboard
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

PROJECT SUMMARY SHEET

Project Name:	**Kealakekua Bay State Historical Park Master Plan Improvements** **Final Environmental Impact Statement**
Location:	Keōpuka, Kaʻawaloa and Kealakekua, South Kona District, Hawaiʻi County
Tax Map Keys:	3-8-1-7:50; 3-8-1-10:1; 3-8-1-11:1; 3-8-1-11:3; 3-8-1-11:4; 3-8-1-11:5; 3-8-1-11:6; 3-8-1-11:7; 3-8-1-11-8; 3-8-1-11:9; 3-8-1-11:10; 3-8-1-11:12, 3-8-1-11:13; 3-8-1-11:14; 3-8-1-11-16; 3-8-2-4-1; 3--8-2-4-2; 3-8-2-4:8; 3-8-2-4:9; 3-8-2-4:10; 3-8-2-4:15
Applicant:	State of Hawaiʻi, Department of Land and Natural Resources, Division of State Parks
Contact:	Martha Yent Division of State Parks Department of Land and Natural Resources P.O. Box 621 Honolulu, HI 96809
Consultant:	Belt Collins Hawaii LLC
Contact:	Allen Kam Belt Collins Hawaii LLC 2153 N. King Street, Suite 200 Honolulu, HI 96819
Approving Agency:	Governor, State of Hawaiʻi
HEPA Triggers:	Use of State land and funds Use of land in the Conservation District Use of land in the shoreline area Use of land in a Historic District Construction of a helicopter landing zone
Land Area:	Approximately 537 acres, of which 315 acres are in the waters of Kealakekua Bay, and 222 acres are located on land surrounding the bay.
Recorded Fee Owner:	State of Hawaiʻi
Existing Use:	State Park

State Land Use District:	Conservation, except for 1.12 acres in two parcels at Nāpōʻopoʻo, which are in the Urban District
Proposed Action:	Development or replacement of facilities needed to support preservation and interpretation of the Park's resources, while encouraging safe, sustainable recreational use and visitation of Kealakekua Bay State Historical Park, notably: ***Kealakekua Bay*:** ~~Restoration~~ Installation of navigational aids to demarcate the boundaries of the State Historical Park/Marine Life Conservation District; replacement ~~restoration~~ of navigational aids identifying rockfall danger zones; use of buoys to demarcate a swimmers-only area offshore from the Cook Monument ~~; use of buoys to demarcate a zone dedicated to spinner dolphins~~. ***Kaʻawaloa*:** Installation of a waterless toilet; restoration of the cultural landscape; construction of an interpretive shelter and trails in areas where archaeological surveys have been completed; and demarcation of a helicopter landing zone for emergency use and maintenance. ***Nāpōʻopoʻo*:** Repair ~~Restoration~~ of the pier at the Landing; development of a new parking area, interpretive center with restrooms, and trails; restoration of the cultural landscape with a low rock wall between Nāpōʻopoʻo Beach and the cultural/archaeological sites; implement steps to reduce vehicle use ~~restriction of the use~~ of the Beach Road between Nāpōʻopoʻo Landing and Hikiau Heiau and limit use to pedestrians and local vehicles.
Major impacts:	Restoration of the cultural landscape with protection of historically significant sites; improved access to and interpretation of the Park's historical and cultural resources; encourage ~~allowing~~ visitation ~~to increase over time~~ while increasing safety and avoiding or reducing disruptions that have affected both the Park and nearby residential areas; establish boundaries that can be policed by community observers or government agencies.
Mitigation measures:	Implement best management practices to avoid impacts of construction and operations on endangered species and shorebirds; manage vessel launching and landing (at Nāpōʻopoʻo Landing and ʻĀwili, Kaʻawaloa) to minimize damage to corals, the shoreline, archaeological resources, and for safety of park users; establish buffers and designate paths to protect sensitive cultural resources.
Alternatives considered:	A range of action alternatives, from a historic focus in which use of outrigger canoes would replace kayaks for transport across the bay and the number of other vessels in the Bay would be limited, to a recreational focus, in which the number of boats and non-motorized watercraft would be limited only by an open permit process; and the no action alternative.
Unresolved Issues:	Increased pedestrian movement is anticipated between the proposed parking area and Nāpōʻopoʻo Landing, and along the Beach Road toward Hikiau Heiau.

	These are County roadways. State Parks Division will continue to work with the County to promote safety along these routes. Hikers park along Nāpōʻopoʻo Road near the junction with Māmalahoa Highway, then hike the Kaʻawaloa Road (trail) to reach the State Park and the Captain Cook monument, approximately two miles from the trailhead. Hikers' safety and intrusion on private property are recurrent issues. The State has no facility for parking and guidance for hikers at the trailhead. Parking at the trailhead is on County right-of-way. Beyond the right-of-way the land is privately owned. The demarcation of a zone for spinner dolphins can only be implemented in collaboration with the National Oceanic and Atmospheric Administration; their currently proposed rule for spinner dolphins does not include area closures.
Compatibility with Land Use Plans and Policies:	Proposed uses are facilities in support of sustainable use of Park lands, with new structures located well outside the shoreline and designed to fit with and complement the appearance of historic structures and the cultural landscape.
Permits and Approvals:	Review of actions to determine consistency with State CZM policies; State Historic Preservation review process (HRS Chapter 6E); Conservation District Use Permit for construction in the Resource Subzone; U.S. Army Corps of Engineers permit for restoration of a wetland; Water Quality Certification (State Dept. of Health); Consultation with U.S. Coast Guard, National Oceanic and Atmospheric Administration and DLNR Divisions (Conservation and Resource Enforcement, Boating and Ocean Recreation) with regard to overlapping agency mandates; County assent to reduction of parking and traffic on Beach Road; County grading and building permits

Chapter 1

Introduction and Summary

1. INTRODUCTION AND SUMMARY

1.1 Kealakekua Bay State Historical Park

Kealakekua Bay State Historical Park (KBSHP or "the Park") covers a total of approximately 537 acres, of which 315 acres are in the bay, and 222 acres are on land surrounding the bay. The Park is under the jurisdiction of the State of Hawai'i, Department of Land and Natural Resources (DLNR), Division of State Park (DSP). Kealakekua Bay and the surrounding land area are places of historic and cultural significance where important events occurred. The Park area also offers both ocean and land based recreational opportunities.

The Park encompasses the makai (seaward) area of three ahupua'a (Keōpuka, Ka'awaloa and Kealakekua) in the district of South Kona on the west side of Hawai'i Island (*see* Figure 1-1 and Figure 1-2). Figure 1-2 also shows historical sites in the vicinity. For management purposes, the Park has been divided into four sections – Nāpō'opo'o Section on the southern end of the bay, Pali Kapu o Keōua, Ka'awaloa Section on the northern end of the bay and Kealakekua Bay. Much of the Park is surrounded by large, privately owned agricultural parcels (*see* Figure 1-3). At the Nāpō'opo'o end of the Park, the Park is adjacent to the residential communities of Nāpō'opo'o and Ke'ei.

Most visitors arrive at the Nāpō'opo'o Section of the Park by automobile. They can hike to Ka'awaloa on the Ka'awaloa Trail (shown in Figure 1-4) and access to the bay is provided by motor vessels from Honokōhau, Keauhou and Hōnaunau and by non-motorized watercraft (mainly kayaks and stand-up paddleboards) from nearby shores. Figure 1-5 shows ocean access routes. Moorings off Ka'awaloa and Nāpō'opo'o Landing (the "Landing") <u>are currently used by permitted commercial vessels</u>.

The Park contains a wealth of marine resources, including a pod of nai'a, spinner dolphins (*Stenella longirostris*). The bay is also a popular site for ocean recreation, especially snorkeling at Ka'awaloa and boating across the bay. KBSHP is enjoyed year round by Hawai'i residents and out-of-state visitors. With the establishment of KBSHP in 1967, jurisdiction for resource management and park operations were assigned to DSP, who along with other divisions, has developed various plans for the lands of the Park. In 1992, the management of Kealakekua Bay was transferred from DSP to the Division of Boating and Ocean Recreation (DOBOR). However, it became clear that management of the Park involves decisions about activities both on land and in the bay, so DLNR consolidated the lands and waters of Kealakekua under DSP in 2012 (Executive Order 4424). The current Master Plan process, which began in 2009, resumed in 2015 to address this larger park area and include both marine and terrestrial resources and actions.

DSP seeks to preserve and share this wahi pana (celebrated place) and to support recreational use in a manner that <u>protects and respects</u> ~~does not impact~~ the historical and cultural values. The Park is situated within the residential community of Nāpō'opo'o Village, which has a long history of occupation dating back to the pre-contact period. Park planning must address the impacts of park use and proposed development on this community.

1.2 Proposed Action

A Master Plan has been drafted to guide the long-term use and management of the Park, protecting its unique resources while supporting visitation and respectfully sharing knowledge of this natural, historic and cultural treasure. This is meant to be a realistic, sustainable plan for the Park.

The Proposed Action consists of improvements and management strategies to accommodate visitors on land and in the bay, while better protecting marine life, historic resources and the cultural traditions associated with the Park. The Master Plan was developed through discussions with a wide range of stakeholders and agencies. It relies in part on community and private-sector contributions to sustaining the Park as both safe and enjoyable. The planning process included consideration of earlier planning efforts for the Park and the surrounding area. It incorporates information from new studies, and integrates plans for park facilities, interpretive programs and management. This Environmental Impact Statement (EIS) assesses the impacts of the Proposed Action, so DSP can seek support for new facilities and operations.

The Proposed Action would be realized as state financing and staff resources allow, and as collaboration proceeds with the County of Hawai'i, neighboring landowners and the National Oceanic and Atmospheric Administration (NOAA), which is responsible for implementation of the Marine Mammal Protection Act.

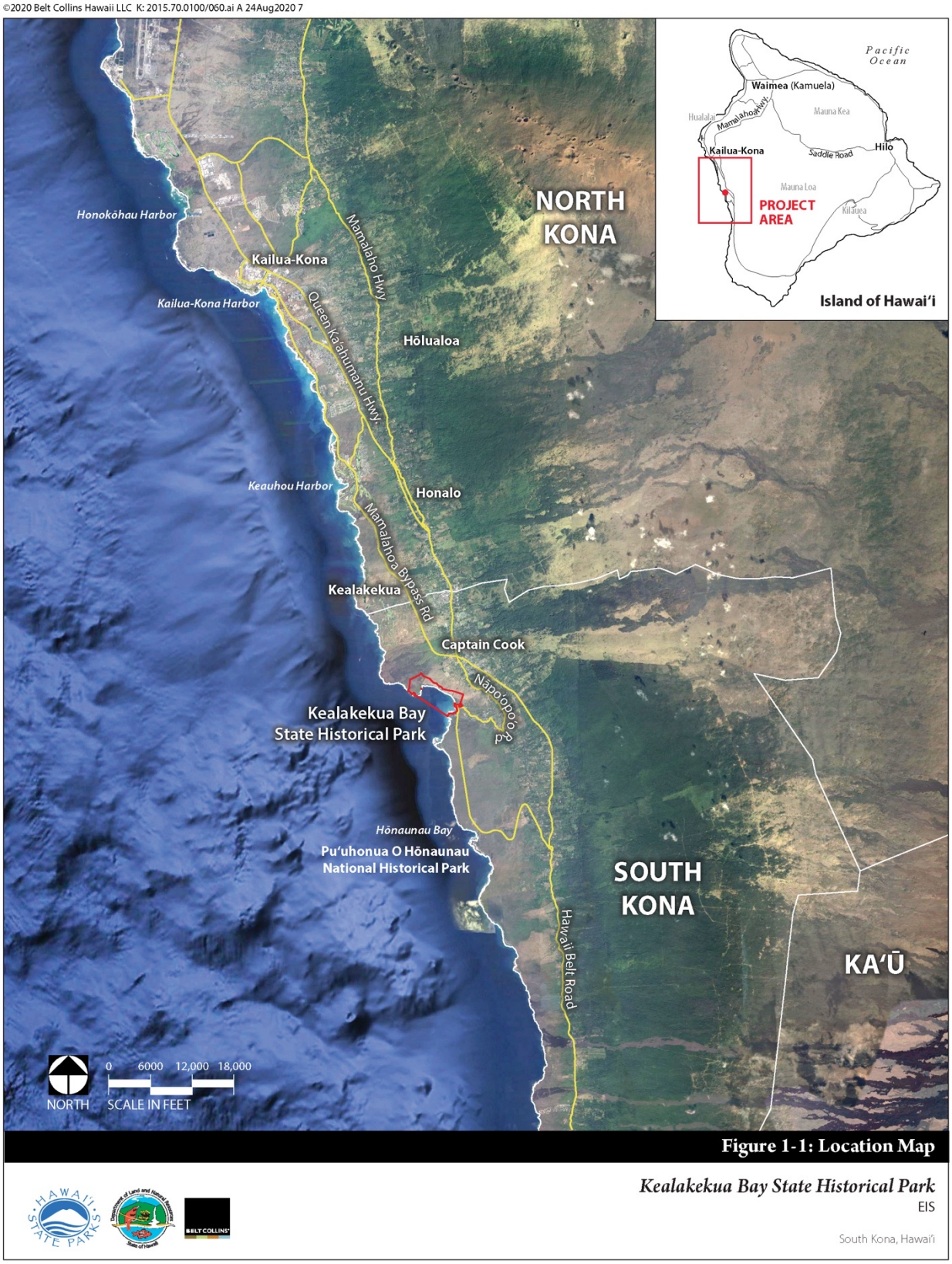

Figure 1-1: Location Map

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i



Figure 1.2: Vicinity Map

LEGEND

BOUNDARIES
- Kealakekua Bay State Historic Park
- District Boundary
- Ahupua'a Boundary
- National Register Historic District
- Marine Life Conservation District

ROADS
- Highway
- Major Road
- Minor Road

PARKS
- State Historical Park
- National Historical Park

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

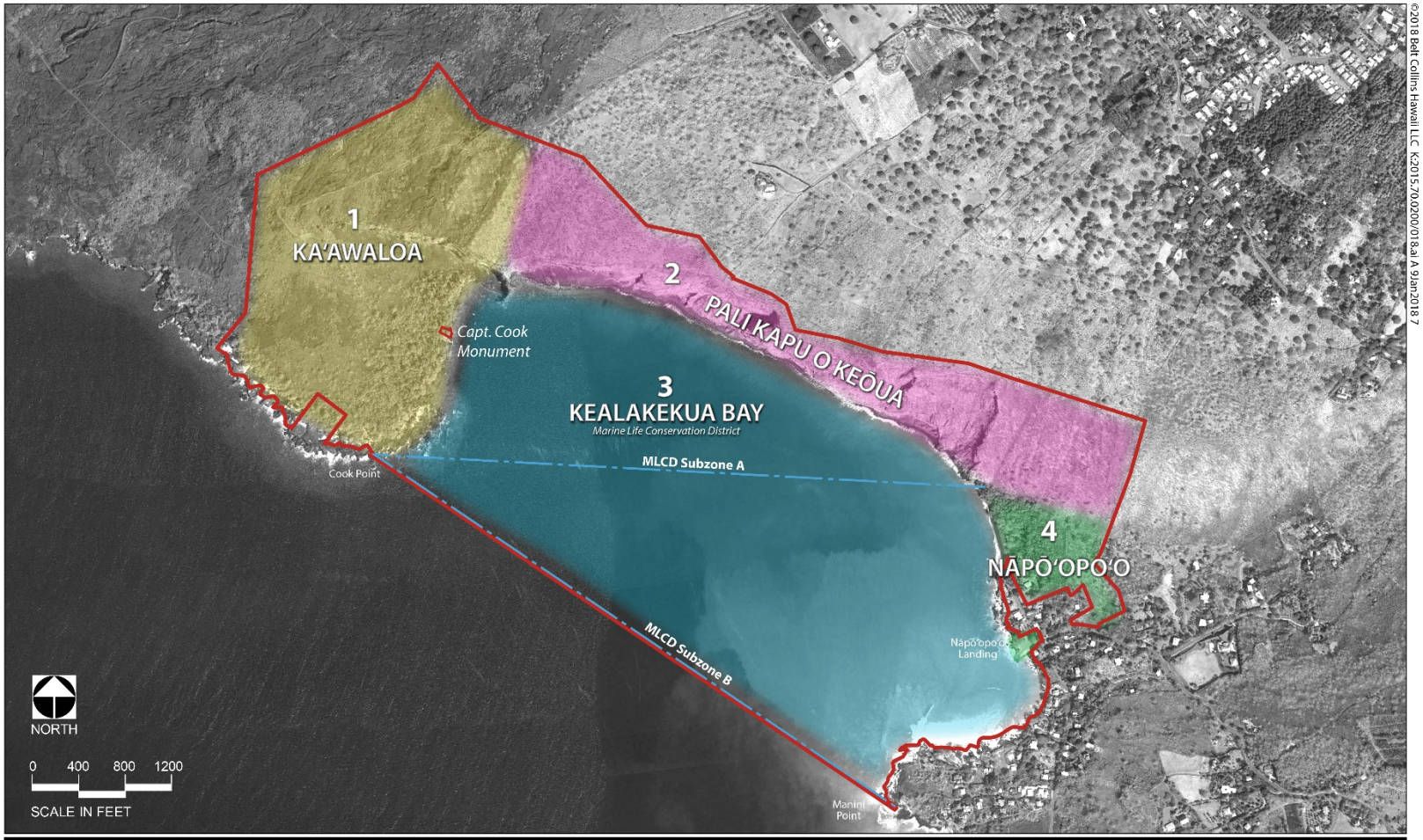

Figure 1-3: Sections within the Park

Image Source: Google 2015 TerraMetrics

LEGEND

Kealakekua Bay State Historic Park

Kealakekua Bay State Historical Park
EIS

South Kona, Hawai'i

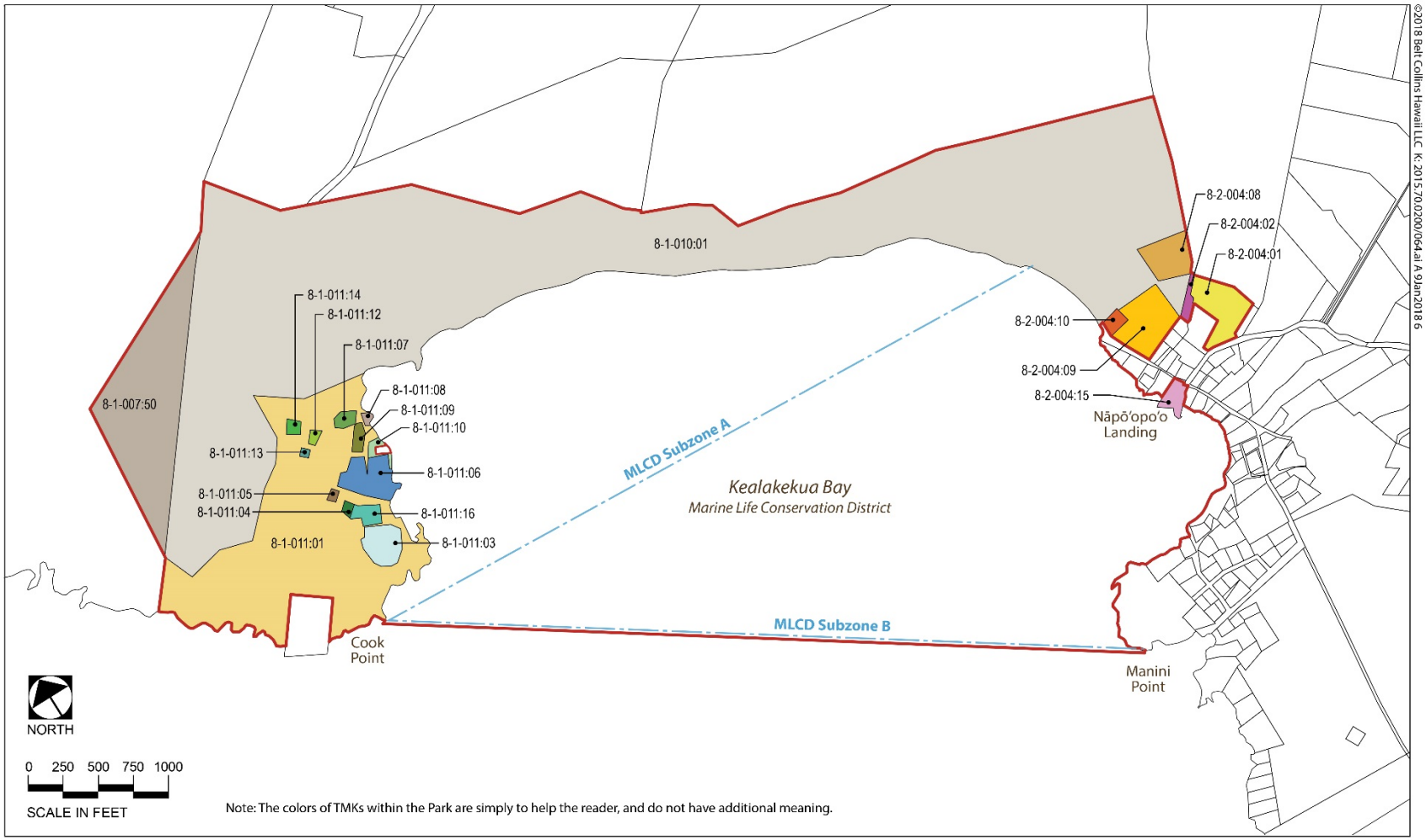

Figure 1-4: TMK Map

LEGEND

Park Boundary

Kealakekua Bay State Historical Park
EIS

South Kona, Hawai'i

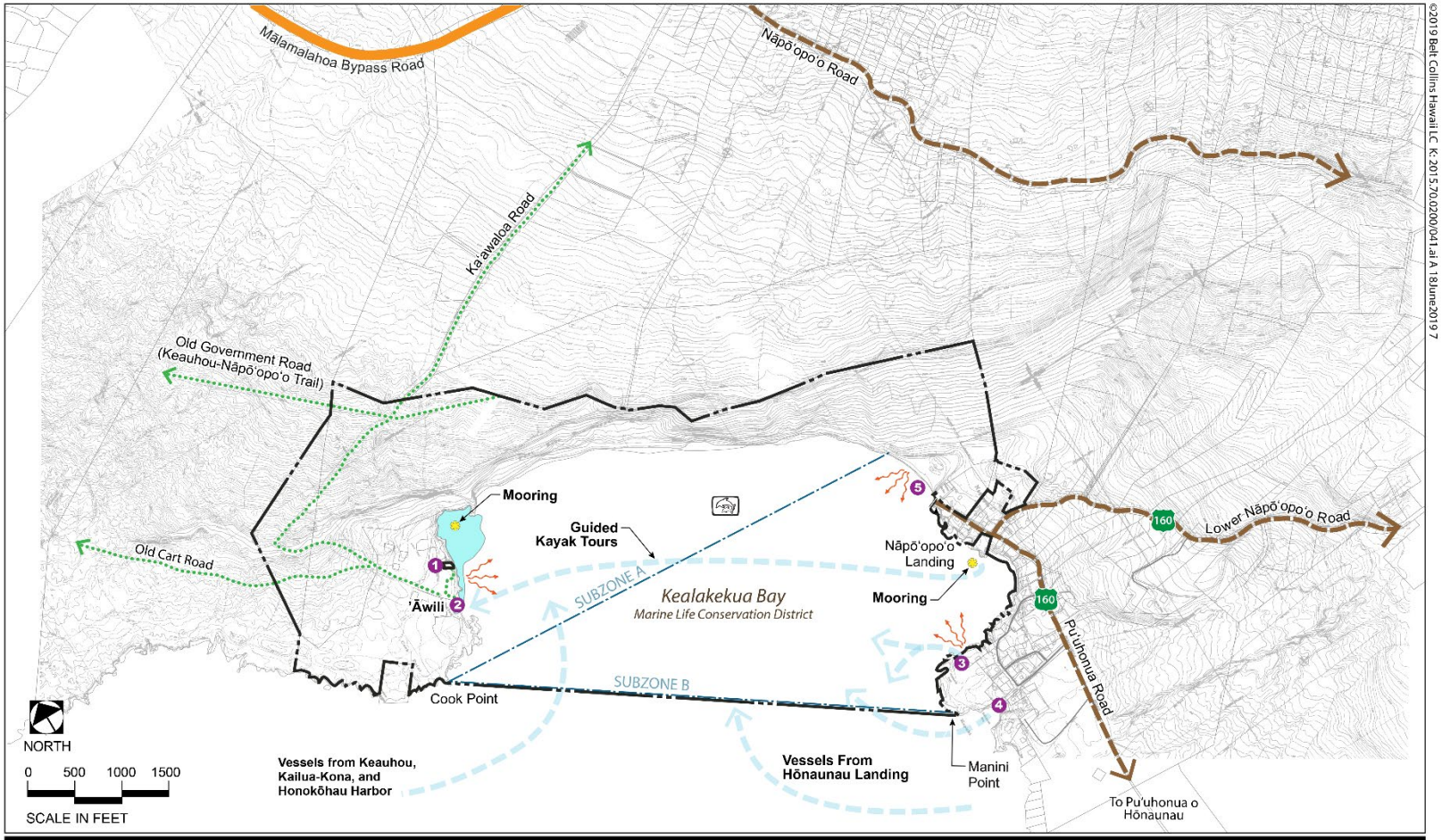

Figure 1-5: Ocean Approaches to the Park

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Kaawaloa Cove
- Swimming Access
- Ocean Access

1. Captain Cook Monument
2. Guided kayak tour landing at ʻĀwili
3. Manini Beach
   Kayak/swimmer access along Manini Beach Road coastline
4. Kayak/swimmer access at Kahauloa Road coastline
5. Nāpōʻopoʻo Beach

Table 1-1- identifies the major components of the Proposed Action by their location in the Park and the specific objectives that each component addresses.

Table 1-1: Components and Objectives of Proposed Action

Location, Plan Components		Major Objectives
Ka‘awaloa Section		
Access-Bay	a. Permitted guided tour landings, kayak storage at ‘Āwili. b. Permitted non-commercial personal and rented watercraft landings and storage possible at ‘Āwili (when landing is staffed and after installation of waterless toilet). c. Permit available for landing a vessel at Ka‘awaloa for traditional cultural access.	Manage visitation, allowing some non-motorized vessels but protecting resources.
Access-Land	a. Hiking access via Ka‘awaloa Road. b. Develop agreement with adjacent landowner for access to Ka‘awaloa from Keōpuka by maintenance vehicles. c. Open trail access from Keōpuka if private landowner makes trail(s) across lands to the north available to hikers.	Manage visitation, allowing hikers but working to protect resources and provide for continuing maintenance.
Facilities	a. Waterless toilet. b. Interpretive shelter with staff. c. Helicopter Landing Zone for emergency rescue/ maintenance operations. d. Jetty at Monument improved as needed for safety of swimmers and boaters.	Assure visitor safety and sanitation; increase interpretive activity.
Interpretation & Landscaping	a. Clear vegetation from ‘Āwili to the Cook Monument and create open space gathering area by the Monument. b. Restore cultural landscape with selective removal of vegetation around cultural sites. c. Interpretive trails with signage for guided and self-guided tours. Trail locations to be finalized based on archaeological studies.	Restore cultural landscape and provide visitor access to the historic resources in the Park with interpretation; preserve cultural sites and historical setting.
Kealakekua Bay		
Access & Ocean Recreation	a. Commercial and non-commercial vessel entry by permit. b. Commercial operators are encouraged to develop and share Drift/Safety Plan. c. One permitted mooring at Ka‘awaloa Cove for commercial tour boat operator. d. Permitted guided kayak/canoe tours (up to approximately 72 passengers per day). e. Reintroduce outrigger canoes via guided tour concession with intent to transition from kayaks. f. Consult with DOBOR if a commercial vessel limit in the bay is needed in the future.	Control number of vessels, behavior of operators to protect resources and scenic ambiance of the area; promote historical setting.

Location, Plan Components		Major Objectives
Features	a. Maintain buoys or navigational aids marking rock fall zone and park boundary within the bay. b. ~~Establish buoys marking dolphin resting zone in collaboration with NOAA~~ Seek collaborative support from NOAA for monitoring and enforcement of regulations on human-dolphin interactions c. Demarcate swim-snorkel/no powerboat zone (Kaʻawaloa shoreline to approx. 100 to 150 ft. offshore as demarcated by buoys or navigational aids).	Safety for visitors; protection for dolphins; support for enforcement of rules about access.
Pali	(between Kaʻawaloa and Nāpōʻopoʻo)	
	No trail access or development.	Protection of cultural sites; safety of visitors.
Nāpōʻopoʻo Landing (in Nāpōʻopoʻo Section)		
Access & Parking	a. Drop-off for non-commercial vessels. b. Restricted parking (<10 stalls with ~1 accessible stall) for State & concessionaire vehicles.	Orderly use of Landing.
Ocean Recreation	a. ~~Personal~~ Watercraft rentals by concessionaire with permitted launching. b. Guided kayak and outrigger canoe tours. c. Launching of non-commercial and <u>personal</u> vessels with permit.	Orderly and safe use of Landing.
Facilities	a. Improve historic wharf for entry/exit to the water. b. Covered shelter and storage for concessionaire. c. Portable toilet(s). d. Equipment, deployment and storage for DLNR, especially DOCARE.	Improve access for residents, visitors and DLNR; increase safety; encourage enforcement activities.
Interpretation & Landscaping	a. Interpretive signs on wharf and shoreline. b. Grass/picnic area.	Improve visitor experience.
Nāpōʻopoʻo Park (in Nāpōʻopoʻo Section)		
Access, Roads & Parking	a. Parking lot on Parcel 1 (Gaspar Mill parcel) with approximately 50 spaces. (No bus parking except school bus by reservation). b. Accessible path from parking lot to Hikiau Heiau. c. Park entry and sign moved to Parcel 1. d. Work with County to convert Beach Road to pedestrian zone and emergency/local/service traffic only. e. Reduce/realign parking away from Hikiau Heiau. f. Reduce parking on Beach Road. Provide 2-3 accessible stalls and Special Event (permitted) parking only near grass courts/pavilion (Vehicle parking moved to Parcel 1).	Manage access to Park and reduce traffic congestion in Nāpōʻopoʻo village.

Location, Plan Components		Major Objectives
Facilities	a. Interpretive Center with exhibits/concession/ restrooms (Parcel 1). b. Retain community pavilion with restrooms/ outdoor showers.	Improve visitor experience; meet community needs.
Recreation	a. Partially restore access to beach (selectively remove boulders) for swimmers and beach goers. b. Retain grass courts/open space.	Retain recreational use while respecting cultural resources.
Interpretation & Landscaping	a. Establish interpretive trails for guided and self-guided walking tours. Trail locations to be finalized based on archaeological studies and input from cultural practitioners and the Hawaiian community. b. Restore cultural landscape and historic features (including pond) and remove invasive vegetation. c. Restore low rock wall behind beach to separate recreational beach use from archaeological complex (use existing stones on site).	Respect cultural sites, restore historic feature.
Mālama: Management Presence		
DSP	a. Staff responsibilities include: Interpretation and trails, trash removal, cleaning restrooms and facilities and grounds maintenance. b. A Park Manager. c. Interpretive staff assigned to KBSHP. d. Park Caretakers.	Integrated long-term support for both resources and recreation by State, private sector and community.
DOCARE	Consistent and preferred daily enforcement by DOCARE.	
Concessionaire	Staff at Kaʻawaloa and Nāpōʻopoʻo Landing to support concession operations, including guided kayak and canoe tours, assist in launching, landing and stowing watercraft, ocean recreation equipment rentals and activities required by the concession permit.	Integrated long-term support for both resources and recreation by State, private sector and community.
Adopt-A-Park & Volunteer Agreements	Community volunteers to assist with care of park resources.	Improve maintenance and maintain cleanliness. To help preserve beauty of the Park.
Cultural Advisory ʻOhana	Collaborate with cultural practitioners and Hawaiian community, especially those from the Park area, to develop culturally sensitive and appropriate approaches to resource protection and interpretation.	Improve the Park experience for visitors by providing accurate and to respect the historical and cultural significance of the Park.
Makai Watch	Community volunteer ocean watch program in communication with DOCARE.	Improve security and enforcement of the rules and laws governing the Park.

1.3 Background

1.3.1 Kealakekua Bay in Hawai‘i’s History

From the 1600s to Western contact in the late 1700s, the bay was one of the ruling centers on the island of Hawai‘i and a residence of many of the island’s important chiefs. Kalani‘ōpu‘u was living at Ka‘awaloa at the time of Captain Cook’s arrival in 1779 and this area is associated with Kamehameha’s rise to power. At Moku‘ōhai, just south of the bay, Kamehameha defeated Keōua in 1782, and became recognized as ruler over the Kona, Kohala and Hāmākua districts. Kealakekua Bay was one of three primary ports and royal centers of Kamehameha’s early kingdom.

Kealakekua Bay also holds a key to understanding the extent and nature of the changes wrought in Hawaiian culture by its extended contact with foreign cultures. Prior to the 19th century, the settlements around this bay were subjected to some of the most intense forces of acculturation on the islands. Captain Cook’s crew created the earliest written accounts of Hawaiian culture at Kealakekua Bay, and its early notoriety as the site of Cook’s death brought many Western observers to the area who left an extensive and unique written record. The archaeological evidence and written documentation of Kealakekua Bay help to reveal the impact of Western contact in the 1779 to 1790s period. When combined with oral history, Hawaiian language journals and other records, a story emerges that is important not only for Hawai‘i but for the larger world.

In the nineteenth century, the area was transformed. A local economy based on fishing and farming as part of the Kona field system gave way to ranching, coffee farming and shipping operations. In more recent years, Nāpō‘opo‘o remains a seaside residential community, but Ka‘awaloa Flat has not been inhabited since World War II. Because of its isolation and lack of development, the Park contains a wealth of relatively intact historical and cultural resources.

1.3.2 Creation of the Park and Historic District

The historical importance of Kealakekua Bay was recognized with the designation of the Kealakekua Bay Historical District (Site No. 50-10-47-7000) and its listing on the National Register of Historic Places in 1973. The historic district encompasses all of the Park, including the bay, as well as Nāpō‘opo‘o Village, Ke‘ei and the Moku‘ōhai battleground. The boundaries of the District are shown in Figure 1-2.

The State acquired lands for the Park from 1967 through 1982. In 1992, a park transfer occurred and the County’s Nāpō‘opo‘o Beach Park was added to the State Park. The State’s acquisitions included numerous kuleana, or parcels awarded to individuals during the Māhele, at Ka‘awaloa Flat and Nāpō‘opo‘o. Two parcels at Ka‘awaloa not owned or managed by the State but integral to the Park experience are the Captain Cook Monument, owned by the Captain Cook Monument Trust, and the Cook Point lighthouse, a U.S. Department of Commerce Lighthouse Services property. The historic trails leading to and traversing the Park are under public ownership (Old Government Road, Old Cart Road and Ka‘awaloa Road).

At the end of 2012, the Governor signed an Executive Order that set-aside the “Nāpō‘opo‘o Pier Site” and the bay as additions to Kealakekua Bay State Historical Park. This action transferred the legal and management jurisdiction over Nāpo‘opo‘o Landing and the waters of the bay from DOBOR to DSP and consolidated jurisdiction with the other adjacent park areas.

1.3.3 Previous Park Plans

Park planning was initiated by State Parks in 1982 with the creation of an advisory committee of area residents and community organizations. A report with recommendations for the development, management, and operation of the Park was prepared by the committee in 1985.[1] In 1997, a conceptual Master Plan was developed. A Phase I Development Plan and Draft Environmental Assessment for the Nāpōʻopoʻo Section followed in 2001.[2] The Phase 1 Plan was withdrawn in response to a legal challenge by Malama Pono Kealakekua, Inc. regarding the Chapter 343 process and DLNR agreed not to approve, adopt or fund the actions of the 1997 Conceptual Plan.

By 2010, DLNR had initiated two new planning efforts. A Stewardship Area Management Plan was drafted with participation by all the Divisions of DLNR.[3] It identified projects and management actions for the Park, including the bay, but also dealt with upland areas. A new Master Plan for the Park was begun in 2009, but work was suspended until the draft Stewardship Area Management Plan was compiled and the bay and Landing were included in the Park, allowing DSP to manage the entire park. The current Master Plan effort resumed in 2015 and draws on the community input gathered in earlier initiatives.

1.3.4 Studies of Kealakekua Bay State Historical Park Resources

Archaeological Studies

The first recorded archaeological survey at Nāpōʻopoʻo was conducted by J. F. Stokes with Bishop Museum in 1906-1907.[4] Stokes mapped and described the features associated with Hikiau Heiau. The initial survey and mapping of features at Kaʻawaloa were conducted by John Reinecke of the Bishop Museum in 1929-1930. Additional information was collected from informants about the park area by Kelsey and Kekahuna in the 1950s and 1960s.

Acquisition of the Park in 1967 stimulated archaeological investigations within the Park, including surveys, mapping and limited subsurface testing. A preliminary survey of the Park was conducted in 1968 by Bishop Museum and the University of Hawaiʻi which confirmed the presence of an extensive archaeological complex at Kaʻawaloa with remnants of the Kona field system and ranching features atop Pali Kapu o Keōua.[5] A more intensive field survey and mapping of the archaeological sites and features on approximately two-thirds of the Kaʻawaloa Flat were conducted by Bishop Museum for the State between 1969 and 1970.[6] In 2007, DSP archaeologists conducted test excavations in the

1 Advisory Committee for Kealakekua Bay State Historical Park. Report on Kealakekua Bay State Historical Park. Recommendations for the Development, Management, and Operation of Kealakekua Bay State Historical Park on the Island of Hawaiʻi. 1985.

2 DLNR. Kealakekua Bay State Historical Park Conceptual Plan. Prepared by Belt Collins Hawaii. 1997.

3 DLNR. Draft Kealakekua Area Stewardship Master Plan, 2009.

4 Stokes, J. F.G. and T. Dye. Heiau of the Island of Hawaii: A Historic Survey of Native Hawaiian Temple Sites. Honolulu: Bishop Museum Press. 1991, 98-102

5 Soehren and Newman, 1968. *Archaeology of Kealakekua Bay.* Site Survey Record.

6 Hommon, R. J. An Intensive Survey of the Northern Portion of Kaawaloa, Kona, Hawaiʻi, 1969 and Hommon, R. J. and N. Crozier. An Intensive Survey of the Southern Portion of Kaawaloa, Kona, Hawaii, 1970. Bernice P. Bishop Museum, Department of Anthropology.

vicinity of ʻĀwili and the Captain Cook Monument to assess subsurface cultural deposits prior to designating a footpath for visitors between these two sites.

In 1977, Hommon supervised the excavation of two test units within the Hikiau Heiau Complex. State Parks archaeologists followed up with a survey and mapping of the sites and features within the Nāpōʻopoʻo section of the Park in 1984.[7] A topographic survey of the Nāpōʻopoʻo Section of the Park prepared in 1986 mapped the location of the archaeological features more accurately and in relationship to the topography and park boundaries. More extensive excavations were conducted to the south of Hikiau Heiau in 1988 when a new restroom was constructed and again in 1999 when the Park pavilion was rebuilt.

The surveys of Kaʻawaloa and Nāpōʻopoʻo have indicated the diversity of site types and the distribution of intact cultural sites spanning the pre-contact to post-contact periods with changes in land use. Excavation of test units within the Nāpōʻopoʻo Section in the 1980s and 1990s has provided insight into the potential for subsurface cultural deposits within the Park area, as well as an opportunity to evaluate the extent of ground disturbance from prior land use.

A more in-depth discussion of the archaeological surveys and studies, and details on historic sites and cultural resources are found in Appendix A, Historic Sites and Cultural Resources.

Cultural Impact Assessment (CIA)

A CIA was conducted as part of the Master Plan process. It is included as Appendix B of this EIS and Appendix E of the Master Plan. It recounts information about past occupation and cultural practices within the Park area. Additional community interviews were conducted in late 2018 to update and expand information about cultural practices and resources. A report with these interviews is included as Appendix J. A major outcome of these interviews is the creation of the Kealakekua Cultural Advisory ʻOhana (the "ʻOhana"). State Parks will collaborate with the ʻOhana to develop and implement culturally sensitive and appropriate park programs.

Environmental Surveys

Several environmental surveys have been conducted of the land and waters of the Park. Appendix B consists of a study by SWCA Environmental Consultants of the biological resources in both the land and water areas of the Park. That study also summarizes and draws on earlier inventories of the flora and fauna of KBSHP.

Studies of coral within the waters of the Park have identified concerns with the impacts of human activity, notably due to boat moorings and swimmers' contacts with the corals, especially at Kaʻawaloa Cove. The question of whether ingredients in sunscreens affect corals has been studied in part through local observation, and through laboratory analysis.

Extensive research concerning marine mammals along the coast of West Hawaiʻi is ongoing. That research is summarized in Section 3.5. For this EIS, a study of interactions involving humans and spinner dolphins was conducted. It is included as Appendix D.

7 Yent, M. Archaeological Survey and Mapping of the Hikiau Complex (Site 1963) and Napoopoo Section of the Proposed Kealakekua Bay State Historical Park, South Kona, Island of Hawaii, 1985

Traffic Study

Information on local traffic was gathered in 2010 and again in 2015. A Traffic Impact Analysis based on the 2015 counts and the Proposed Action is included in this EIS as Appendix E.

1.3.5 Recent and Current Use of the Park

KBSHP lacks a single access point where park users can be counted, so estimates of visitation are far less precise than for other parks. The last visitor count was done in 2007 by OmniTrak for the Hawai'i Tourism Authority when annual visitation was estimated at 116,000 persons. This count did not address visitation to the Landing or recreational activity in the bay. Visitation levels appear to have increased in recent decades in the different sectors of the Park, however, it is difficult to quantify without regular visitor counts. Visitation levels appear to be seasonal, with weekly and time-of-day variation:

- **Kealakekua Bay Waters:** Wind and current conditions can affect the number of water craft that can be launched and operated in the Bay. DSP began issuing permits for vessel access to the bay in 2010 with permits being required for personal, rental and commercial vessels. A total of 889 permits, including both commercial and personal vessels, were issued from July 2018 to June 2019. Spinner dolphins are often present during the day, and both swimmers and kayakers sometimes approach them. Some motor vessels may do so as well. (Close approaches to dolphins are illegal under Federal rules.)
- **Ka'awaloa Cove:** Counts of visitors range from 250 to 400 persons per day. These are largely passengers on commercial motorized craft from Honokōhau, Keauhou and Hōnaunau but others arrive on kayaks and stand-up paddleboards (SUPs) from the Nāpō'opo'o side of the bay. SUPs are a recent addition to the recreational vessels in the bay.
- **Ka'awaloa:** Hikers comprise many of current visitors to Ka'awaloa. Under current park rules, participants on one of the three permitted guided kayak tours can land at 'Āwili, but not other boaters. The current permitted use is twelve kayaks per operator (for a total of 36 kayaks/day).
- **Nāpō'opo'o Park Area:** Park facilities include a pavilion with rest rooms, picnic tables, BBQ stand, water fountain and an outdoor shower. Interpretive signs have been placed overlooking the bay and adjacent to Hikiau Heiau. Grassy areas exist near Hikiau Heiau and the pavilion, but most of the area is overgrown with exotic vegetation. A local community group, Ho'ala Kealakekua, working with DSP staff, has been clearing vegetation in the area mauka of the heiau and the beach.
- **Nāpō'opo'o Landing:** Until 2013, this site was open to the public, and was used by both residents and visitors to launch kayaks. Because of disorderly behavior by some unauthorized guides and kayak vendors, DSP closed the Landing except for use by DLNR and by permitted concessionaires. At present, the Landing is used by visitors ~~only a few kayakers~~ on guided kayak tours and the permitted canoe tours ~~use this site~~.

1.4 Purpose and Need

The mission of the DLNR is to "Enhance, protect, conserve and manage Hawai'i's unique and limited natural, cultural and historic resources held in public trust for current and future generations of the people of Hawai'i nei, and its visitors, in partnership with others from the public and private sectors."[8]

1.4.1 Project Objectives

The purpose of the Master Plan is to identify a sustainable, actionable strategy to preserve natural, cultural and historic resources within the Park, while improving visitors' experience through provision of basic facilities and interpretive resources. DSP seeks to preserve and share the resources of the Park and to support recreational use in a manner that does not have adverse impacts on the natural, cultural and historic values. Staffing by DLNR and concessionaires, with support from community volunteers, is needed to manage visitation and share the stories of Kealakekua Bay.

The Master Plan calls for steps that can be implemented with modest funding and no additional land acquisition. DSP has proposed more expensive and expansive plans in the past. The Proposed Action and alternatives considered in this EIS are meant to provide sustainable strategies for preservation, interpretation and managed ~~increased~~ visitation while improving the Park experience for both visitors and residents. As many stakeholders have insisted, it is important that the Master Plan result in action, both in the near term and over the next few decades.

The Master Plan includes basic visitor facilities – parking and restrooms. It includes interpretive trails that can help visitors learn about history and cultural resources. It recognizes the importance of collaborating with cultural experts and practitioners in developing interpretive and management strategies. It limits access to Ka'awaloa and discourages entry into the spinner dolphin rest area where visitors could affect both the resources and the overall ambiance of the Park. It addresses safety issues for swimmers and snorkelers in Ka'awaloa Cove. The proposed parking arrangements and use of Nāpō'opo'o Landing are intended to reduce impacts of visitation on the community while encouraging safe use of watercraft by local residents and visitors alike.

The Master Plan includes an overall goal:

> Kealakekua Bay State Historical Park will reveal Hawai'i's history and preserve significant historic sites and natural resources for future generations. Interpretive programming within the Park will share Kealakekua within the context of Hawaiian history and perpetuate cultural traditions and values to create a sense of place ~~the cultural-historical sites~~ in Kona. The historical park will accommodate recreational opportunities that are compatible with natural and cultural resources within park boundaries and the Marine Life Conservation District (MLCD).

Objectives for action to realize the goal include: preserving natural, cultural and historical resources; retaining the scenic values; promoting public health and safety; enhancing the visitor experience; encouraging respect for the surrounding community; and accommodating passive outdoor recreation. After gathering extensive input from various stakeholders and a review of existing and

[8] Mission statement posted on the DLNR website, http://dlnr.hawaii.gov/.

recent challenges, the planning team came to emphasize the following criteria for assessing alternatives. An alternative should:

1) ***Meet DSP's goals and objectives*** to preserve the Park's significant historical, cultural and natural resources, offer interpretive programs that respect the cultural traditions and resources and provide recreational opportunities compatible with the resources;
2) Meet the objective of ***enhancing the visitor experience*** by sharing the Park's resources through interpretive and educational programs and meeting the basic needs of public health and safety;
3) Provide for ***cost efficient and sustainable facilities, management and operations;*** and
4) Provide for ***effective enforcement*** of park regulations that results in the least amount of potential conflict among the community, park visitors and among management partners.

The Proposed Action was formulated to meet the above criteria.

1.4.2 Purpose of This Environmental Impact Statement Document

This EIS has been prepared in accordance with Hawai'i Revised Statutes (HRS) Chapter 343 and its implementing rules, Hawai'i Administrative Rules (HAR) Title 11, Chapter 200, because State funds and lands would be used. The project is within the Special Management Area (SMA) and the State Conservation District. In addition, park development and management have been significant community concerns for many years, so an EIS responds to community interest.

An EIS is a disclosure document, written so that decision-makers and the public at large can assess the effects of an action on the entire environment.

1.5 Relationship to Land Use Policies

The Master Plan improvements do not involve any changes in land use designation or zoning. Development of a parking area, an interpretive center and trails within the Conservation District (Resource Subzone), along with improvements to wharf facilities and installation of buoys will be subject to review by the Board of Land and Natural Resources (BLNR), to which a Conservation District Use Permit application will be submitted.

1.6 Required Permits and Approvals

Table 1-2 lists the permits and approvals needed to implement the Master Plan.

Table 1-2: List of Anticipated Permits, Consultations and Approvals

ACTION, PERMIT OR APPROVAL	AGENCY
Actions in areas where Endangered Species are present	NOAA, U.S. Fish and Wildlife Service
Alteration of a port facility (wharf at Nāpōʻopoʻo Landing; if necessary, jetty at Kaʻawaloa), Installation of buoys	U.S. Army Corps of Engineers (USACE) U.S. Coast Guard
Approval of Archaeological Inventory Surveys, Preservation Plans, Restoration Plans, Monitoring Plans, Data Recovery Plans and, if necessary, Burial Treatment Plans; Assessment of rehabilitation of historic structures (wharf, jetty)	DLNR, State Historic Preservation Division (SHPD)
Approval for wetland restoration (pond)	USACE, DLNR Office of Conservation and Coastal Lands (OCCL); State Department of Health (DOH), Water Quality Certification
National Pollutant Discharge Elimination System (NPDES) Permit	DOH
Conservation District Use Permit	BLNR
SMA Permit	County Planning Department, Leeward Planning Commission
Certification of shoreline at Nāpōʻopoʻo Beach	State Department of Accounting and General Services, Land Survey Division
Grading, building, plan approval and other necessary development permits	County of Hawaiʻi, various departments

1.7 Summary of Alternatives

1.7.1 Alternatives Considered Further in this EIS

Three action alternatives and a no action alternative presented at a January 2016 community meeting were considered. The Proposed Action brings together elements of the action alternatives, along with additional elements suggested in the discussions with the stakeholder community. The three action alternatives varied in their emphasis on historical ambiance and preservation vs. recreational use of the Park. These are described in Section 2.2. Key differences among them are:

- Number and types of vessels allowed in the Bay;
- Access to Kaʻawaloa;
- Use and management of Nāpōʻopoʻo Landing;
- Extent of restoration activities at Nāpōʻopoʻo Beach; and
- Extent of DLNR management and enforcement activity mandated by each alternative

1.7.2 Alternatives Proposed Earlier, but Not Considered Further in this EIS

Alternatives suggested in earlier plans and in current discussions mostly fall into two broad classes not considered further in this EIS:

- **Off-site Improvements**: Past planning efforts have considered a larger land area than at present. One effort looked at the ahupuaʻa, from the mountaintop to the bay. The plan proposed in 1997 included land acquisition for an off-site visitor center. Concern over hikers' access and parking along Nāpōʻopoʻo Road near the highway junction has stimulated proposals to develop a parking lot for hikers either at the highway junction or on private land closer to the State Historical Park. The Master Plan notes that changes in parking on Beach Road and striping on Nāpōʻopoʻo Road, between the entry to the Park's new parking lot and the T-intersection would help to improve pedestrian safety and minimize traffic congestion. The purpose of the Master Plan is to chart a sustainable and actionable course of improvement for the Park. Actions involving off-site lands and their owners involve decisions and negotiations that cannot be made by DSP, and are consequently less actionable than the Proposed Action. While these steps may be welcomed by DSP, and DSP will participate in discussions with the County of Hawaiʻi and its neighbors, the Master Plan does not depend on them.

- **Reductions in Visitation**: Concerns about protection of resources, sanitation and carrying capacity have spurred proposals to limit access by hikers and motorized vessels. These are not considered further as alternatives for three reasons:
    - DSP retains the power to limit access for resource protection and visitor safety;
    - Apart from the Master Plan and EIS process, DSP can make small improvements such as maintenance activities and placement of a waterless toilet, which can manage some impacts of visitation; and
    - Studies fail to show that current levels of visitation have a significant impact on the Park's resources, other than on the spinner dolphin population.

  If new information shows that visitation adversely affects resources of the Park or the surrounding community, DSP can institute limits or management strategies, such as limited access to Nāpōʻopoʻo Landing. After tsunami events, DSP has closed the bay to vessels for reasons of safety; similar closures could occur in the future. These operational decisions fall within the scope of action described by the Master Plan alternatives.

Additional actions, such as opening the Landing again to public use without supervision, were evaluated in the planning process. (*see* Master Plan Section 4.2 for a list and assessment.) These failed to meet the purpose of the Master Plan.

1.8 Summary of Potential Impacts and Mitigation Measures

Table 1-3 provides a summary of impacts. None of the anticipated impacts would involve significant effects that cannot be mitigated.

Table 1-3: Impacts and Mitigations of the Master Plan Improvements

IMPACT TYPE	POTENTIAL IMPACTS	MITIGATIONS
Climate and Air Quality	None	None
Geology and Topography	None	None
Hydrology, Drainage	New impermeable surfaces will increase runoff	Runoff will be contained onsite (method to be selected in design phase).
Terrestrial Ecosystem	Risk of harm to waterbirds or Hawaiian hoary bats	Construction Best Management Practices (BMPs); all outside lights to be shielded.
Marine Ecosystem	No new impacts identified	Mitigation of emerging impacts consists of increased monitoring of boaters and swimmers, continuing education for visitors, eventual demarcation of area where dolphins may rest undisturbed.
Natural Hazards	None	None
Historic and Cultural Resources; Cultural practices	Increased visitation, new trails; restoration of cultural landscape; no impact on cultural practices	Archaeological studies will precede creation of all trails; Visitors will be directed away from sensitive areas; Installation of waterless toilet will reduce human waste at Ka‘awaloa.
Scenic Resources	Increased visitation	Increased interpretation and enforcement.
Socio-Economic	Increased employment, visitor vehicles directed away from residential areas	None needed beyond the management measures proposed for visitor vehicles.
Public Facilities	No significant impacts	With helicopter landing area, emergency medical services improved.
Infrastructure	Use of water, electrical service; provision of toilets	No mitigation beyond appropriate maintenance needed.
Vehicle Traffic	Small increase in vehicle numbers	Parking lot and signage will direct visitors away from narrow Village roads.

IMPACT TYPE	POTENTIAL IMPACTS	MITIGATIONS
Vessel Traffic in the Bay	Potential increase in visitors, risk of harm to swimmers and kayakers, potential risk of harm to marine mammals	Demarcation of swim-only area near Kaʻawaloa Cove; New launching service at the Landing will help inexperienced kayakers; Commercial operators encouraged to codify "Drift Plan"; ~~Demarcation of dolphin area and~~ Monitoring of human-dolphin interactions (by community and DOCARE) will reduce interference with dolphins.
Secondary and Cumulative Impacts	No significant impacts beyond risk of increased use of Puʻuhonua Road	Signage at Park will direct visitors away from this road; County encouraged to post it as not a through road

1.9 Summary of Secondary and Cumulative Impacts

Slow growth in the resident population and continuing growth in visitor counts in West Hawaiʻi will result in increased visitation at KBSHP. The planned parking area at Parcel 1 provides more parking than was available at the end of the Beach Road, in part because visitor numbers are likely to grow over time. With an increase in visitation, the number of tourist vehicles traveling on the Puʻuhonua Road towards Hōnaunau could also grow. Since that road is very narrow, DSP will encourage the County of Hawaiʻi to mark it as "Narrow Road – Local Traffic Only."

Human-dolphin interactions within Kealakekua Bay are expected to be reduced through a combination of federal regulation, state regulation and enforcement and community monitoring.

No other cumulative or secondary impacts are foreseeable. It is possible that the proposed improvements at the Park will make the immediate area much more attractive to visitors, and tend to increase the number of visitors in transient rental accommodations in Nāpōʻopoʻo and nearby. This effect is uncertain and likely small, since the area is already very attractive to visitors who seek secluded accommodations and outdoor recreation.

1.10 Summary of Irreversible and Irretrievable Commitments of Resources

The Proposed Action involves paving over land in Nāpōʻopoʻo for a parking lot and an access route to the existing pavilion and Hikiau Heiau. The site has long been unused, and this commitment of resources supports the preservation of the rest of the Park and the quality of life for residents of the village area south of the Park.

1.11 Summary of Unresolved Issues

The scope of the Master Plan is confined to State land. However, DSP and the County of Hawai'i will explore ways to cooperate with regard to the Beach Road area – a County road, where the State owns some of the land now used for parking –and impacts of current and future park visitors' usage of the roadways leading to the Park. Also, demarcation of a rest area for spinner dolphins, which had been proposed in the Draft EIS, can only proceed with the collaboration of NOAA, which has not included area restrictions in its current proposal for protection of spinner dolphins.[9]

[9] The proposed rule and draft EIS have been posted (http://www.fpir.noaa.gov/PRD/prd_spinner_EIS.html).

Chapter 2

Proposed Action and Alternatives

2. PROPOSED ACTION AND ALTERNATIVES

2.1 PROCESS OF DEVELOPING ALTERNATIVES

The Master Plan process has afforded DSP time to develop and consider alternatives in light of the history of park uses, previous plans, current operational issues and community concerns. Discussions with stakeholders began in 2009-2010 and were resumed in 2015. As described in the next section, DSP presented broad thematic alternatives to the community but found that many stakeholders had very specific concerns. A survey of stakeholders was then distributed electronically to clarify points of agreement and disagreement. The results were posted, and stakeholders were informed about the survey results. Another community meeting provided a chance to discuss the results and identify components for a proposed action intended to meet DSP objectives and address community concerns.

2.2 MASTER PLAN ALTERNATIVES

DSP presented four alternatives at a community meeting in January 2016. *See* Table 2-1. The alternatives have different overarching concepts or themes:

- No Action Alternative;
- Alternative A: Recreational Focus;
- Alternative B: Recreation and Historical Balance; and
- Alternative C: Historical Focus

The No Action or status quo alternative is included for purposes of comparison. The three Action alternatives were developed to support State Parks' goals and objectives for the Park, address unacceptable resource impacts and concerns about access and park use, maintain compliance with laws and regulations and consider the desires of visitors. Specific components of the three action alternatives are shown in Table 2-2.

Figures 2-1 to 2-8 were presented at the January 2016 meeting to show how the action alternatives differ from current conditions and from each other.

Table 2-1: Master Plan Alternatives: Themes and Objectives

ALTERNATIVES	THEMES	MEETING THE PARK OBJECTIVES
No Action	No Action	• No new facilities and no site improvements. • Management, staffing and facilities at the Park and use of the bay continue at present levels. • Vessels in the bay allowed by permit. • Does not address long-term resource protection or parking issues. • Limited interpretive programs
A	Recreational Focus	• Manages recreational opportunities for visitors and residents, including ocean recreation in the bay (boating, snorkeling, diving and swimming) and hiking. • Provides support facilities and a community park. • Historical and cultural values are recognized but interpretation is limited.
B	Recreation and Historical Balance	• Promotes a balance between managed recreational use and the historical/cultural values of the Park. • Permitted recreational activities are more limited and interpretive opportunities are expanded.
C	Historical Focus	• Promotes preservation and interpretation of the historic sites and restoration of the cultural landscape. • Recreation and traditional practices are respectfully woven into the cultural landscape and park programs. • Limits visitor access at Ka‘awaloa – by hiking or by guided tour/canoe shuttle (and traditional cultural access by permit).

Table 2-2: Master Plan Alternatives: Components

	Alternative A Recreational Focus	Alternative B Recreation & Historical Balance	Alternative C Historical Focus
Kealakekua Bay	*ACCESS AND OCEAN RECREATION*		
	Non-commercial and commercial vessels (personal kayaks, canoes and stand up paddleboards (SUPs)) allowed in bay by permit.		
	Commercial tour boat mooring (Kaʻawaloa Cove) and drift-in tour boats continue.		
	Guided kayak tours (up to 90 guests/day) by permit.	Guided kayak tours (up to 72 guests/day- same as existing) plus canoe shuttle tours across the bay (up to 30 passengers at a time) by permit.	Canoe shuttle tours by permit from Nāpōʻopoʻo Landing to Kaʻawaloa. No kayak tours. Focus on transition to traditional vessels in the bay.
	Safety zones delineated (buoys/markers): rockfall zone, ocean edge of MLCD/Park; swim/snorkel/no powerboat zone near Kaʻawaloa shoreline		
	NOAA takes lead on dolphin~~-rest area and~~ regulations in the bay.		
Kaʻawaloa	*ACCESS & FACILITIES*		
	No vessel landing except for permitted guided kayak tours or traditional cultural access, concessionaire landings and storage at ʻĀwili.	Permitted guided tour landings and non-commercial personal watercraft landings and storage at ʻĀwili (when landing is staffed).	No vessel landing except for permitted canoe shuttle at jetty (for traditional cultural access by permit). Improve jetty for canoe landing.

	Alternative A Recreational Focus	Alternative B Recreation & Historical Balance	Alternative C Historical Focus
	Hiking access via Kaʻawaloa Road		
	Limited interpretive trails; Hikers directed to shoreline trail from ʻĀwili to Monument. Create open space gathering area by the Monument.		Interpretive trails for guided and self-guided tours in restored cultural landscape areas that have been surveyed.
	Waterless toilet		
			Interpretive shelter with exhibits and staff at Kaʻawaloa Flat and Interpretive wayside exhibit (sign) at Puhina o Lono Heiau.
Pali	No trail access		
Nāpōʻopoʻo Landing	*ACCESS & PARKING*		
	Public vehicle access for personal watercraft drop-off only (parking at Parcel 1).		No public vehicle access.
	Restricted parking (~10 stalls max + 1 accessible stall) for State and Landing concession.		
	Kayak and equipment rentals and launching of guided kayak tours by permitted concessionaire.	Kayak and equipment rentals and launching of guided kayak and canoe shuttle tours by permitted concessionaire.	Canoe shuttle launching by concessionaire. Launching of non-commercial kayaks, canoes and paddleboards.

	Alternative A Recreational Focus	Alternative B Recreation & Historical Balance	Alternative C Historical Focus
	Launching of non-commercial vessels with permit from landing; concessionaire available to assist with vessel drop-off/launching.		Launching of non-commercial vessels with permit from Landing; concessionaire available to assist with launching.
	FACILITIES & INTERPRETIVE AREAS		
	Improved pier for water entry.		
	Portable toilet(s).		
	Mobile food concession.		Thatched shelter for canoe shuttle staging area and visitor services.
	DOCARE storage, equipment and deployment area.		
	Interpretive signs on wharf and shoreline.		Interpretive exhibits and signs on wharf and shoreline.
Nāpōʻopoʻo Park	*ACCESS, ROADS & PARKING*		
	Park public parking lot on Parcel 1 (~60 stalls).		Park public parking lot on Parcel 1 (~40 stalls).
	Beach Road – limit parking to 5 stalls on park land + drop-off area.		Remove Beach Rd. parking & work with County to close road (local/service traffic only).
	FACILITIES, RECREATION & INTERPRETATION & LANDSCAPING		

	Alternative A Recreational Focus	Alternative B Recreation & Historical Balance	Alternative C Historical Focus
	Retain existing community pavilions and restrooms.		Convert community pavilion to interpretive shelter. Relocate new community pavilion and grass recreation area to Parcel 1 near new park Entry/parking.
			Interpretive Center on Parcel 1 with exhibits, gift shop, food sales and staff; architectural style of the Gaspar Mill.
			Restroom at Parcel 1.
	Interpretive low signs, maps and media.	Interpretive signs, guided interpretive walks, work to restore cultural landscape & historic features.	Interpretive signs and guided interpretive walks; Restore cultural landscape (remove invasive vegetation and restore historic features). Construct traditional hale in area of Hikiau Heiau for cultural & educational programs.
	Selectively remove boulders to restore sand beach access path for swimmers/canoes.	Restore low rock wall behind beach to separate recreational use from archaeological complex and selectively remove boulders to restore sand beach access.	Restore low rock wall behind beach, restore the cultural landscape and remove boulders to restore sand beach access.
Manage-ment Presence	State Parks: limited staff + Regional Park Coordinator.	State Parks: Interpretive staff + Regional Park Coordinator.	State Parks: Interpretive staff, Regional Park Coordinator and Kealakekua Park Coordinator to assist/oversee park operations.

	Alternative A Recreational Focus	Alternative B Recreation & Historical Balance	Alternative C Historical Focus
	DOCARE: Increased yet periodic enforcement.	DOCARE: At least weekly enforcement.	DOCARE: Consistent and daily enforcement.
	Concessionaire: Staff at Kaʻawaloa to support guided kayak tour landings and at Nāpōʻopoʻo Landing to support ocean recreation and food concession.	Concessionaire: Staff at Kaʻawaloa to support guided kayak tour landings and canoe shuttle and at Nāpōʻopoʻo Landing to support ocean recreation and food concession, and staff interpretive shelter and gift shop on Parcel 1.	Concessionaire: Staff at Kaʻawaloa and Nāpōʻopoʻo Landing to support canoe shuttle operations.
	Adopt-A-Park & Volunteer Agreements: encourage community volunteer participation to care for park resources.		

NOTE: The "Nāpōʻopoʻo Park Area" is the contiguous State land in Nāpōʻopoʻo, i.e., the State Parks land other than the Landing. The County owns a parcel on Manini Point that is at times identified as "Nāpōʻopoʻo Park." That site is not part of this plan.

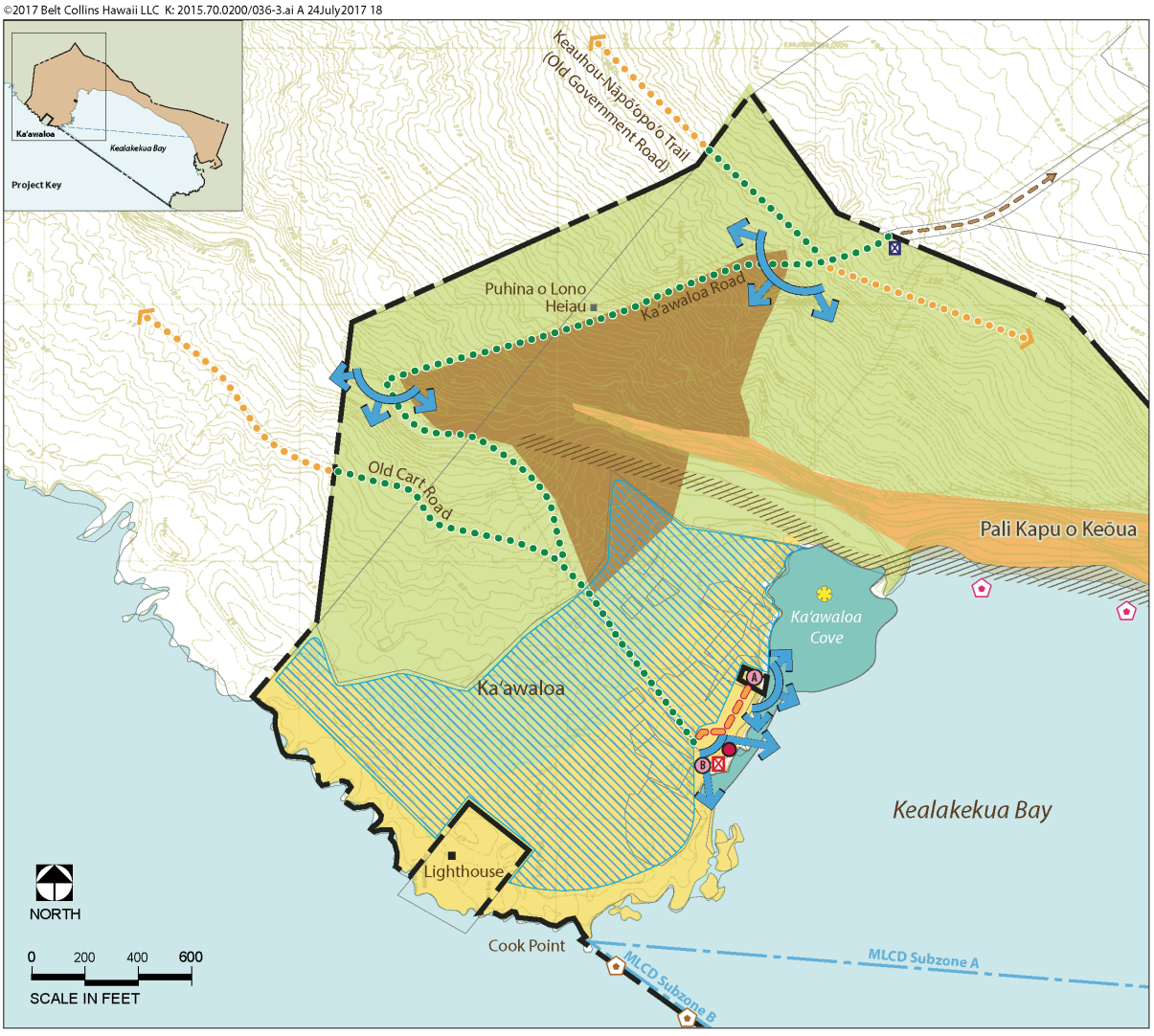

Figure 2-1: No Action, Ka'awaloa

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Ka'awaloa Cove (snorkeling area)
- Pali Rockfall Hazard
- Ka'awaloa Flat Archaeological Zone

Vegetation

- Non-native Forest
- A'a Lava
- Cliff and Scree
- Coastal Strand

Circulation

- Unimproved Road
- Historic Trail
- Historic Trail – Closed
- Unimproved Path

Features

- Views
- Kayak Launch/Landing; permitted guided tours only
- Commercial Mooring
- Sign: "No Commercial Activity without a permit, No Launching, Operation, or Landing Vessels without a Permit"
- Welcome Sign at Park Entry
- Rockfall Hazard Buoys
- State Park Boundary Buoys

Elements

- (A) Captain Cook Monument and Wharf
- (B) 'Āwili; storm beach landing and kayak storage for permitted guided tours

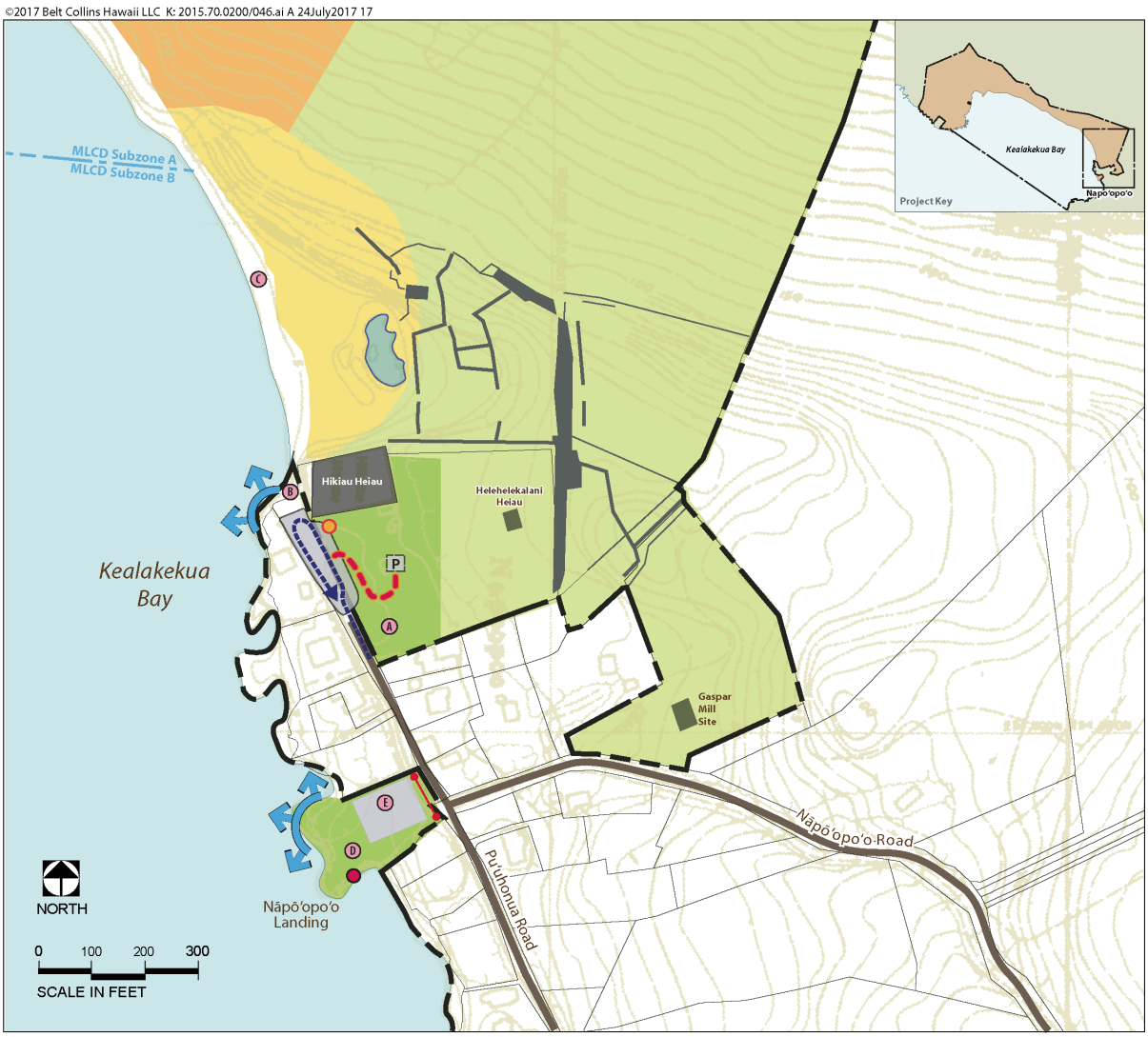

Figure 2-2: No Action, Nāpōʻopoʻo

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Parking (~25 stall capacity; State Park and County road shoulder)

Vegetation
- Non-native Forest
- Ornamental Landscaping
- Cliff and Scree
- Coastal Strand

Circulation
- County Road
- Primary Vehicular Circulation
- Controlled Access (locked gate)
- Accessible Pedestrian Path

Features
- Historic Site
- Pond
- Pavilion (Restroom, shower)
- Views
- Park Sign
- Kayak/Vessel Launch

Elements
- (A) Existing community park facilities and grass field
- (B) Bay overlook, marine life interpretation, and park rules signage
- (C) Nāpōʻopoʻo Beach
- (D) Permitted kayak tour staging
- (E) Restricted Parking

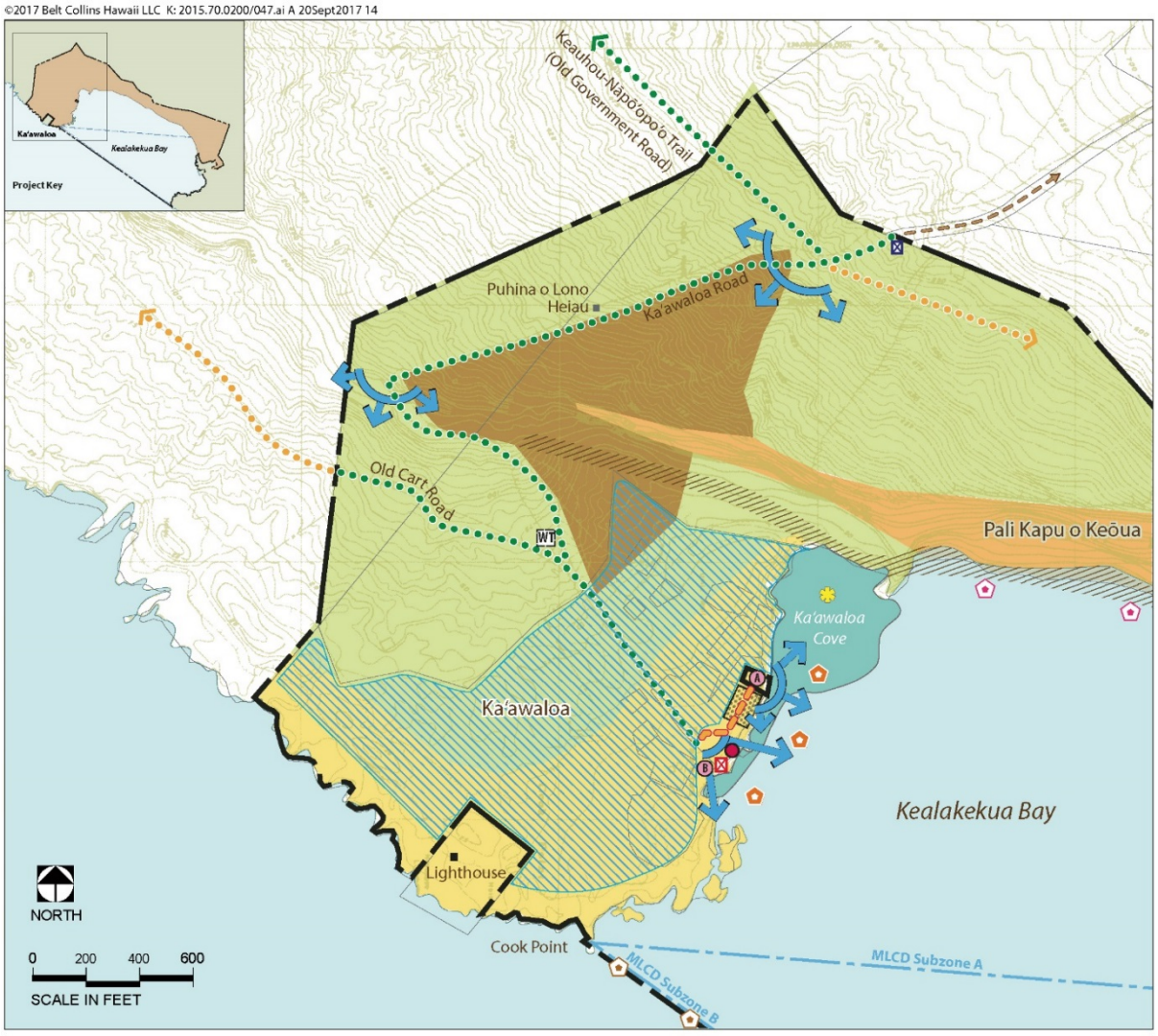

Figure 2-3: Alternative A, Recreational Focus, Ka'awaloa

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Ka'awaloa Cove (snorkeling area)
- Pali Rockfall Hazard
- Ka'awaloa Flat Archaeological Zone

Vegetation

- Non-native Forest
- A'a Lava
- Cliff and Scree
- Coastal Strand

Circulation

- Unimproved Road
- Historic Trail
- Historic Trail – Closed
- Unimproved Path

Features

- Views
- Kayak Launch/Landing; permitted guided tours only
- Commercial Mooring
- Sign: "No Commercial Activity without a permit, No Launching, Operation, or Landing Vessels without a Permit"
- Welcome Sign at Park Entry
- WT Waterless Toilet
- Seating Area (cleared vegetation)
- Rockfall Hazard Buoys
- State Park Boundary Buoys
- Swim-Snorkel/No Powerboat Zone

Elements

- (A) Captain Cook Monument and Wharf
- (B) 'Āwili; storm beach landing and kayak storage for permitted guided tours

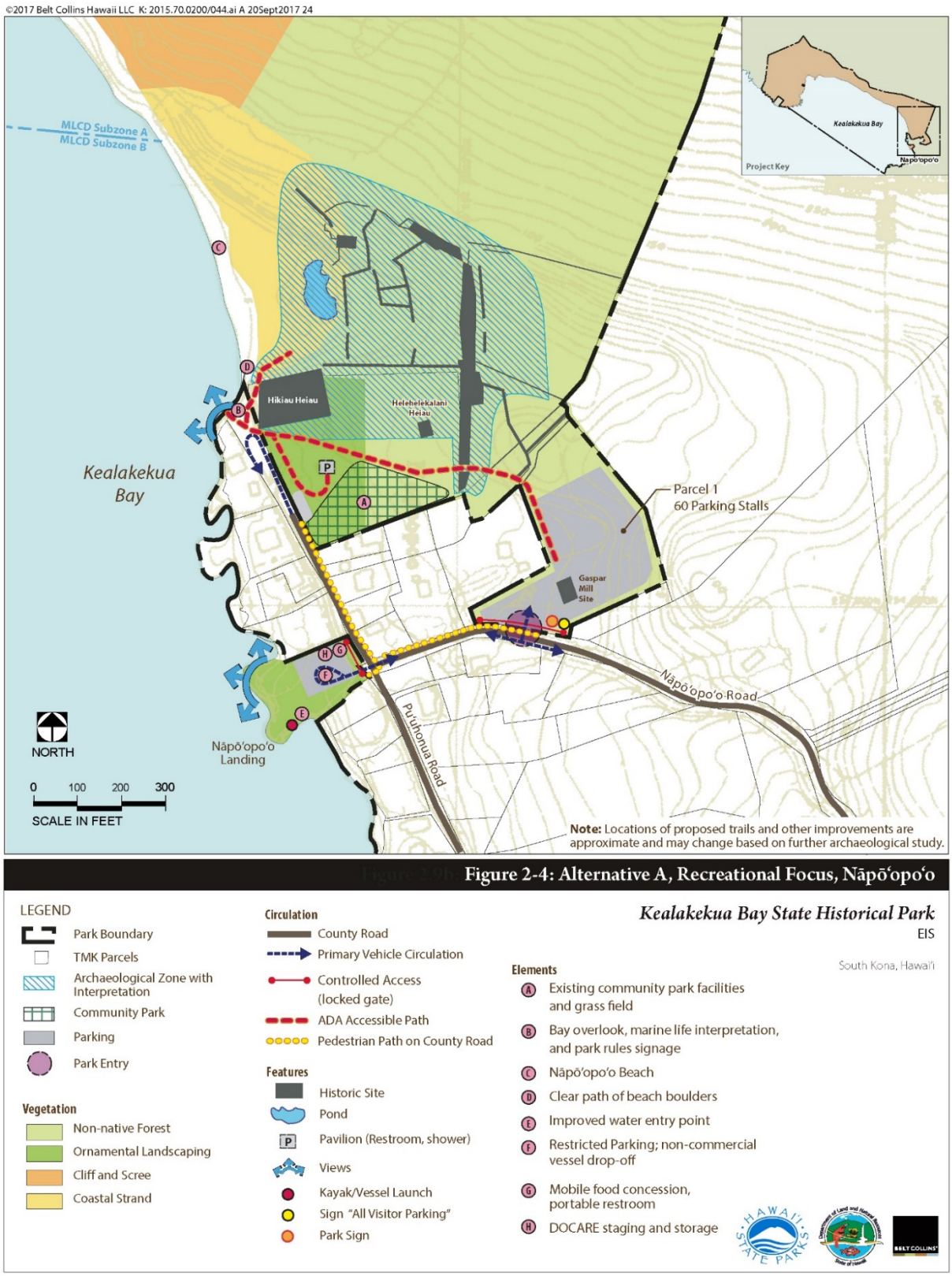

Figure 2-4: Alternative A, Recreational Focus, Nāpōʻopoʻo

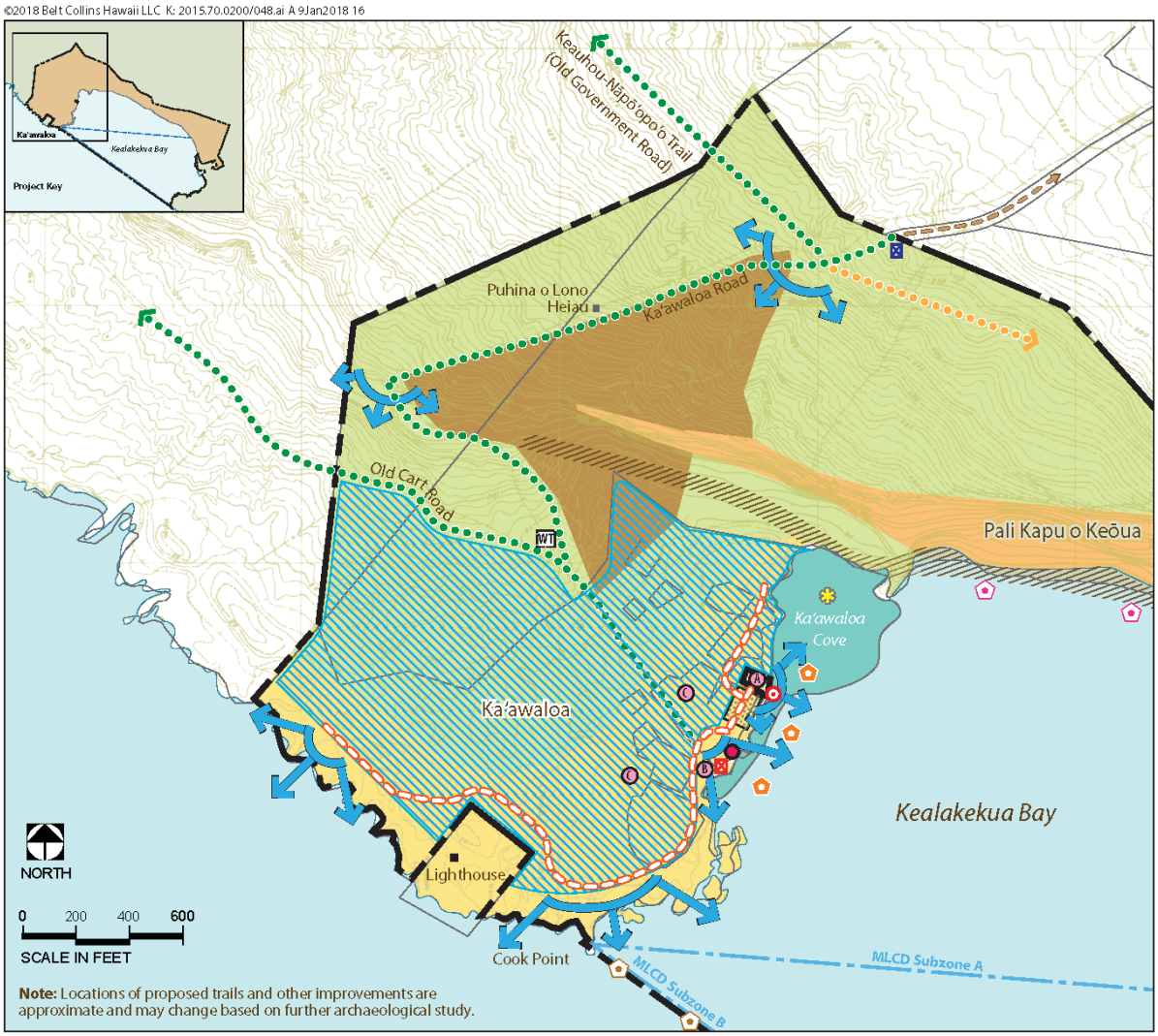

Figure 2-5: Alternative B, Recreation and Historical Balance, Ka'awaloa

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Ka'awaloa Cove (snorkeling area)
- Pali Rockfall Hazard
- Ka'awaloa Flat Archaeological Zone

Vegetation

- Non-native Forest
- A'a Lava
- Cliff and Scree
- Coastal Strand

Circulation

- Unimproved Road
- Historic Trail
- Historic Trail – Closed
- Interpretive Trail

Features

- Views
- Kayak Launch/Landing
- Commerical Mooring
- Sign: "No Commercial Activity without a permit, No Launching, Operation, or Landing Vessels without a Permit"
- Welcome Sign at Park Entry
- Canoe Shuttle Launch/Landing
- Waterless Toilet
- Seating Area (cleared vegetation)
- Rockfall Hazard Buoys
- State Park Boundary Buoys
- Swim-Snorkel/No Powerboat Zone

Elements

- (A) Captain Cook Monument and Wharf; repairs to Wharf for canoe shuttle landings
- (B) 'Āwili; storm beach landing and kayak storage for permitted guided tours and limited assisted landings
- (C) Selective removal of vegetation around cultural sites

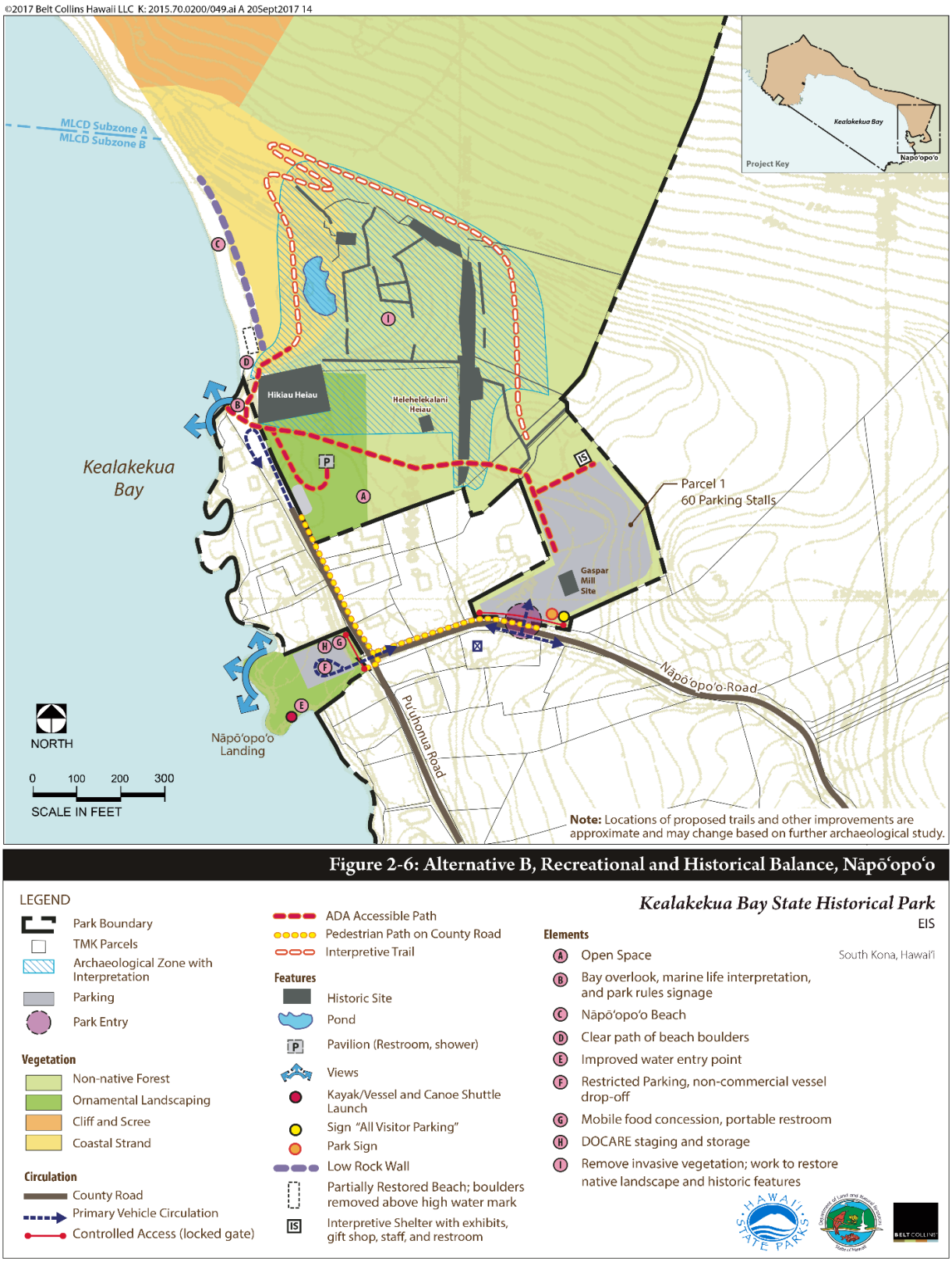

Figure 2-6: Alternative B, Recreational and Historical Balance, Nāpō'opo'o

LEGEND

- Park Boundary
- TMK Parcels
- Archaeological Zone with Interpretation
- Parking
- Park Entry

Vegetation

- Non-native Forest
- Ornamental Landscaping
- Cliff and Scree
- Coastal Strand

Circulation

- County Road
- Primary Vehicle Circulation
- Controlled Access (locked gate)
- ADA Accessible Path
- Pedestrian Path on County Road
- Interpretive Trail

Features

- Historic Site
- Pond
- Pavilion (Restroom, shower)
- Views
- Kayak/Vessel and Canoe Shuttle Launch
- Sign "All Visitor Parking"
- Park Sign
- Low Rock Wall
- Partially Restored Beach; boulders removed above high water mark
- Interpretive Shelter with exhibits, gift shop, staff, and restroom

Kealakekua Bay State Historical Park

EIS

South Kona, Hawai'i

Elements

- (A) Open Space
- (B) Bay overlook, marine life interpretation, and park rules signage
- (C) Nāpō'opo'o Beach
- (D) Clear path of beach boulders
- (E) Improved water entry point
- (F) Restricted Parking, non-commercial vessel drop-off
- (G) Mobile food concession, portable restroom
- (H) DOCARE staging and storage
- (I) Remove invasive vegetation; work to restore native landscape and historic features

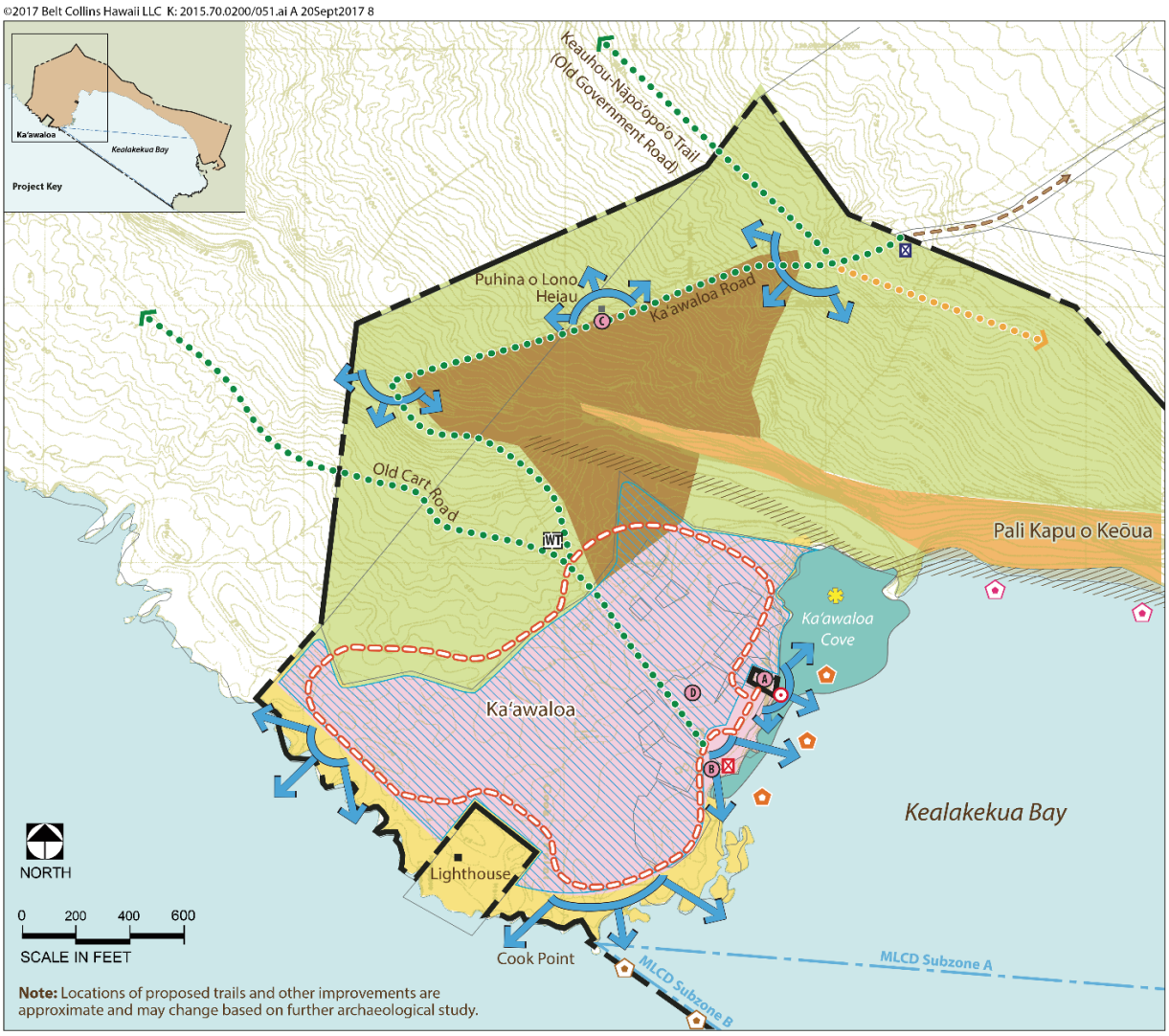

Figure 2-7: Alternative C, Historical Focus, Kaʻawaloa

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Ka'awaloa Cove (snorkeling area)
- Pali Rockfall Hazard
- Ka'awaloa Flat Archaeological Zone

Vegetation

- Non-native Forest
- A'a Lava
- Cliff and Scree
- Coastal Strand
- Restoration of the Cultural Landscape

Circulation

- Unimproved Road
- Historic Trail
- Historic Trail – Closed
- Interpretive Trail

Features

- Views
- Commercial Mooring
- Sign: "No Commercial Activity without a permit, No Launching, Operation, or Landing Vessels without a Permit"
- Welcome Sign at Park Entry
- Canoe Shuttle Launch/Landing
- Waterless Toilet
- Rockfall Hazard Buoys
- State Park Boundary Buoys
- Swim-Snorkel/No Powerboat Zone

Elements

- (A) Captain Cook Monument and Wharf; repairs to Wharf for canoe shuttle landings
- (B) 'Āwili; no vessel landings
- (C) Interpretive Exhibit
- (D) Interpretive Shelter with exhibits and staff

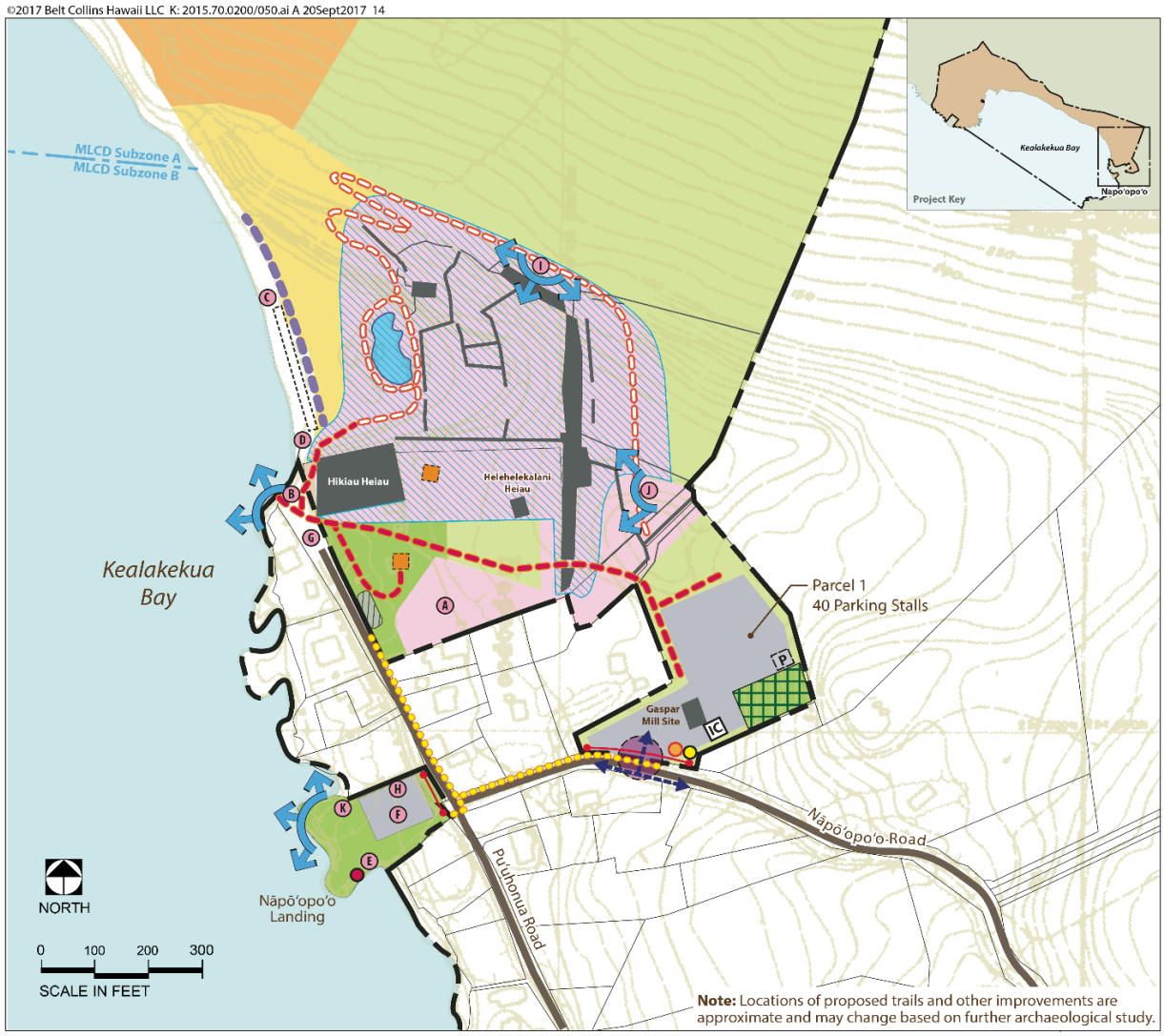

Figure 2-8: Alternative C, Historical Focus, Nāpōʻopoʻo

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Archaeological Zone with Interpretation
- Community Park
- Parking
- ADA Parking
- Park Entry

Vegetation

- Non-native Forest
- Ornamental Landscaping
- Cliff and Scree
- Coastal Strand
- Restoration of the Cultural Landscape

Circulation

- County Road
- Primary Vehicle Circulation
- Controlled Access (locked gate)
- ADA Accessible Path
- Pedestrian Path on County Road
- Interpretive Trail

Features

- Historic Site
- Pond
- Pavilion (Restroom, shower)
- Views
- Kayak/Vessel and Canoe Shuttle Launch
- Sign "All Visitor Parking"
- Park Sign
- Low Rock Wall
- Partially Restored Beach; boulders removed above high water mark
- Interpretation Station(s)
- Interpretive Center with exhibits, gift shop, food sales, and restroom

Elements

- (A) Cultural Gathering Area
- (B) Bay overlook, marine life interpretation, and park rules signage
- (C) Nāpōʻopoʻo Beach
- (D) Clear path of beach boulders
- (E) Improved water entry point
- (F) Restricted Parking; no public vehicle access
- (G) Work with County to close road; local/service traffic only
- (H) DOCARE staging and storage
- (I) Priestly Compound Overlook
- (J) Great Wall Overlook
- (K) Thatched Shelter for canoe shuttle and visitor services

2.3 PROPOSED ACTION

2.3.1 Survey and Further Stakeholder Input

Local stakeholders' reactions to the three alternatives were critical. Some stakeholders expressed that DSP had not listened to their input. DSP sought to understand better the ideas and critiques of residents and park users, and conducted a survey over the internet asking for reactions to specific actions in the various sections of the Park. A link to the survey was sent to all the persons with vessel permits and to all participants in the recent community meeting and discussions who had shared their e-mail addresses (Appendix G includes the survey questions and results).

Since this was not a comprehensive or scientific sample, results were analyzed to find points of consensus, rather than to quantify the distribution of opinions with precision. A total of 175 people responded to the invitation (of the 311 invitations sent). Points of agreement included:[1]

Kaʻawaloa Cove and the Bay

- Prohibit commercial vessels for one or two days a week (121 responses in favor of this action); and
- Establish and enforce a dolphin rest area (101).

Kaʻawaloa

- Provide maintenance (144);
- Stabilize walls (112);
- Remove alien vegetation (91);
- Provide self-guided tours (107);
- Develop interpretive trails of the archaeological complex (91);
- Provide enforcement on site (105);
- Allow non-commercial non-motorized vessels with permits to land (125); and
- Allow commercial non-motorized vessels with permits to land (104).

Nāpōʻopoʻo Beach (within State Park)

- Allow non-motorized vessel launch (106).

Nāpōʻopoʻo Section of the Park

- Provide a restroom at Parcel 1 (133);
- Provide interpretive exhibits on Parcel 1 (96);
- Clear vegetation around Hikiau Heiau and Helehelekalani Heiau; restore the cultural landscape (90); and
- Provide an interpretive trail around the heiau and pond (90).

[1] All responses with 88 or more in agreement – i.e., half the respondent group -- are included in this list.

Nāpōʻopoʻo Landing

- Allow non-commercial vessel launch (144);
- Provide toilets (113);
- Drop off of vessels (99); and
- Interpretive signs for visitors (93).

The results were shared via the DLNR webpage for the Park and presented at a gathering at the Park pavilion at Nāpōʻopoʻo in August 2016.[2] At that meeting and in subsequent discussions, most stakeholders found the results credible and welcomed the effort to elicit stakeholders' views, although some felt that only a comprehensive survey of Nāpōʻopoʻo Village residents would be appropriate.[3]

At that gathering, support was expressed for demarcating a dolphin rest area which humans would not enter. Participants recognized that NOAA is proceeding to clarify its rules on human-dolphin interactions, but thought that an exclusion zone would provide an enforceable means to protect this area of the Park.

Additional sources for the Proposed Action include community input at and after earlier focus groups and meetings, and input on ocean recreation gathered by John Clark, a member of the Master Plan team, in 2015. Comments on the Environmental Impact Statement Preparation Notice (EISPN) have resulted in further changes to the Proposed Action.

2.3.2 Synthesis of DSP and Stakeholder Input in the Proposed Action

Improvements and management proposed in the Master Plan are designed to provide access and facilities for park visitation while minimizing impacts on natural and cultural resources and the surrounding community. Increased responsibilities for management, interpretation, enforcement and maintenance are proposed. By developing new sanitation facilities and parking areas, and by re-opening the Nāpōʻopoʻo Landing, DSP hopes to improve safety for persons launching kayaks and similar vessels in the Nāpōʻopoʻo area and reduce traffic congestion within Nāpōʻopoʻo Village. Figures 2-9 to 2-11 identify locations for changes that make up the Proposed Action.

The Proposed Action combines development, management and enforcement measures, as summarized in Table 2-3. Park operations and management involve a combination of State personnel and concession services. Support from community volunteers will contribute to maintenance and oversight. While a few steps could be taken immediately, development actions and improved management must wait on the EIS and additional funding by the Legislature. Figures 2-9 to 2-11 show the proposed action for three sections of the Park.

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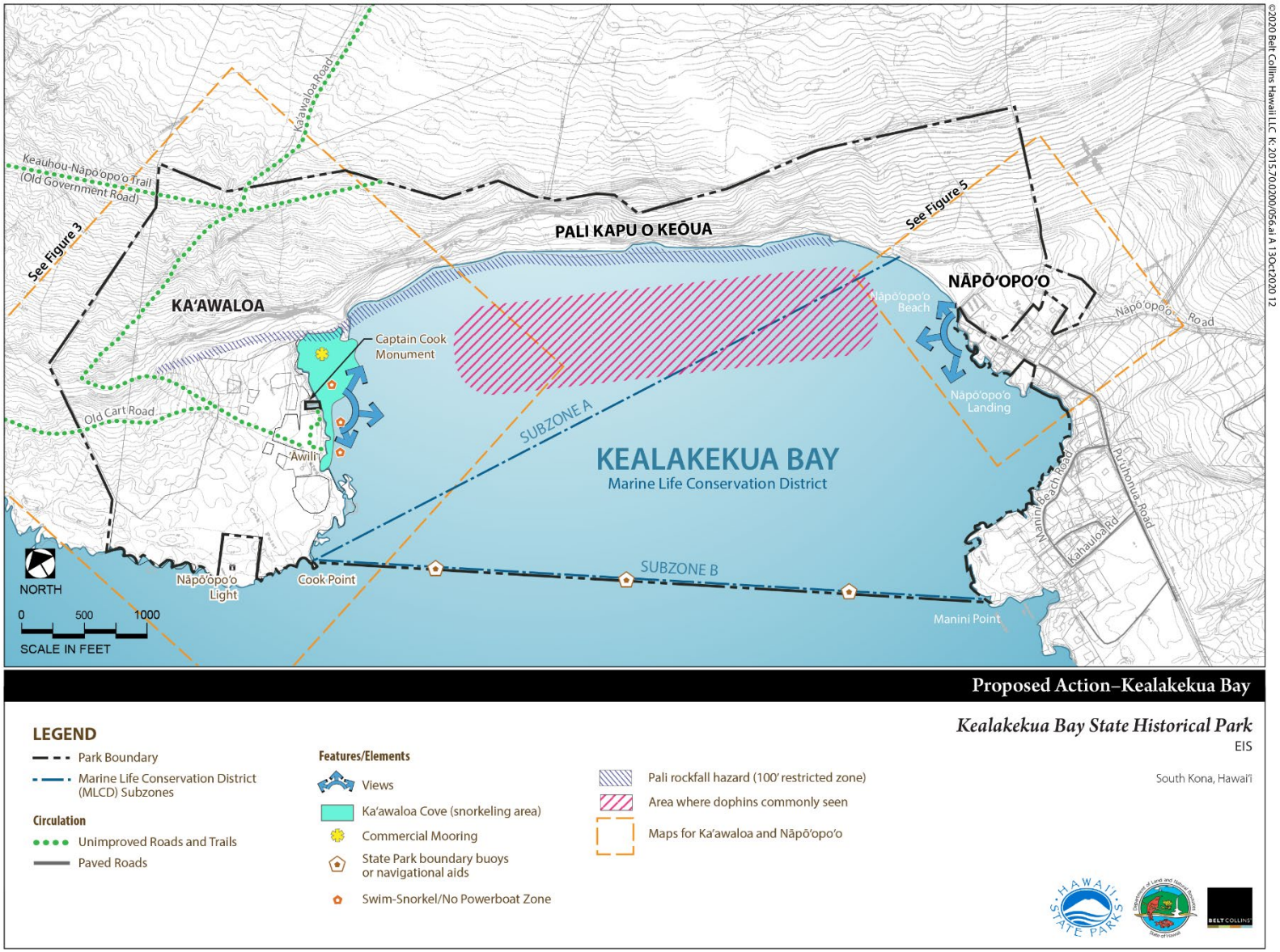
2 http://dlnr.hawaii.gov/dsp/parks/hawaii/kealakekua-bay-state-historical-park/

3 A door-to-door survey of residents of South Kona was conducted in connection with the Stewardship Master Plan. Needham, M.D., & Szuster, B. W. Community perceptions of activities, impacts, and management at Kealakekua Bay, Hawaiʻi. Final project report for Hawaiʻi Division of Aquatic Resources, Department of Land and Natural Resources. Honolulu: University of Hawaiʻi at Mānoa, Department of Geography. (2010). Posted at http://nature.forestry.oregonstate.edu/sites/default/files/2008-1b%20Kealakekua%20Bay%20Final%20Report.pdf. That survey provided an account of general attitudes towards the Bay and agencies managing it, but not responses to the specific measures considered in the Master Plan.


©2020 Belt Collins Hawaii LLC K:\2015\70200\056\ai\A 13Oct2020 12
Ka'awaloa Road
Keauhou-Nāpō'opo'o Trail (Old Government Road)
See Figure 3
See Figure 5
PALI KAPU O KEŌUA
KA'AWALOA
NĀPŌ'OPO'O
Nāpō'opo'o Beach
Nāpō'opo'o Road
Captain Cook Monument
Old Cart Road
Nāpō'opo'o Landing
SUBZONE A
KEALAKEKUA BAY
Marine Life Conservation District
Awili
Manini Beach Road
Pu'uhonua Road
Kahauloa Rd
NORTH
Nāpō'opo'o Light
Cook Point
SUBZONE B
Manini Point
0 500 1000
SCALE IN FEET
Proposed Action–Kealakekua Bay
Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i
LEGEND
Park Boundary
Marine Life Conservation District (MLCD) Subzones
Circulation
Unimproved Roads and Trails
Paved Roads
Features/Elements
Views
Ka'awaloa Cove (snorkeling area)
Commercial Mooring
State Park boundary buoys or navigational aids
Swim-Snorkel/No Powerboat Zone
Pali rockfall hazard (100' restricted zone)
Area where dophins commonly seen
Maps for Ka'awaloa and Nāpō'opo'o

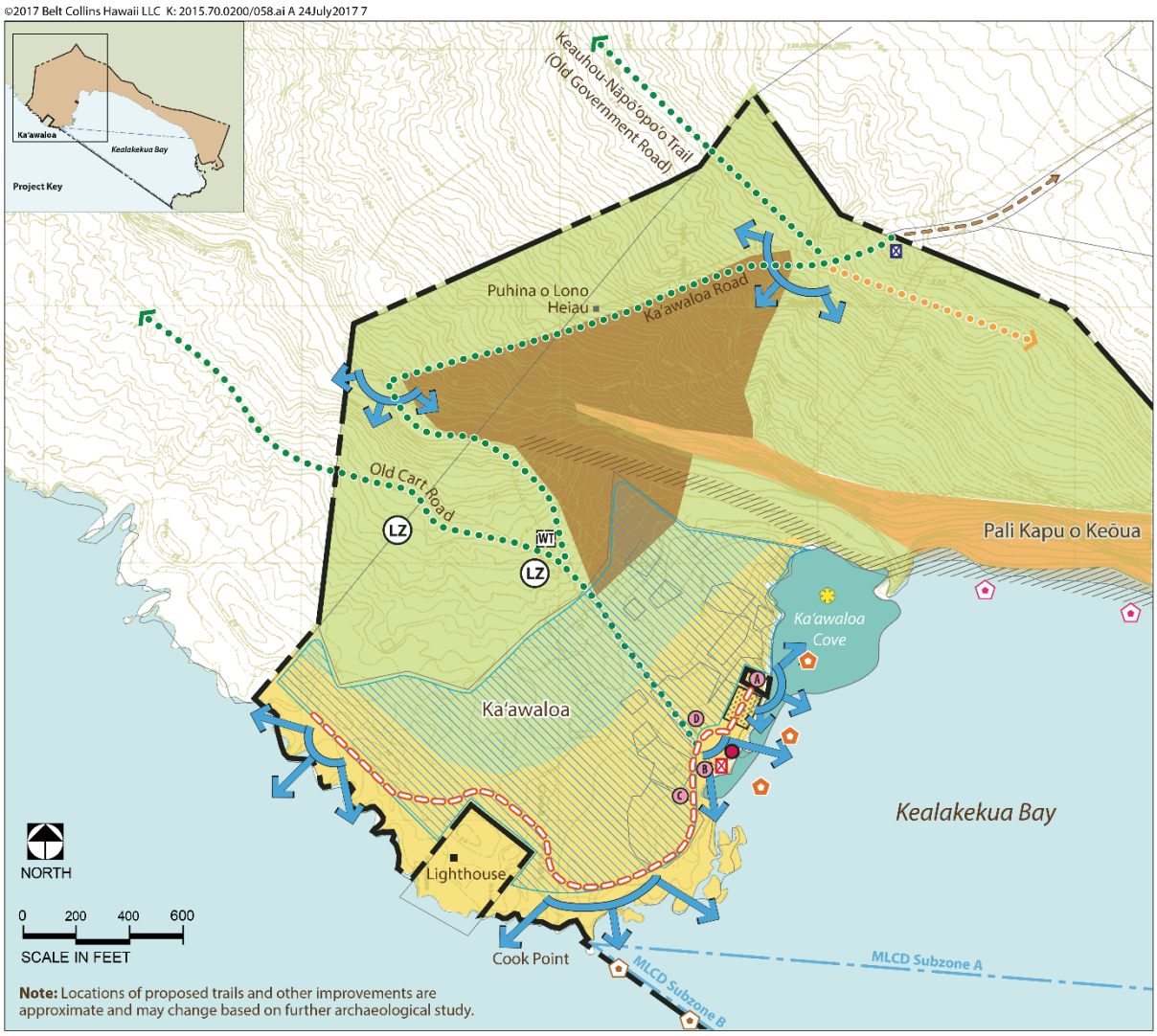


Figure 2-10: Proposed Action–Ka'awaloa

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Ka'awaloa Cove (snorkeling area)
- Pali Rockfall Hazard
- Ka'awaloa Flat Archaeological Zone

Vegetation

- Non-native Forest
- A'a Lava
- Cliff and Scree
- Coastal Strand

Circulation

- Unimproved Road
- Historic Trail
- Historic Trail – Closed
- Interpretive Trail

Features

- Views
- Watercraft Launch/Landing
- Commercial Mooring
- Sign: "No Commercial Activity without a permit, No Launching, Operation, or Landing Vessels without a Permit"
- Welcome Sign at Park Entry
- WT Waterless Toilet
- LZ Helicopter Landing Zone Options (emergency/service only)
- Seating Area (cleared vegetation)
- Rockfall Hazard Buoys or navigational aids
- State Park Boundary Buoys or navigational aids
- Swim-Snorkel/No Powerboat Zone

Elements

- A Captain Cook Monument and Wharf
- B 'Āwili; storm beach landing and watercraft storage for permitted guided tours and limited assisted landings
- C Selective restoration of cultural landscape and removal of vegetation around cultural sites
- D Interpretive shelter with exhibits and staff

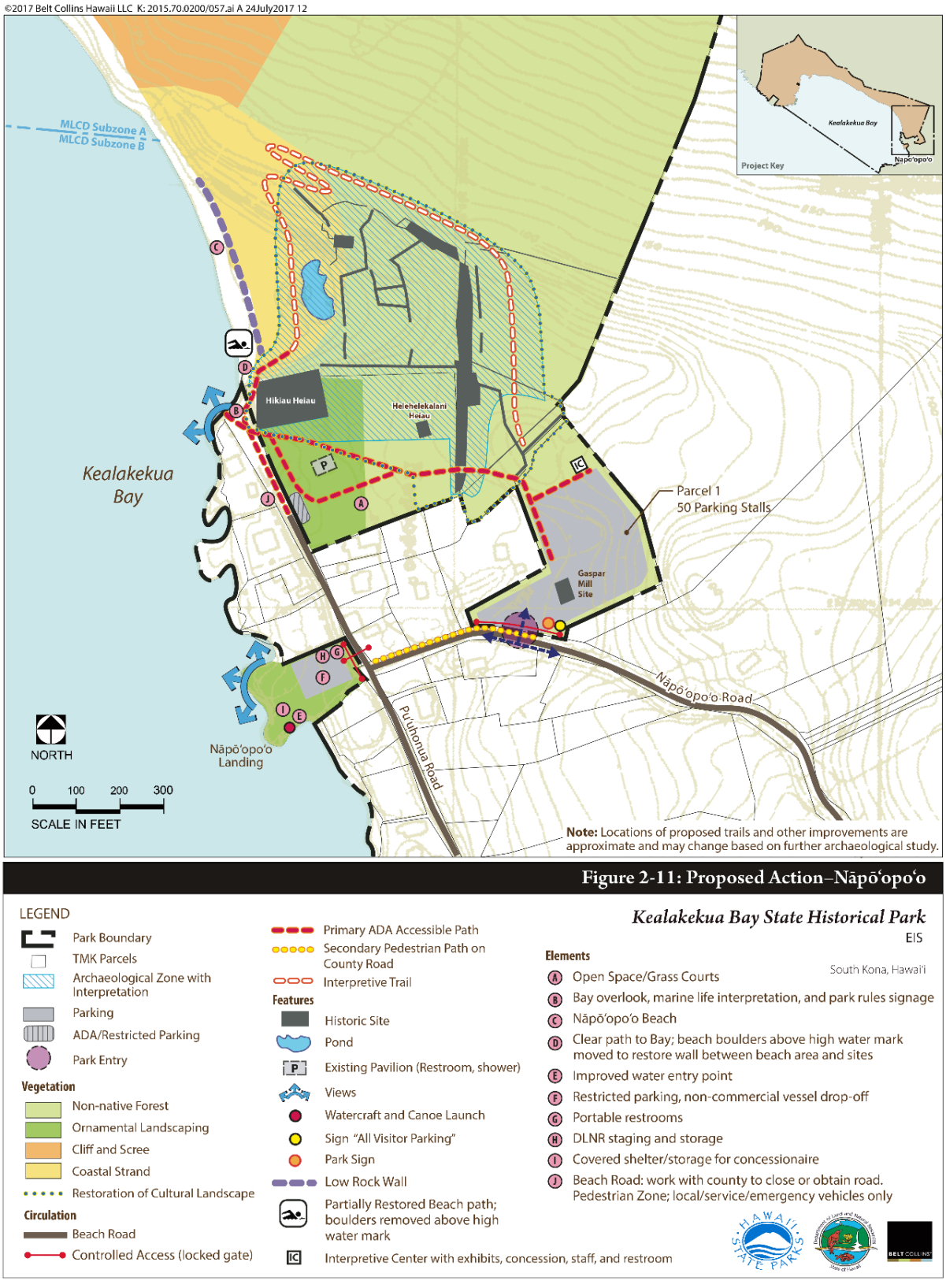


Figure 2-11: Proposed Action–Nāpōʻopoʻo

LEGEND

- Park Boundary
- TMK Parcels
- Archaeological Zone with Interpretation
- Parking
- ADA/Restricted Parking
- Park Entry

Vegetation

- Non-native Forest
- Ornamental Landscaping
- Cliff and Scree
- Coastal Strand
- Restoration of Cultural Landscape

Circulation

- Beach Road
- Controlled Access (locked gate)
- Primary ADA Accessible Path
- Secondary Pedestrian Path on County Road
- Interpretive Trail

Features

- Historic Site
- Pond
- Existing Pavilion (Restroom, shower)
- Views
- Watercraft and Canoe Launch
- Sign "All Visitor Parking"
- Park Sign
- Low Rock Wall
- Partially Restored Beach path; boulders removed above high water mark
- Interpretive Center with exhibits, concession, staff, and restroom

Kealakekua Bay State Historical Park

EIS

South Kona, Hawai'i

Elements

- (A) Open Space/Grass Courts
- (B) Bay overlook, marine life interpretation, and park rules signage
- (C) Nāpōʻopoʻo Beach
- (D) Clear path to Bay; beach boulders above high water mark moved to restore wall between beach area and sites
- (E) Improved water entry point
- (F) Restricted parking, non-commercial vessel drop-off
- (G) Portable restrooms
- (H) DLNR staging and storage
- (I) Covered shelter/storage for concessionaire
- (J) Beach Road: work with county to close or obtain road. Pedestrian Zone; local/service/emergency vehicles only

Table 2-3: Components and Objectives of Proposed Action

Location, Plan Components		*Major Objectives*
Kealakekua Bay		
Access & Ocean Recreation	a. Vessel entry by permit. b. Commercial operators are encouraged to develop and share Drift/Safety Plan. c. One permitted mooring at Ka'awaloa Cove for commercial tour boat operator. d. Permitted guided kayak /canoe tours (up to approximately 72 passengers per day). e. Reintroduce outrigger canoes via guided tour concession with intent to transition from kayaks. f. Consult with DOBOR if a commercial vessel limit in the bay is needed in the future.	Control number of vessels, behavior of operators to protect resources and scenic ambiance of the area; promote historical setting.
Features	a. Maintain buoys or navigational aids marking rock fall zone and park boundary within the bay. ~~b. Established buoys marking dolphin resting zone in collaboration with NOAA.~~ c. Swim-snorkel/no powerboat zone (Ka'awaloa shoreline to approx. 100 ft. offshore as demarcated by buoys or navigational aids).[4]	Safety for visitors; ~~protection for dolphins~~; support for enforcement of rules about access.
Ka'awaloa		
Access-Bay	a. Permitted guided tour landings, kayak storage at 'Āwili. b. Permitted non-commercial personal and rented watercraft landings and storage possible at 'Āwili (when landing is staffed and after installation of waterless toilet). c. Permit available for landing a vessel at Ka'awaloa for traditional cultural access.	Manage visitation, allowing some non-motorized vessels but protecting resources.
Access-Land	a. Hiking access via Ka'awaloa Road. b. Seek agreement with adjacent landowner for access to Ka'awaloa by maintenance vehicles. c. Open trail access from Keōpuka if private landowner makes trail across lands to the north available to hikers.	Manage visitation, allowing hikers but working to protect resources and provide for continuing maintenance.
Facilities	a. Waterless toilet. b. Interpretive shelter with staff. c. Helicopter Landing Zone for emergency rescue/ maintenance operations. d. Improve jetty as needed for safety of swimmers and boaters.	Assure visitor safety and sanitation; increase interpretive activity.

[4] The buoys separate the zone where swimmers can view coral and fish from the deeper part of the bay. The line of the buoys would follow bottom conditions, rather than an arbitrary distance from shore.

Table 2-3: Components and Objectives of Proposed Action

Location, Plan Components		***Major Objectives***
Interpretation & Landscaping	a. Clear vegetation from ʻĀwili to the Cook Monument and create open space gathering area by the Monument. b. Restore cultural landscape with selective removal of vegetation around cultural sites. c. Interpretive trails with signage for guided and self-guided tours. Trail locations to be finalized based on archaeological studies.	Restore cultural landscape and provide visitor access to the historic resources in the Park with interpretation; preserve cultural sites and historical setting.
Pali	(between Kaʻawaloa and Nāpōʻopoʻo)	
	No trail access or development.	Protection of cultural sites; safety of visitors.
Nāpōʻopoʻo Landing		
Access & Parking	a. Drop-off for non-commercial vessels. b. Restricted parking (<10 stalls with ~1 accessible stall) for State & Landing concessionaire vehicles.	Orderly use of Landing.
Ocean Recreation	a. ~~Personal~~ Watercraft rentals (kayaks and SUPs) by concessionaire with permitted launching. b. Guided kayak and outrigger canoe tours. c. Launching of non-commercial, personal vessels with permit.	Orderly and safe use of Landing.
Facilities	a. Improve historic wharf for entry/exit to the water. b. Covered shelter and storage for concessionaire. c. Portable toilet(s). d. Equipment, deployment and storage for DLNR, especially DOCARE.	Improve access for residents, visitors and DLNR; increase safety; encourage enforcement activities
Interpretation & Landscaping	a. Interpretive signs on wharf and shoreline. b. Grass/picnic area.	Improve visitor experience.
Nāpōʻopoʻo Park Area		
Access, Roads & Parking	a. Parking lot on Parcel 1 (Gaspar Mill parcel) with approximately 50 spaces. (No bus parking except school bus by reservation). b. Accessible path from parking lot to Hikiau Heiau. c. Park entry and sign moved to Parcel 1. d. Work with County to reduce vehicle use on Beach Road. to pedestrian zone and emergency/local/service traffic only. e. Install gate or other means to control vehicle entry on Beach Road. e. Reduce/realign parking away from Hikiau Heiau. f. Reduce parking on Beach Road. Provide 2-3 accessible stalls and Special Event (permitted) parking only near grass courts/pavilion (Vehicle parking moved to Parcel 1).	Manage access to Park and reduce traffic congestion in Nāpōʻopoʻo Village.

Table 2-3: Components and Objectives of Proposed Action

Location, Plan Components		***Major Objectives***
Facilities	a. Interpretive Center with exhibits/ concession/ restrooms (Parcel 1). b. Retain community pavilion with restrooms/outdoor showers.	Improve visitor experience; meet community needs.
Recreation	a. Partially restore access to beach (selectively remove boulders) for swimmers and beach goers. b. Retain grass courts/open space.	Retain recreational use while respecting cultural resources.
Interpretation & Landscaping	a. Establish interpretive trails for guided and self-guided walking tours. Trail locations to be finalized based on archaeological studies. b. Restore cultural landscape and historic features (including pond) and remove invasive vegetation. c. Restore low rock wall behind beach to separate recreational beach use from archaeological complex (use existing stones on site).	Respect cultural sites, restore historic features.
Mālama: Management Presence		
DSP	a. Staff responsibilities include: Interpretation and trails, trash removal, cleaning restrooms and facilities and grounds maintenance. b. A Park Manager. c. Interpretive staff assigned to KBSHP. d. Park caretaker(s).	Integrated long-term support for both resources and recreation by State, private sector and community.
DOCARE	Consistent and preferred daily enforcement by DOCARE.	
Concessionaire	Staff at Kaʻawaloa and Nāpōʻopoʻo Landing to support concession operations, including guided kayak and canoe tours, assist in launching, landing and stowing watercraft, ocean recreation equipment rentals and activities required by the concession permit.	
Adopt-A-Park & Volunteer Agreements	Community volunteers to assist with care of park resources.	
Cultural Advisory ʻOhana	Collaborate with DSP on management and interpretive strategies.	
Makai Watch	Community volunteer ocean watch program in communication with DOCARE.	

2.4 PHASING

The timing of components of the Proposed Action will depend on the availability of funding. Installation of the waterless toilet at Kaʻawaloa and ongoing maintenance and landscape restoration activities could occur in advance of environmental review and permitting. However, funding will be required to purchase, install and maintain the unit. The key capital improvement will be the development of the parking area at Nāpōʻopoʻo and trails linking it to the Hikiau Heiau area. Redevelopment and opening of the Landing will follow the creation of the new parking area. Additional trails can be added over time, once the areas affected have been comprehensively assessed for historical significance. Increased funding for operations will be needed for full implementation of the Master Plan but can increase over time until it reaches the level shown below.

2.5 PRELIMINARY COST ESTIMATES

Preliminary cost estimates were developed by Belt Collins Hawaii LLC in ~~2016~~2020 based on discussions with DSP personnel of the components of the Proposed Action, as shown in Table 2.4. The capital improvements would cost less than ~~$2.4~~$2.6 million, while increases in operations costs would reach nearly ~~$500,000~~$535,000 annually when the Proposed Action is fully implemented.[5]

Table 2-4: Preliminary Cost Estimates (2020 dollars)

Capital Improvements	
Waterless toilet, signage, shelter and landing zone at Ka'awaloa	$192,768
Navigational aids, buoys in the Bay	$125,719
Nāpō'opo'o: new entry, parking lot, trail rest room interpretive center, clear and stabilize pond at historic level, improvements at Landing, gates, signage and road striping	$2,266,923
	$2,585,410
Operations (Annual Cost)	
New positions	$272,390
New maintenance, surveys and interpretation and enforcement	$259,120
	$531,510

2.6 FIT OF THE PROPOSED ACTION AND ALTERNATIVES WITH THE PURPOSE OF THE MASTER PLAN

All the action alternatives work to meet the purpose and need identified for the Master Plan. Their success in achieving the various objectives noted in Section 1.4 above could vary. Table 2-5 shows some of the differences among them in relation to those objectives. Each cell has one mark, two marks

[5] Dollar values are constant dollars, without estimation of inflation. Future costs will likely be for higher amounts than those shown in the table. CPI for All Urban Consumers - West used to adjust from 2016 to 2020 dollars.

or none, to indicate whether the alternative contributes to meeting the objective, or contributes greatly, or does not contribute:

Table 2-5: Likely Realization of Master Plan Objectives, by Alternative

Objectives	No Action	Recreational Focus	Recreation/ Historical Balance	Historical Focus	Proposed Action
Resource Preservation	*	*	**	**	**
Interpretation			*	**	**
Enhance Visitors Experience		*	**	**	**
Cost Effectiveness		**	**	*	**
Enforcement		*	*	*	**

NOTE: Ratings are based on allocation of resources for each alternative, but deal with anticipated outcomes, and hence are necessarily subjective.

Chapter 3

Description of the Affected Environment, Potential Impacts, and Mitigation Measures

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

3.1 Climate and Air Quality

3.1.1 Existing Conditions

The weather near the Park is typically hot and sunny with daytime temperatures in the upper 80s (degrees F). The area surrounding Kealakekua Bay is one of the wetter coastal areas, receiving as much as 50 inches of rainfall annually.[1] The annual pattern of rainfall includes summer rainy seasons and drier winters, the reverse of the general Hawai'i pattern.

Much of the western coast of the island of Hawai'i is sheltered from the prevailing northeasterly trade winds by high mountains. Typically, the passage of storms during the winter months may bring strong Kona winds (from the south or southwest); winds at the Park are usually light and variable. Kona winds blow directly onshore, producing rougher ocean conditions. The bay is recessed far enough into the shoreline to provide good anchorage, especially at Ka'awaloa.

Air quality in the Park is affected by volcanic emissions from Kilauea Volcano. The current eruption began in 1983 and ended in 2018. These emissions created a volcanic haze that persistently hung over the South Kona area. Concentrations of particulate matter and sulfides over much of Hawai'i Island are recognized, but rarely assessed as unhealthy or hazardous.[2] Emissions increased greatly as of 2008, and subsided greatly after the eruption stopped.

3.1.2 Climate Change

The effects of global climate change are anticipated to impact Hawai'i weather patterns, with a decrease in prevailing trade winds and reduced rainfall, an increase in hurricane frequency, air and sea surface temperatures and ocean acidity, and accelerated rates of sea-level rise, amounting to one to three feet over the course of the century.[3]

At Kealakekua Bay, park resources are susceptible to climate change effects. The Park shoreline is vulnerable to erosion and wave damage due to sea level rise, storm surge, tsunami and more frequent and intense storms. Nāpō'opo'o Beach has been modified in recent decades. Storm events have altered the former sand beach, leaving a deposit of stone and coral pebble along the shoreline. The storm beach at 'Āwili, the only safe, permitted kayak landing point along the Ka'awaloa shoreline, is vulnerable to future sand loss. Increased rainfall combined with a possible higher groundwater level due to sea level

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1 A station at Nāpō'opo'o has recorded an annual average of about 35 inches of rain per year (Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte, 2013: Online Rainfall Atlas of Hawai'i. Bull. Amer. Meteor. Soc. 94, 313-316, doi: 10.1175/BAMS-D-11-00228.1, posted at: http://rainfall.geography.hawaii.edu/interactivemap.html).

2 The closest monitoring stations are at Hawaiian Ocean View Estates and Kailua-Kona. Readings of particulates and sulfate aerosol concentrations are typically "Good" to "Moderate" at the two West Hawai'i sites (as opposed to "Unhealthy for sensitive groups," "Unhealthy," "Very unhealthy," or "Hazardous") (http://weather.hawaii.edu/vmap/hysplit/, current conditions, reviewed occasionally through September 23, 2016).

3 University of Hawaii at Mānoa, Sea Grant College Program. *Climate Change Impacts in Hawaii* (2014).

rise will increase flooding and drainage problems. Cultural resources in low-lying areas of the park, such as the brackish pond north of Hikiau Heiau and sites along the Kaʻawaloa coast, including the Cook Monument, could be inundated, damaged or washed away. Sea level rise will increase coastal inundation, shoreline hazards, and damage to low-lying infrastructure.

3.1.3 Potential Impacts and Mitigation Measures

The Proposed Action will have no impact on climate or air quality. No mitigation is needed.

The ongoing effects of climate change have been recognized in planning for Kealakekua Bay. No new structures are proposed for areas likely to be affected by sea level rise in this century (Sea level rise is expected beside the wharf at Nāpōʻopoʻo Landing and the rocky beach access at ʻAwili, but operations are expected to be little affected in the next few decades).

Sea level rise and increased storm surge will affect shoreline and near-shore sites in the Park in the coming decades. As a consequence, new structures are proposed only for sites shown as "D" or "X" in the State's Flood Hazard Assessment Tool. DSP recognizes that Nāpōʻopoʻo Beach has already been changed by storm events, and could well change further in the coming years. Again, while DSP hopes to restore the pond just inland from the beach, this site is exposed to storm surge, and any restoration work much take sea level rise into account.

Given DSP's objective, to restore the cultural landscape, few mitigation or adaptation measures in response to sea level rise appear promising. Any new wall or berm would detract from the integrity of the cultural landscape. While repairs to Nāpōʻopoʻo Landing can take sea level rise into account, no structural changes at the beach or at the Kaʻawaloa landing site (ʻĀwili) are in keeping with DSP's objectives. The ʻĀwili landing site is expected to remain navigable for several decades.

3.2 Geology and Topography

3.2.1 Sites within the Park

Kealakekua Bay
Kealakekua Bay, from Kaʻawaloa to Manini Point, measures approximately one-half mile in width and about one mile in length. It is one of the most sheltered natural bays on the island of Hawaiʻi. The abrupt near-shore drop-off made Kealakekua Bay attractive as an anchorage for canoes and large sailing ships.

Kaʻawaloa
Kaʻawaloa is a fairly flat fan-shaped peninsula near sea level that rises gradually to the north edge of Pali Kapu o Keōua. The approximately 40 acres of land defines the northwest side of Kealakekua Bay. The shoreline of Kaʻawaloa is a lava ledge with a small number of calcareous sand and coral rubble storm beaches. These beaches were created when storm surf deposited material upland of the normal shoreline and is a testament to the severity of the occasional large Kona storm.

Both the Kaʻawaloa and Nāpōʻopoʻo settlements were situated on gently sloping land around the base of the 600-foot cliff called Pali Kapu o Keōua. Beyond the pali, the land slopes upward toward the summit of Mauna Loa, about 20 miles due east of Kealakekua Bay.

Pali Kapu o Keōua
The pali is a steep, 600-foot-high sea cliff, approximately 1.5 miles long, and the most impressive geological feature in Kealakekua Bay. Above the bay, the vertical cliff edge of the northern portion of the pali above Kaʻawaloa is marked by numerous lava tubes. As the pali turns inland at the south end, it is less steep and is referred to as Pali o Manuahi.

Nāpōʻopoʻo
The Nāpōʻopoʻo portion of the Park below the pali lies between the bay and Nāpōʻopoʻo Village. It is relatively flat and slightly elevated above sea level. Nāpōʻopoʻo was formerly fronted by a narrow, calcareous sand beach, which extended from the base of the pali to Hikiau Heiau. The beach became covered with boulders after Hurricane Iniki in 1992. Although boulders cover the upper regions of the beach, a shallow sandbar fronting the beach is still rock free, and waves continue to break there.

3.2.2 The Surrounding Region

Lava
Volcanic flows within the Park are estimated to be from 10,000 to 50,000 years old. Two flows are present at Kealakekua Bay, ʻaʻā and pāhoehoe. One notable exception is lavas exposed at the base of the Pali Kapu o Keōua that are probably of the Pleistocene age (between 11,000 to 500,000 years ago). At the base of the cliff is a layer of yellowish volcanic ash, 6 to 20 inches thick, over even older layers of lava flow. The Kaʻawaloa peninsula was formed by lava flows from Mauna Loa that covered the Kealakekua fault scarp (400-750 years ago) and are predominately ʻaʻā lava with pāhoehoe lava on the makai portions of Kaʻawaloa Flats near the Captain Cook Monument.[4] [5]

Mauna Loa is an active volcano that has erupted 32 times since 1832. Of those, the closest to Kealakekua Bay occurred in 1950, when three lava flows descended the western slope of the mountain and entered the ocean about nine miles south of the bay. While none of the historic flows entered the Park, a submarine eruption was witnessed at Kealakekua Bay in 1877. In that eruption, steam and fragments of lava rose along the west/northwest-trending fissure in Kealakekua Bay and for a mile or so father out to sea. A continuation of the crack is said to have extended inland nearly three miles, and clouds of steam and smoke issued from the fissure either in that area or farther up the mountainside. A severe earthquake preceded that eruption.

Fault Systems
Two fault systems affect the area near Kealakekua Bay; the Kaholo and Kealakekua. These faults are not single fractures, but groups of fractures known as fault systems. The Kaholo system lies south of Hōnaunau and the Kealakekua fault system extends southeastward from the head of the bay for about three miles, then bends southward and disappears beneath younger lava flows.

The Kealakekua fault system is responsible for the steep cliff at the inland edge of Kealakekua Bay. This cliff, or scarp in geological terms, was not buried by lava flows and is only somewhat trimmed back by waves or sub aerial erosion. Within the cliff are exposed edges of many thin pāhoehoe lava flows that

[4] Wolf and Morris (1996) as referenced by DLNR Division of State Parks Archaeology Program. *Archaeological Inventory Survey Report for Proposed Commercial Kayak Tour Permits at Kaʻawaloa*, page 9. November 2007.

[5] USDA. *Web Soil Survey.* https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed August 31, 2020

are older than the fault scarp. The sea cliff itself is believed to be the remnant of a landslide that occurred between 13,000 and 31,000 years ago.

Subsidence

A common occurrence on the island of Hawai'i is the gradual subsidence of coastal land into the sea. Nāpō'opo'o Beach at Kealakekua Bay has been subsiding at the rate of 4 millimeters, or 0.16 inches, per year; between 1929 and the late 1990's it is estimated that shoreline areas at the bay subsided approximately 11 inches.[6]

Nāpō'opo'o Beach is covered entirely with basalt boulders and coral cobbles during most tide conditions. Local observers disagree as to when the beach was transformed from a sandy to rocky area:

> The informants all attribute the boulder deposition to the inundation of the beach by severe storm surf. Most people cited Hurricane Iniki in 1992 as the storm that deposited the layer of boulders that now completely covers the sand. Other informants have stated that other severe storms and hurricanes such as Hurricane Nina in 1957 have done the same thing. Still other informants have noted that earthquakes such as those that occurred in 1950 with the eruption of Mauna Loa and again in 1951 from a seismic disturbance offshore were part of the beach loss. These earthquakes apparently destroyed much of the pali face, sending major rockslides into the ocean below. These informants stated that storm surf following the rockslides began moving the material from the base of the pali onto the beach. Still other informants have noted that volcanic activity has also caused some subsidence of the shoreline over the years. In 1975, for example, severe earthquakes at Kilauea caused as much as three feet of subsidence at Kaimu and Kalapana Beaches in Puna and lesser amounts of subsidence in other shoreline areas such as Nāpō'opo'o. Shoreline subsidence may have contributed to the changes at Nāpō'opo'o Beach.[7]

In summary, the loss of the beach seems to have been occurring slowly for years and may be attributed to all of the natural phenomenon that has been cited.

Soils

Much of the slope inland and above Ka'awaloa Flat consists of 'a'ā lava. The makai portions of Ka'awaloa Flat consists of pāhoehoe lava. 'A'ā lava flows have practically no soil covering and are often bare of vegetation except for mosses, lichens, and ferns. This lava is rough and broken; it is a mass of clinker, hard, glassy, sharp pieces piled in tumbled heaps. In areas of high rainfall, it contributes substantially to the underground water supply.

Above the pali, soil types vary, with either Wai'aha (an extremely stony silt loam with permeability moderately rapid and runoff slow) or Kainaliu soils (very stony silty clam loam) on land closest to the Park.

The soil underlying Nāpō'opo'o is classified as Kainaliu or very stony silty clay loam. Permeability in these soils is rapid, runoff is slow and so erosion hazard is slight. The soil develops from volcanic ash,

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6 DLNR, Division of State Parks. Kealakekua Bay State Historical Park Concept Plan. 1997.

7 John Clark, Recreation study (1995) in earlier KBSHP master plan and studies for the current master plan.

on a moderate slope, is well drained and is fairly good for agriculture – often used for coffee, macadamia nuts and pasture.[8]

3.2.3 Potential Impacts and Mitigation Measures

The Proposed Action is expected to have no impact on geology and topography.

3.3 Groundwater, Hydrology, Surface Water and Drainage

3.3.1 Existing Conditions

Groundwater

In 2006, researchers from the University of Hawai'i mapped surface water temperatures and identified groundwater plumes emanating from the coastline surrounding Kealakekua Bay. Groundwater is discharged just offshore of Ka'awaloa, as shown in Figure 3-1: Submarine Groundwater Discharge. Typically, underground water in coastal areas exists as a lens of fresh (or brackish) water floating on and in contact with seawater that saturates the lavas at depth. Groundwater is often brackish for more than a half-mile inland from the coast.

Although permanent streams are absent within the Park, a considerable amount of ground water enters the bay at brackish springs along the shoreline. Natural drainage systems, such as these, and activities in the Park are important because they may impact water quality and marine life. The brackish water feeds ponds and springs on land and affects nearby marine habitats.

Surface Drainage and Flooding

Much of the Nāpō'opo'o and Ka'awaloa portions of the Park are within flood hazard zones: Zone VE (corresponding to the 10-year coastal floodplains that have additional hazards associated with storm waves) and Zone AE (corresponding to the 100-year floodplains). (*see* Figure 3-2: Flood Hazard Map):

- At Ka'awaloa, the flood hazard zones extend over the shoreline including the Captain Cook Monument, and other historic sites.
- At Nāpō'opo'o, hazard areas extend over the shoreline and inland where the historic pond is located. Nāpō'opo'o Landing is almost within flood hazard zones and buffers to those zones where building is severely restricted by the County of Hawai'i Code.[9]

[8] U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Island of Hawai'i, State of Hawai'i. Honolulu, HI, 1973.

[9] Hawai'i County Code § 27-23 (2005) provides the standards for coastal high hazard areas (zone VE), including "new construction or improvements need to be elevated on adequately anchored pilings or columns so that the lower horizontal portion of the structural members of the lowest floor, excluding the pilings and columns, is elevated to or above the base floor level...No new plumbing, electrical, and elevators are allowed to be constructed below the base flood elevation."

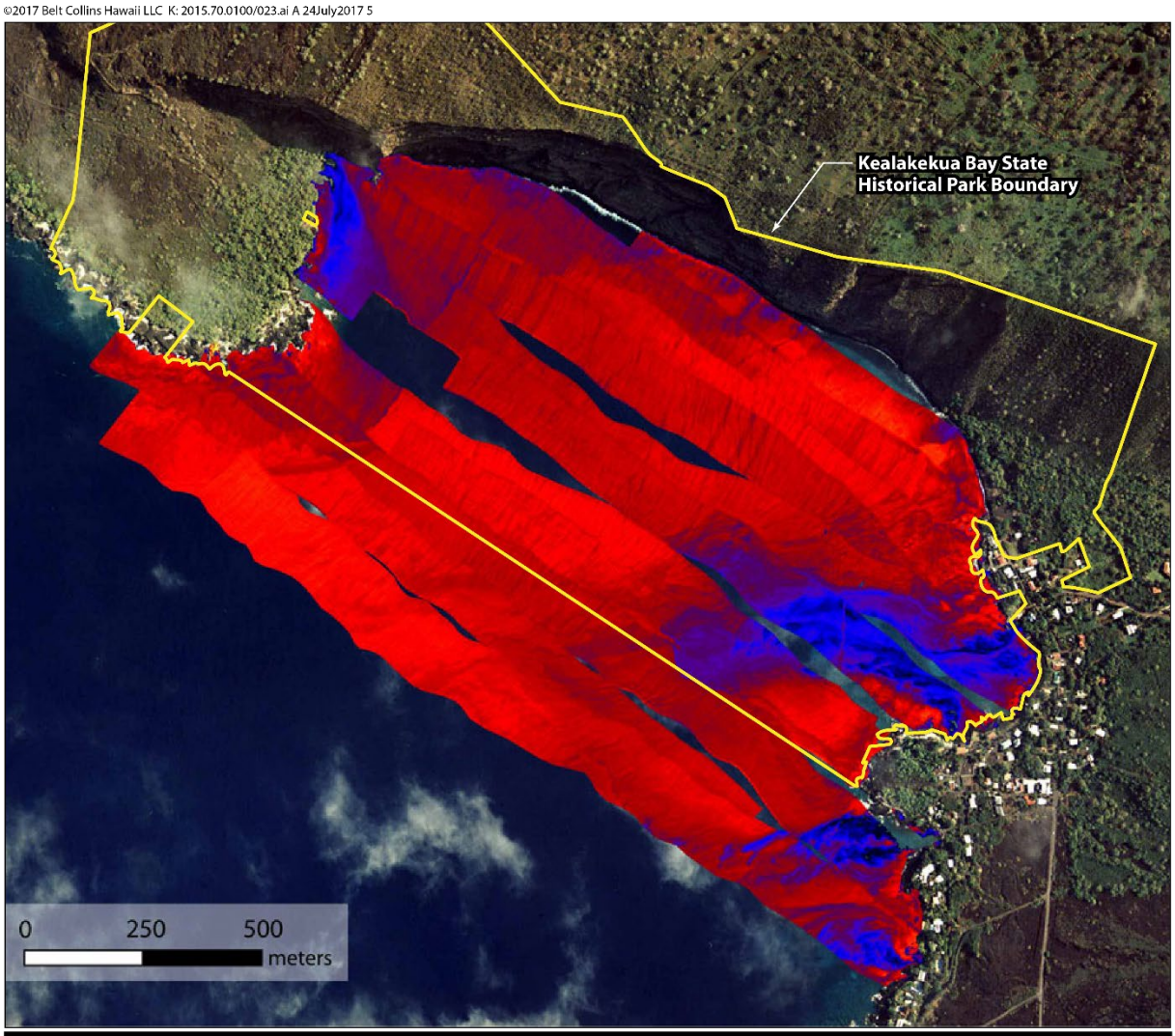

Figure 3-1: Submarine Groundwater Discharge in Kealakekua Bay

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°C
22.0
22.5
23.0
23.5
24.0
24.5
25.0
25.5
26.0
26.5

Note: Five discrete point sources of freshwater input are defined and quantified by LWIR imagery within the Kealakekua Bay area. Collectively, these five plumes cover at least 25% of the area's surface water. To date, Ra and continuous Rn measurements from one small plume alone indicate water fluxes of ~3000 to 6000 m3 per day.

Source: Johnson, Glenn & Lacey, Burnett, Peterson, Dulaiova, and Grossman. Thermal Infrared Surveys and Nutrients Reveal Substantial Submarine Groundwater Discharge Systems Emanating form the Kona Coast. Abstract # OS15B http://www.soest.hawaii.edu/GG/FACULTY/glenn/Glenn_Infrared_POSTER_11x17.pdf

In addition to the flood hazard zones that overlay the Park, there is an intermittent watercourse (identified as Number 5) that drains into Kealakekua Bay adjacent to Hikiau Heiau, with 100-year and 500-year flood areas. [10] No other streams or drainages are identified in the Park.

Storm water runoff sheet flows across the site and infiltrates into the ground, flows to South Kona Watercourse Number 5, or flows into the ocean. There are no storm water drainage systems in Lower Nāpōʻopoʻo Road or Beach Road adjacent to the Park.

Terrestrial ecosystems in the Park are summarized below, based on biological surveys conducted in July 2015 and review of scientific and technical literature on natural resources in and near the Park.[11]

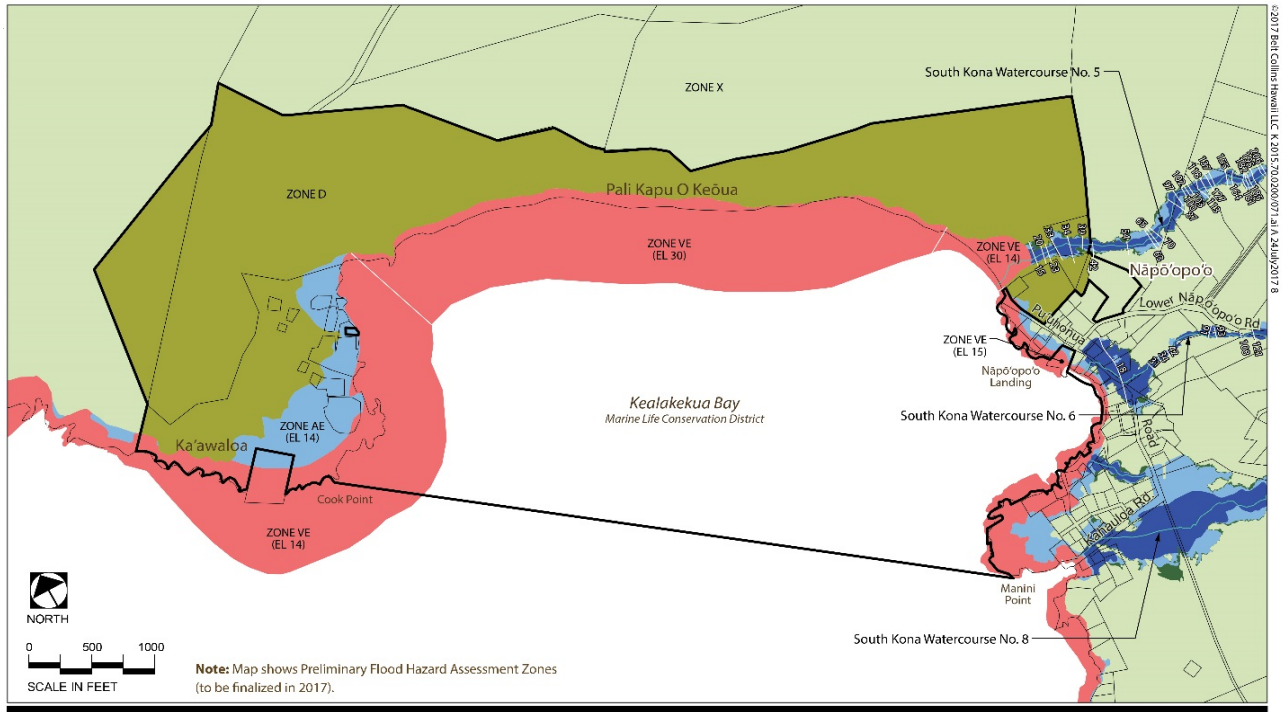

Figure 3-2: Flood Hazard Map

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- Kealakekua Bay State Historic Park
- **Zone AE:** Zone AE is the zone that corresponds to the 1% annual chance of flooding, basic flood elevation determined.
- **Zone VE:** Zone VE is the zone that corresponds to the1% annual chance of flooding that have additional hazards associated with storm waves.
- **Zone AEF:** The floodway is the channel of stream plus adjacent floodplain areas that must be kept free of encroachment so that 1% annual chance flood can be carried without increasing the basic flood elevation.
- **Zone X:** Zone X is outside of the 0.2% annual chance floodplain.
- **Zone D:** D Zone is the zone that corresponds to unstudied areas.
- **Zone XS:** 0.2% annual chance of flood
- 15 Base Flood Elevation

[10] U.S. Department of Agriculture (USDA), Soil Conservation Service. *South Kona Flood Hazard Analysis*. July 1977.

[11] SWCA Environmental Consultants. *Biological Resource Survey Report for Kealakekua Bay State Historical Park*. July 2015. Appendix B of this report.

3.3.2 Potential Impacts and Mitigation Measures

The Proposed Action involves some repairs to facilities in the flood zone at Nāpōʻopoʻo Landing and to the wharf near the Cook Monument. Eventual restoration of the pond in the Nāpōʻopoʻo section of the Park could increase the size of this wetland. The pond is brackish, and restoration will not greatly affect its salinity. No negative impact is anticipated. No change to groundwater flows is expected. Rehabilitation of the pond will be designed to restore this historical feature and the surrounding landscape.

The proposed new structure (Interpretive Center) will be located outside the flood hazard zone.

Work at or near the shoreline will be conducted following BMPs to minimize any impact on both shoreline and marine resources.

The Proposed Action includes the Interpretive Center building and a paved parking lot for approximately 50 vehicles, which can increase storm water runoff from the site. To mitigate storm water runoff impacts to the neighboring properties and County roads, all additional runoff is to be contained on site through various design strategies, including directing the parking lot runoff to dry wells, seepage wells, French drains or a storm water retention pond, and/or using permeable pavement for some or all of the parking lot. Building roof runoff can also be directed to drywells, seepage wells, French drains or landscape areas for percolation into the ground, or stored in rain barrels for irrigation of the Park site.

3.4 Terrestrial Ecosystem, Flora and Fauna

3.4.1 Existing Conditions

Over 90 percent of the plant species in the Park are not native to Hawaiʻi and the native species present are not dominant. The Park's native landscape was altered by former ranching activities, as well as a long history of human use.

Five main habitat types are identified in the Park, as shown in Figure 3-3.

Non-native Forest: Non-native Forest is the most widespread vegetation community in the Park. It is characterized by non-native tree species: ʻopiuma (*Pithecellocium dulce*), tamarind (*Tamarindus indica*), kiawe (*Prosophis pallida*), Chinese banyan (*Ficus microcarpa*) and koa haole (*Leucaena leucocephala*); an understory of Guinea grass, buffelgrass (*Cenchrus ciliaris*) and Philippine spinach (*Talinum fruticosum*). The only native species found was ilieʻe (*Plumbego zeylanica*).

Ornamental Landscaping. The developed park areas of Nāpōʻopoʻo and the Landing contain ornamental trees and shrubs with open grass lawns. Notable species include hibiscus (*Hibiscus rosa-sinensis*), plumeria (*Plumeria rubra*) cochineal cactus (*Opuntia cochenillifera*), bougainvillea (*Bougainvillea spectabilis*) and velvet seed (*Majidea zanquebarica*).

Cliff and Scree Vegetation. Non-native species dominate the pali cliff and rock scree below, including Philippine spinach, threadstem carpetweed (*Mollugo cerviana*), buffelgrass, ʻopiuma, and fountain grass (*Cenchrus setaceus*). Native species observed include ʻuhaloa (*Waltheria indica*)

and pili grass (*Heteropogon contortus*) and along the cliff face: ʻali ʻala wai nui (*Plectranthus parvifolius*) and pua kala (*Argemone glauca var. glauca*).

ʻAʻā Lava. Large portions of the Park are associated with ʻaʻā lava flows and sparse vegetation, with koa haole (*Leucaena luecocephaia*), ʻopiuma, kiawe (*Thespesia populnea*), tamarind, ʻuhaloa, air plant (*Kalanchoe pinnata*) and Philippine spinach. Native plants observed include maiapilo (*Capparis sandwichiana*), ʻuhaloa, and maʻo (*Abutilon grandifolium*).

Coastal Strand. Non-native tree and palm species dominate the shoreline: kiawe, koa haole, coconut (*Cocos nicifera*), ʻopiuma, tamarind, and monkey pod (*Samanea saman*).

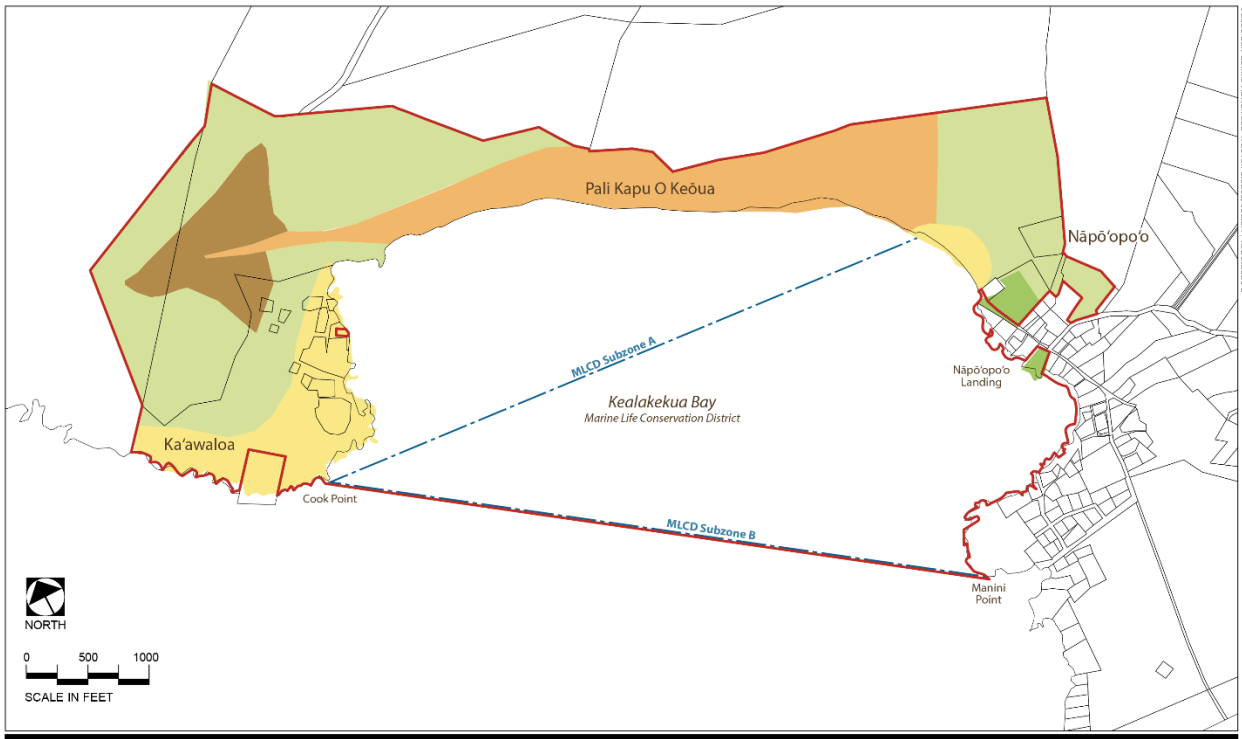

Figure 3-3: Habitat Types

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Kealakekua Bay State Historical Park
- Non-native Forest
- A'a Lava
- Cliff & Scree
- Ornamental Landscaping
- Coastal Strand

Invasive Species

As settlement and ranching activities ceased at the Park by the 1970s, managed landscapes were overtaken by invasive plant species that threaten remnant native plants and cultural sites. A botanical survey of the Park completed in 2009[12] recorded large trees and tree root systems at Nāpōʻopoʻo, especially ʻopiuma, are altering archaeological structures by pushing rocks to the side with the trees' large trunks and penetrating roots. Even more damaging is the Chinese banyan (*Ficus microcarpa*). This and other strangler figs, are able to germinate on rock and send down aerial roots, eventually surrounding whatever they germinate on. Agave Mauritius hemp (*Furcraea foetida*) and night-blooming cereus (*Hylocereus undatus*) colonize on bare rock structures and are slowly breaking up historic structures such as the Great Wall.

Other invasive species at Kaʻawaloa and continuing to the higher elevations include kiawe, ʻopiuma, Chinese banyan, Christmas berry trees (*Schinus terebinthifolius*), and ivy gourd vines (*Coccinia grandis*). With the prevalence of alien grasses and trade winds, during the dry season, the risk of fire hazard is high, jeopardizing public safety, natural and cultural resources, and accelerating erosion.

Special Status Species

No state or federally listed threatened, endangered, or candidate plant species, or rare native Hawaiian plant species were observed in the project area. Eight state- and federally-listed species have the potential to occur in the Park, as listed in Appendix C, Biological Resource Report.

Brackish Pond Habitat

The 2009 botanical survey identified two brackish ponds in the Park. Inland of Nāpōʻopoʻo Beach is a pond, or muliwai. Muliwai are brackish water ponds on the shoreline, comprised of salt water and fresh water runoff. It is unknown if the pond is tidally influenced by an anchialine habitat. The pond has been modified many times and is being infilled with alluvial runoff and sand from high surf and tsunami. Reportedly, the pond has a rock bottom from ancient times, which has since been covered with sediment. Water was pumped out of the pond during the ranching period. Nowadays, it is a small, stagnant pond that is a fraction of its former size. The Nāpōʻopoʻo pond area contains a variety of wetland insects, including the native blue darner (*Anax junus*), globe skimmer (*Pantala flavescens*), and the orange-black damselfly (*Megalagrion xanthomeles*).[13]

A wetland area at Kaʻawaloa Flats is situated about 500-feet inland. The wetland is almost completed covered with invasive pickleweed (*Batis maritima*) on one side, and koa haole and ʻopiuma on the other side.

Avifauna

Bird species observed in the Park are those typically found in lowland Non-native Forest, Ornamental Landscaping, and Coastal Strand habitat types, including three indigenous and 12 non-native introduced avian species. The indigenous species include the Wandering tattler or ūlili (*Heteroscelus incanus),* the White-tailed Tropicbird or Koaʻe kea (*Phaethon lepturus*), and the Black-crowned night-heron or ʻaukuʻu

[12] Reggie David, Rana Productions Ltd and AECOS.

[13] Reggie David, Rana Productions Ltd and AECOS.

(*Nycticorax*). Four of the avian species observed are protected under the Migratory Bird Treaty Act,[14] including the northern cardinal (*Cardinalis cardinalis*) and the three indigenous birds listed above.

No waterbirds were observed during the survey. However, the Hawaiian stilt or ae'o (*Himantopus mexicanus knudseni*) may occur in the project area and could forage and/or breed at the brackish water habitat in the Park. The Hawaiian coot or 'alae ke'oke'o (*Fulica alai*) may also occur in the Park, preferring freshwater and brackish ponds, wetland, and human-improved areas.

Mammals

Non-native mammals detected during the survey include cat (*Felis catus*), mongoose (*Herpestes javanicus*) and pig (*Sus scrofa*). Other non-native mammals that could be expected in the Park include rat (*Rattus spp.*) and mouse (*Mus musculus*).

Terrestrial Invertebrates, Reptiles and Amphibians, and Aquatic Fauna

Non-native insects seen in the Park include the carpenter bee (*Xylocopa sp.*), yellowjacket (*Vespula sp.*), clouded sulphur butterfly (*Colias philodice*), monarch butterfly (*Danaus plexippus*) and unidentified mosquito and dragonfly.

No reptiles or amphibians were seen during the survey. No aquatic fauna was observed in the inland brackish ponds.

Special Status Species

No state or federally listed threatened, endangered, or candidate fauna species were observed in or above the land area of the Park. Based on current distribution and habitat requirements, the following federal- and state-endangered species have potential to occur in the Park: Hawaiian stilt, Hawaiian coot, and Hawaiian hoary bat (*Lasiurus cinereus semotus*).

3.4.2 Potential Impacts and Mitigations

The broad objective of restoring cultural habitat involves re-introducing native plants and controlling non-native ones, especially such invasive species as 'opiuma and strangler figs. Both landscaping and trails will be based on archaeological studies and historical accounts of Nāpō'opo'o and Ka'awaloa, as well as consultation with cultural practitioners and the Hawaiian community.

While no endangered or threatened, avifauna were found in the biological resource survey on KBSHP lands, Best Management Practices (BMPs) are recommended during construction:

- Within three days before any construction work on vegetated stream banks begins or resumes, searches for waterbird nests should be conducted by a qualified biologist.
- A biologist should be present during such construction activities.
- If a nest with eggs or chicks is found, work within 100 feet should cease until the chicks have fledged.
- Nests or broods found before or during constructions should be reported to the USFWS within 48 hours.

[14] 16 U.S.C §§703-712.

- If an endangered Hawaiian waterbird is present or flies into a construction area, work within 100 feet of the bird should cease. The bird should not be approached. Work may continue after the bird leaves the area.
- Construction activity should be limited to daylight hours during the period of highest seabird vulnerability (September 15 to December 15).

Protection for Hawaiian hoary bats – not seen by the biological consultant, but found in the region – and seabirds calls for scheduling and design constraints:

- Any fences should have barbless top-strand wire to prevent entanglements of bats;
- No trees taller than 15 feet should be trimmed or removed between June 1 and September 15, in case juvenile bats are nesting in them;
- All outdoor lights should be shielded to prevent upward radiation that could attract seabirds.
- Outside lights not needed for security and safety should be turned off from dusk to dawn during the period of seabird fledging vulnerability (September 15 to December 15).

3.5 Marine Environment and Biota

3.5.1 Existing Conditions

In 1968, prior to its designation as a MLCD, a research team from the University of Hawai'i classified water quality in the entire bay as Class AA (pristine and characteristic of a wilderness area), except for Ka'awaloa Cove and the populated area by Nāpō'opo'o Landing (Class A, not pristine but suitable for swimming and recreational use). The State Department of Health monitored water quality in the bay from 1973 to 1997 for bacterial indicators of sewage pollution and limited water quality parameters. In 2004, Kealakekua Bay was listed as impaired by high turbidity. Increasing mauka urban development, storm water runoff pollution and recreation use of the bay could threaten the bay's water quality and marine life. [15]

Outside the bay, a strong offshore current runs in a generally southerly direction. It has been measured at a speed of 1,640 feet (500 meters) per hour. During a falling tide, the upper meter of water inside the bay flows southerly in the same general direction as the southerly offshore current. However, during a rising tide, the movement is strikingly different – strongly towards the shore with Manini Beach Point acting to direct the water in a broad circular pattern from Nāpō'opo'o northward to Ka'awaloa Cove. This current runs along the pali at a speed of 164 feet (50 meters) per hour.[16]

Surf generated by the prevailing winds breaks throughout the year at the edge of the sandbar at Nāpō'opo'o Beach. These shore break waves are usually small, ranging between one to three feet in height. Larger surf heights are unusual but may occur during severe tropical storms and hurricanes. However, surf generated from these sources is infrequent.

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15 NPS. *Pacific Island Network Vital Signs Monitoring Plan, Appendix A. Pu'uhonua o Hōnaunau National Historical Park Resource Overview*. Date unknown.

16 Maxwell S. Doty, *Biological and Physical Features of Kealakekua Bay, Hawai'i.* University of Hawai'i Hawaii Botanical Science Paper No. 8. Honolulu, HI 1968.

The differential between offshore and shoreline currents means that material entering the periphery of the bay disseminates slowly into the bay due to the slow speed and reversing nature of the current. Since the offshore current is southerly, south-facing Kaʻawaloa Cove is more sheltered from the influences of offshore winds and currents than are other regions of Kealakekua Bay. The Nāpōʻopoʻo fishing vessels once moored in the Cove for the winter and the ʻĀwili wharf and Captain Cook Monument pier were historically located near the protected cove.

Most of the bay's marine life is concentrated along the shallow rim of the bay. Where the floor of the bay drops off steeply beyond the 10-fathom line, it is largely devoid of marine life. The live coral cover is nearly all within the 10-fathom line, there seems to be little coral or other marine life on the steep outer slopes. Refer to Figure 3-4: Marine Habitat Zones. Appendix C describes marine life and lists species encountered in the of the bay, drawing on both studies for this EIS and earlier work by zones other researchers.

A study of coral in much- vs. little-visited areas of the bay over a year's time showed greater decline in coral cover and increase in bleaching in the "impact" (much-visited) site vs. the "control" (little-visited) site. However, these differences were not statistically significant. The authors conclude that "divers may be having an impact to the reef but over a one year period these changes are too small to distinguish from natural changes in coral abundance, bleaching and breakage."[17] A longer-term study of benthic areas along the West Hawaiʻi coast showed clear declines in some bays, but no significant change in coral cover from 2003 to 2011 at Kealakekua Bay.[18] More recently, concern has been widely voiced that swimmers' use of sun screens with oxybenzone can harm corals. However, the key study was conducted under laboratory conditions and it is not clear whether the chemical has a significant impact on marine environments such as Kealakekua Cove.[19]

The coral reef habitats and marine habitats in the bay support an abundance and diversity of invertebrates, including mollusks, echinoderms, and crustaceans. A rich and diverse fish community, typical of West Hawaiʻi, is found in reef areas at Kealakekua Bay. Over 100 species of fish have been observed, concentrated in the shallow inshore portions of the bay. Their abundance, in terms of weight per acre, was among the highest recorded in Hawaiʻi. Prominent species include yellow tang (lauʻi pala*, Zebrasoma flavescens*), goldring surgeonfish (kole*, Ctenochaetus strigosus*), and convict tang (manini*,*

[17] Tissot, B.N. and L.E. Hallewacher, 2000. "Diver Impacts on Coral Reefs at Kealakekua Bay, Hawaiʻi." Posted at http://www.academia.edu/7207195/Diver_Impacts_on_coral_reefs_at_Kealakekua_Bay_Hawaii

[18] W. Walsh, S. Cotton, C. Barnett, C. Couch, L. Preskitt, B. Tissot and K. Osada-D'Avella, 2013. Long-Term Monitoring of Coral Reefs of the Main Hawaiian Islands: Final Report. 2009 NOAA Coral Reef Conservation Program, Hawaiʻi Island Monitoring Report. Prepared for Division of Aquatic Resources, DLNR. Posted at; https://dlnr.hawaii.gov/dar/files/2014/04/NOAA_2013_WHi_-Mon_-Rep.pdf.

[19] C. A. Downs, E. Kramarsky-Winter, R. Segal, J. Fauth, S. Knutson, O. Bronstein, F. R. Cine, R. Jeger, Y. Lichtenfeld, C.l M. Woodley, P. Pennington, K. Cadenas, A. Kushmaro, and Y.Loya. "Toxicopathological Effects of the Sunscreen UV Filter, Oxybenzone (Benzophenone-3), on Coral Planulae and Cultured Primary Cells and Its Environmental Contamination in Hawaii and the U.S. Virgin Islands." *Archives of Environmental Contamination and Toxicology,* vol. 70., pp. 265-288. 2016. Bogle, A. "No, your sunscreen isn't killing the world's coral reefs." *Mashable*., 2015. Posted at http://mashable.com/2015/11/10/sunscreen-killing-coral-reefs/#x2M4TuLJi5qw

Acanthurus tristegus). Sharks, however, are only moderately abundant and sea turtles or honu are rare.[20]

A unique feature of Kealakekua Bay is its pod of resident spinner dolphins or nai'a. Kealakekua Bay provides one of the few available resting areas for nai'a on the island of Hawai'i. The bay provides an important habitat for dolphins that prefer to spend daylight resting periods over sandy substrate in protected bays. They use the bay for feeding, resting, and playing. In 2000, it was reported that the resident pod numbers around 18 individuals, down from 30-80 observed in the bay in the 1960s. Studies in 2010-2011 encountered dolphins some 52 percent of the time, in groups ranging from five to 110 dolphins, with a mean group size of approximately 41 dolphins. [21]

Although MLCD regulations and the federal Marine Mammal Protection Act prohibit anyone from approaching the dolphins, it is common to see swimmers and snorkelers near dolphin pods in the bay.[22] NOAA has proposed a new rule, that prohibits swimming with and approaching a Hawaiian spinner dolphin within 50 yards (for persons, vessels, and objects), including approach by interception.[23]

The waters of Kealakekua Bay have been listed as impaired by ammonia-nitrogen runoff in the 2016 State of Hawai'i Water Quality Monitoring and Assessment Report (published as of December 2017).[24] The assessment is based on samples taken at Nāpō'opo'o. The State's Clean Water Branch has ranked development of a water quality improvement plan for this site as "Low" (Typically, such runoff is associated with agriculture, not any current or proposed activity in the Park).

[20] DLNR. 2002. Report to the Twenty-First Legislature 2002 Regular Session Requesting and Investigation of the Impacts of Increased Public Access on Ka'awaloa and Kealakekua Bay, Island of Hawai'i.

[21] Tyne, JA, Pollock KH, Johnston DW, Bejder L (2014) Abundance and Survival Rates of the Hawai'i Island Associated Spinner Dolphin (Stenella longirostris) Stock. PLoS ONE 9(1): e86132. doi:10.1371/journal.pone.0086132

[22] Personal Communication, C. Merrill, 2016. Ms. Merrill distinguishes between established operators, who do not conduct swim-with-dolphin activities in the Bay rest area, and newer captains.

[23] Published in *Federal Register,* August 24, 2016. Text is posted at https://www.federalregister.gov/documents/2016/08/24/2016-20324/protective-regulations-for-hawaiian-spinner-dolphins-under-the-marine-mammal-protection-act. The draft EIS for the rule is at http://www.fpir.noaa.gov/Library/PRD/Spinner%20Dolphin/2016_08_12_spinner_deis_final.pdf

[24] https://health.hawaii.gov/cwb/files/2018/02/Final-2016-State-of-Hawaii-Water-Quality-Monitoring-and-Assessment-Report-part-2-signed.pdf

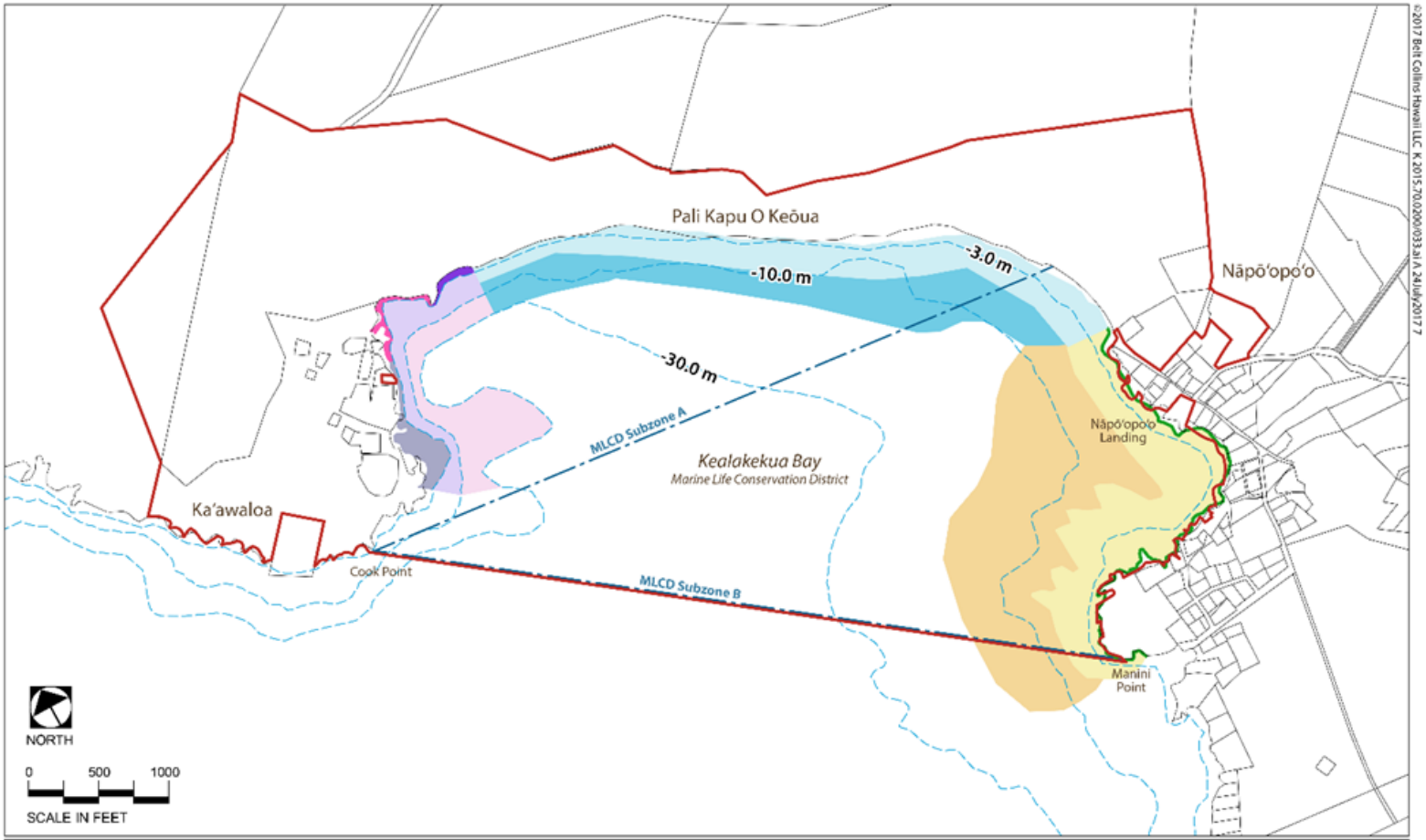

Figure 3-4: Marine Habitat Zones

LEGEND

- Kealakekua Bay State Historic Park
- **Northern Section**
  - Shallow Habitat I
  - Shallow Habitat II
  - Shallow Habitat III
  - Mid-Depth
  - Reef Slope
- **North East Shoreline Section**
  - Boulders w/ Encrusting *Porites*
  - Offshore Reef Slope w/ *P. compressa*
- **South East Bay Section**
  - Basalt Shoreline
  - Basalt Zone
  - Basalt Fingers
  - Bathymetry Line (meters)

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

3.5.2 Potential Impacts and Mitigations

Installing buoys to mark the dolphin rest zone will encourage people to respect the Marine Mammal Act regulation banning approaches to and contact with dolphins. They will also help observers – enforcement agents and the larger community – observe any human-dolphin interactions.

Provision of launching and landing services at ʻĀwili and Nāpōʻopoʻo Landing, along with the swim zone near Kaʻawaloa Cove will work to increase safety for swimmers and persons on non-motorized vessels.

Few impacts on the health and number of corals in the bay have been observed from current levels of visitation. The Proposed Action is not expected to have further impacts. In the event that the number and actions of swimmers and boaters affects corals, restrictions on the number of vessels in the Cove can be considered. At present, no such restrictions are proposed.

3.6 Natural Hazards

3.6.1 Earthquakes

The island of Hawaiʻi experiences thousands of earthquakes every year, usually associated with volcanic activity. They endanger people and property by shaking structures and generating ground fractures, settling, and landslides. The area most subject to landslides triggered by an earthquake is the face of Pali Kapu o Keōua.[25] The pali face is subject to earthquake-related activity that could result in the front face of the cliff shearing off as it is eroded or shaken.

At Kealakekua Bay, movement about one mile offshore on the Kealakekua fault system produced an earthquake in August 1951, which caused extensive damage in Kona. The movement occurred at a point southwest of Kaʻawaloa. In 1983, a landslide at Kealakekua Bay occurred after a magnitude 6.6 earthquake occurred at a depth of seven miles, approximately midway between Mauna Loa and Kilauea.

In 2006, a magnitude 6.7 earthquake with significant aftershocks occurred approximately six miles offshore of the Kohala District, Hawaiʻi that generated a four-inch tsunami on the island's coastline. The earthquake caused property damage, landslides, power outages, and airport delays. The October 2006 earthquake triggered a major landslide at the north end of the pali at Kealakekua Bay, sending a cloud of dust into the air. The Governor issued a disaster declaration for the entire state of Hawaiʻi and DLNR closed portions of the Park and bay for six months. DLNR has since established a 100-foot restricted (no access) zone at the base of the pali in the bay, restricting swimmers from this zone in the bay marked with buoys (now missing), and installed signs warning of rockfall hazard in the Park.

3.6.2 Volcanic Hazards

Volcanic hazards at the Park are associated with Mauna Loa. Should an eruption occur, it could result in layers of tephra or volcanic gases impacting the Park. The level of impact would depend largely upon the size of the eruption, the associated fountaining of lava, and wind direction. Volcanic hazards

[25] DLNR, Division of State Parks. *Kealakekua Bay State Historical Park Concept Plan*. 1997. "According to Jack Lockwood, Hawaiʻi Volcano Observatory, USGS Geological Division."

are associated with four types of eruptions: lava flows, tephra falls (volcanic ash produced by lava fountaining or explosive eruptions), pyroclastic surges (clouds of ash, rock fragments and gas moving at high speed outward from a source vent), and volcanic gases. The area surrounding the Park is designated as Lava Flow Hazard Zone 3 (with Zone 1 being the highest and Zone 9 being the lowest risk). Zone 3 is gradually less hazardous than Zone 2 because of greater distance from recently active volcanic vents. The topography of the subject property also makes it less likely that volcanic flows will cover the area. Approximately 1-5 percent of Zone 3 has been covered since 1800 and approximately 15-75 percent has been covered within the last 750 years.

3.6.3 Tsunami Inundation

Tsunamis generated by earthquake activity are also a potential threat. Sudden subsidence along the shoreline associated with an earthquake can also generate a tsunami. Destructive tsunamis occurred at Kealakekua Bay in 1960 and 2011, destroying shoreline residences along the south end of the bay. A tsunami in 1868 is said to have caused waves up to 60 feet along the Kona coastline.

3.6.4 Hurricanes

A NOAA database recognizes 13 hurricane and tropical storm tracks passing within 100 nautical miles of KBSHP. Of these, only three passed across the island of Hawai‘i from east to west, including Hurricane Iselle in 2014. Tropical Storm Daniel passed over ocean from south to north, off the Kona coast, in 1982. This incidence was appreciably lower than for the eastern coast of the island.[26]

While Hurricane Iniki’s storm track was not immediately over South Kona, damage to Hikiau Heiau and changes to Nāpō‘opo‘o Beach occurred during that storm in 1992.

3.6.5 Potential Impacts and Mitigation Measures

The Proposed Action would have no impact on natural hazards, and is not expected to increase vulnerability of sites or persons in and around KBSHP to such hazards. Rockfall hazards remain, and the Master Plan calls for re-installing buoys or other navigational aids to keep visitors away from the cliff face and nearby waters.

3.7 Historic and Cultural Resources

3.7.1 Background and Existing Conditions

Kealakekua Bay State Historical Park includes sites related to important cultural traditions and historical events. The cultural and historical significance of Kealakekua is closely tied to its role as one of the chiefly centers of Kona, a site of early Western contact documented in journals, maps, and drawings, and a wealth of archaeological features that reflect occupation and land use into the 20th Century. The Master Plan contains a detailed account of local history.

Kealakekua Bay was a social-political-religious center in the 1600s and 1700s with Kealakekua Bay and the Kona Field system providing an abundance of resources that could support a large, stratified population. While the ali‘i (chiefly class) occupied Ka‘awaloa, the kahuna (priests) settled around the

[26] Information drawn from https://coast.noaa.gov/hurricanes/, consulted on September 21. 2016.

pond and Hikiau Heiau at Kekua (Nāpōʻopoʻo). Hikiau Heiau remains important in the cultural traditions of the island as it serves as the starting and end point of the Hawaiʻi Island Makahiki ceremonies.

Kaʻawaloa was well-occupied into the 1800s and many of the archaeological sites can be directly linked to claims made during the Māhele of 1848. Some of the Native Hawaiian residents of the Kealakekua area are descended from people who lived at Kaʻawaloa until the middle of the twentieth century. Others in the region are descended from the missionary families that owned land in and near the Park, whose forebears used both Kaʻawaloa and Nāpōʻopoʻo Landing as shipping ports ~~points~~.

Kealakekua Bay

Kealakekua Bay was once described as the "calmest spot in Kona" with the best anchorage on the western side of the island. The deep water, a short distance from shore, breaks the sea swells and provides safe landing even in the worst storms. In ancient Hawaiʻi, residents along the coast used Kaʻawaloa Cove when high seas prevented them from landing at their own villages. This critical resource, along with the bay's abundant fishing grounds, compensated for less attractive living conditions such as the unrelenting heat generated by the sun's rays on the lava flat. Also, several brackish springs provided water in the absence of adequate rainfall.

Kaʻawaloa

On the northern side of Kealakekua Bay, Kaʻawaloa was once an extensive Hawaiian settlement and some of the island's most important chiefs lived here. Kalaniʻōpuʻu, the ruler of the island of Hawaiʻi, resided at Kaʻawaloa during part of Cook's stay in 1779 as did several renowned high chiefs. It was here that Cook met with Kalaniʻōpuʻu, and it was here that Cook met his death while attempting to kidnap Kalaniʻōpuʻu to ensure the return of a stolen boat. During the 1780s and 1790s, Kaʻawaloa was one of three important ports in Hawaiʻi used for the provisioning of foreign ships and, as such, was a center of contact between Hawaiʻi and the outside world.

The missionaries would arrive at Kaʻawaloa in 1820 but found the coastal flat too hot and soon moved upland. During the 1800s, Kaʻawaloa continued to be occupied by the aliʻi but would become a settlement of fishing families in the 1900s with rancher's bringing cattle down to ʻĀwili to load onto ships from the wharf. The military had families leave during WWII and the site would soon be overgrown with kiawe trees. The most visible feature is the white obelisk of the Captain Cook Monument erected in 1874. One must walk two miles, drive a four-wheel drive vehicle, or travel by water to reach the area today. Refuse and human wastes are left by some visitors, detracting from the historical sites and cultural setting. Maintenance efforts by park staff, supported by volunteers, have addressed this problem but a more long-term solution is required.

Pali Kapu o Keōua and Pali o Manuahi

This dramatic cliff called Pali Kapu o Keōua forms the northeastern edge of Kealakekua Bay and dominates its setting. A lesser-known section of the pali, south of Pali Kapu o Keōua and lying above Nāpōʻopoʻo, is known as Pali o Manuahi. Residents today refer to the east end of the pali as Pali Poko, which means the short pali. Another local name is Puʻu Alani, or orange hill. The name goes back to the Gold Rush period of the 1800s when oranges were grown commercially for export to the west coast. Residents noted that some of the original orange trees from the former orchards can still be found on the grounds of the old Paris home.

Although damaged by landslides since ancient times, the pali face is still pocked with volcanic lava tubes used by Hawaiians as burial caves. Visitation of the pali area is not encouraged. During pre-contact and early contact times, agricultural fields above the cliff were under intensive cultivation as part of the extensive Kona field system. The gardens of dryland kalo (taro) and ʻuala (sweet potato) were separated by low walls and stretched up the inland slopes. Some of the remnants of these fields are within park boundaries. After the mid-1800s, this land was used for ranching or the farming of pineapple and coffee.

Ancient trails along the edge of the pali were used as overland routes between Hawaiian coastal villages as well as a route for religious ceremonies. These trails were part of the ala loa or ala aupuni, which is a trail that ran around the entire island, connecting the communities of the Kingdom of Hawaiʻi. Cattle ranchers and commercial farmers used these trails to transport cattle and produce to ports at Kaʻawaloa and Nāpōʻopoʻo. Although trail remnants remain on the pali, it is not clear whether these are historical or modern trails.

Nāpōʻopoʻo

The ancient Hawaiian settlement of Kekua corresponds to much of the Nāpōʻopoʻo Section of the Park along the south side of the bay. Kekua encompasses Hikiau Heiau, the pond to the north of the heiau, Helehelekalani Heiau, and the Great Wall.

At the time of Western contact, Hikiau Heiau was one of the most important heiau in Kona and the island's annual Makahiki festival began at Hikiau. The function of this heiau changed during the year. During the Makahiki season, a time of peace with ceremonies conducted to ensure the fertility of the land, the heiau would be dedicated to the god Lono. During other times of the year, the heiau might be dedicated to the god Kū and function as a luakini heiau. An enclave for Hawaiian priests was situated north of the heiau, behind the sandy beach and surrounding a brackish pond edged with stonework. A grove of coconut trees, and possibly loulu palms, stood directly behind the beach and surrounded the pond. A massive stone wall known as the Great Wall enclosed the pond, the priestly residences, Hikiau Heiau, and Helehelekalani Heiau. Many of these features remain intact in the Park today. In the 1790s, Kamehameha had his residence in this area. To the southeast of Hikiau Heiau is a smaller heiau site, Helehelekalani Heiau . South of Hikiau Heiau and outside of the wall were the homes of lesser chiefs and commoners.

During the 1800s, Nāpōʻopoʻo was a village of around 700. During the Māhele of 1848, much of the land around the bay was awarded to Chiefess Ane Keohokalole with several Hawaiians making claims to the land where they lived at Nāpōʻopoʻo. Soon, much of the land in Kealakekua was transferred to foreign hands as ranching and the growing of oranges, potatoes, and coffee dominated the economy of the 1860s. Ranching led to the construction of a pumphouse at the pond and a pipeline to transport water atop the pali for the cattle, as well as the building of rock wall enclosures along Nāpōʻopoʻo Beach to hold cattle before loading them on ships offshore. Other structures around the pond included a small rock and mortar prison (ca. 1850) and McFarlen's House (ca. 1920). In the 20th Century, Nāpōʻopoʻo became the local shipping port, with the construction of the concrete Nāpōʻopoʻo Landing (1912), the Hackfeld Store at the Landing (ca. 1920), and the Gaspar Coffee Mill (ca. 1920).

The once-sandy Nāpōʻopoʻo Beach is covered with rocks deposited by high surf during Hurricane Iniki in 1992. Many of the coconut trees are gone, replaced by plants introduced to the islands since

Western contact. Despite infilling with silt and sand during storms and high surf, the pond remains as a visible feature. The pond, along with the heiau and rock walls, are reminders of the past that will play an important role in the interpretive program for the Park.

Archaeological Studies

Archaeological surveys have been conducted based on geographic areas of the Park. The first recorded field survey at Nāpōʻopoʻo was by J.F. Stokes of Bishop Museum in 1906-1907. Stokes mapped the sites of the Hikiau Heiau Complex, including Helehelekalani Heiau, the "sacred pool", and the wall of the "sacred enclosure."[27] John Reinecke, also with Bishop Museum, conducted a survey in the Kaʻawaloa Flat area in 1929-1930. He recorded the pali area as "practically impenetrable" and disturbed by pineapple cultivation.[28]

With the establishment of the Park in 1967, a more systematic archaeological survey with mapping of the archaeological sites on the pali and upper Kaʻawaloa area was conducted by Bishop Museum and the University of Hawaiʻi in 1968. This was followed in 1969 by a mapping of the archaeological sites of Kaʻawaloa Flat by Bishop Museum. The survey covered approximately 66% of the 40 acres and focused on the eastern area along Kaʻawaloa Road and Kaʻawaloa Cove.[29] A total of 92 sites was mapped. In 1984, State Parks archaeologists surveyed and mapped the Nāpōʻopoʻo Section of the Park.[30] A total of 61 sites and features was described and mapped, including Hikiau Heiau, the Great Wall, the pond, and numerous stacked rock walls.

Contemporary Cultural Practices

While the lands of the Park are now uninhabited, they have cultural significance for many in Hawaiʻi. Some families view themselves as guardians of particular sites within the Park, and may continue practices of respect for the land and ancestors. Many people view the lands of the Park as wahi pana, and are concerned that visitors may desecrate them, above all by leaving human wastes or other refuse. There is a concern about how the Park and the community can balance cultural practices with public visitation.

Hikiau Heiau and its environs continue to be a focus of cultural activities. Since 2011, cultural practitioners have convened at and near Hikiau Heiau for ceremonies related to the makahiki. They have also conducted astronomical observations, drawing on traditional knowledge. For more detail, see the interviews compiled in Appendix J, letters on the Draft EIS in EIS Appendix H, and testimony at the April 2018 public meeting.

The fishing traditions of Kealakekua continued to be practiced and shared within the community. Kealakekua is known for its ʻōpelu, akule, and ahi fishing. These traditions address the use of koʻa,

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27 Stokes, J. F.G. and T. Dye. Heiau of the Island of Hawaii: A Historic Survey of Native Hawaiian Temple Sites. Honolulu: Bishop Museum Press. 1991, 98-102.

28 Reinecke, J. Bishop Museum, Manus. 1930: 152.

29 Hommon, R. J. *An Intensive Survey of the Northern Portion of Kaawaloa, Kona, Hawaiʻi*. Prepared for the State of Hawaiʻi, Lt. Governor's Office. Department of Anthropology, Bishop Museum. 1969. Hommon, R. J. and N. Crozier. *An Intensive Survey of the Southern Portion of Kaʻawaloa, Kona, Hawaiʻi*. Bernice P. Bishop Museum, Department of Anthropology. 1970.

30 Yent, M. Archaeological Survey & Mapping of the Hikiau Complex and Nāpōʻopoʻo Section of the Proposed Kealakekua Bay State Historical Park, South Kona, Island of Hawaiʻi. Prepared for DLNR, Division of State Parks. 1985.

fishing techniques (hook and nets), types of palu (chum), seasons, weather patterns, and fish patterns. The mooring off Nāpōʻopoʻo Landing was installed in 1911 for the commercial fishing sampans working from Nāpōʻopoʻo and continues to be used today by the families. For more detail, see the interviews compiled in Appendix J.

Gatherings of local residents within the Nāpōʻopoʻo section of the Park have included "talk story" sessions in which stories and songs were shared.

DSP grants access to sites in Kaʻawaloa and Nāpōʻopoʻo for cultural practices by permit. These are usually family or individual practices. However, when a curator agreement between DSP and Hale Mua was signed in 2007, an ʻawa ceremony was held at Kaʻawaloa, bringing together some forty or more people.[31]

Continuing practices in the bay based in Hawaiian culture include several methods of fishing and gathering (listed in Appendix B and Appendix J).

3.7.2 Potential Impacts and Mitigation Measures

Additional archaeological investigations will be needed before designating any trails or constructing any facilities, to ensure that archaeological sites and culturally sensitive areas are identified and protected. Due to the thick growth of vegetation over much of the Park area, some clearing will be required as part of more detailed survey and mapping work. This clearing will also serve as the initial phase of restoring the cultural landscape in the Park. Once the vegetation has been cleared, maintenance and monitoring programs will need to be implemented to evaluate and manage any visitor impacts.

Construction of a parking lot on Parcel 1 and development of interpretive trails in the Nāpōʻopoʻo Section will increase the length of time many visitors stay in the Park and will allow visitors to venture into the area beyond Hikiau Heiau. An interpretive program that includes an interpretive center and a trail with wayside exhibits will provide an opportunity for guided and self-guided tours and a historically-informed visitor experience. Visitors will be able to explore more of the Park, but in ways designed to minimize damage or disrespect to culturally significant features. Similarly, providing a toilet and regular maintenance at Kaʻawaloa will help to protect resources, while the presence of Park personnel and signage will promote awareness and understanding of the Park's history for visitors.

A Cultural Advisory ʻOhana that brings together cultural practitioners and knowledgeable persons with longstanding ties to the Park was formed in 2018. DSP is collaborating with the group to better understand the cultural traditions and concerns so they can be addressed in park management and interpretation. Continuing consultation is anticipated to inform management and interpretive strategies.

[31] That agreement lapsed in 2012. For a picture of the event, see http://imagesofoldhawaii.com/%ca%bbawa/ (viewed on October 4, 2016).

3.8 Scenic Resources

3.8.1 Existing Conditions

The Park includes sweeping views of the bay from both Kaʻawaloa and Nāpōʻopoʻo. These views provide an opportunity to share the cultural history of this important place, as well as the geological story that has shaped the landforms around the bay. The views of Kaʻawaloa are currently hampered by the thick growth of kiawe on the coastal flat but the Captain Cook Monument is a visible reminder of its history associated with Western Contact. It is often possible to get glimpses of dolphins, fish, and living corals that make Kealakekua Bay a popular area for kayaking, snorkeling, and diving. Much of this ocean recreation is focused in Kaʻawaloa Cove. Due to the size of the bay, the noise and sight of these visitors and boats are hardly noticeable from across the bay.

3.8.2 Potential Impacts and Mitigation Measures

The bay is an important part of the cultural landscape of Kealakekua. The Proposed Action will encourage more and longer visits to Nāpōʻopoʻo, and may encourage more ocean recreation, by both area residents and visitors, since the Landing and parking area will provide a safe and convenient way for people to drive to the shore and then kayak or paddle in the bay. Visitation is not likely to have a significant impact on the ambiance of the Park, but increased boating in the bay can affect the visual viewplanes. One proposal to mitigate this potential impact has been to encourage more traditional canoes that would retain more of the cultural and historical character of the bay.

The increased management presence in the Master Plan is intended to reduce impacts of visitors on the most vulnerable sites in the Park. No further mitigation appears to be warranted.

3.9 Socio-economic Environment

3.9.1 Existing Conditions

Surrounding Land Use

South Kona is noted for its rural character. Agriculture is the predominant land use, followed by residential use. Although pre-contact population centers were located along the shoreline, settlement moved inland, or mauka, during the 1800s to create the nearby towns of Kealakekua and Captain Cook. Commercial and public facilities are located along the main thoroughfare in the district, Māmalahoa Highway, and residential areas are situated mauka and toward the sea, or makai, of this road. Residential developments along upper Nāpōʻopoʻo and Middle Keʻei Roads are part of this pattern. Small coffee and macadamia nut farms are found in the region on lands leased from Kamehameha Schools. The district has a few overnight visitor accommodations, although many tourists take day trips from Kailua-Kona or stop at local attractions on their way to Hawaiʻi Volcanoes National Park (*see* Figure 4.2, Land Use Pattern Allocation).

Outside of the village of Nāpōʻopoʻo, a few private owners hold large parcels of land around the Park. These parcels have historically been used for ranching or agricultural purposes and remain largely undeveloped. Lands owned by individuals and family trusts border the southeast section of the Park. Kamehameha Schools holds large tracts between Nāpōʻopoʻo and Puʻuhonua o Hōnaunau National Historical Park.

Residential parcels that evolved from earlier settlements border the Nāpōʻopoʻo section of the Park. Today, the area is a residential neighborhood. While permanent residents occupy many of the homes, several properties near the Park are used as vacation homes or vacation rentals.

Population and Housing

South Kona has seen population growth in recent decades, but at a slower rate than other West Hawaiʻi districts. Over the period from 1980 to 2010, the average annual growth rate for the district was 1.8 percent, while the rate for Hawaiʻi County as a whole was 2.4 percent.[32]

Table 3-1: Population Change, Hawaiʻi County and Districts, since 1980

	April 1, 1980	April 1, 1990	April 1, 2000	April 1, 2010	2010-2014
State total	964,691	1,108,229	1,211,537	1,360,301	1,392,704
Hawaii County	92,053	120,317	148,677	185,079	189,382
Puna	11,751	20,781	31,335	45,326	44,382
South Hilo	42,278	44,639	47,386	50,927	51,744
North Hilo	1,679	1,541	1,720	2,041	1,898
Hamakua	5,128	5,545	6,108	6,513	7,720
North Kohala	3,249	4,291	6,038	6,322	6,550
South Kohala	4,607	9,140	13,131	17,627	18,189
North Kona	13,748	22,284	28,543	37,875	40,480
South Kona	5,914	7,658	8,589	9,997	10,750
Ka'u	3,699	4,438	5,827	8,451	7,669

SOURCE: DBEDT. State of Hawaiʻi Data Book, 2000 and 2015.

As of 2010, some 408 persons lived in the Census blocks including and surrounding Nāpōʻopoʻo (including the coastline to Palemanō point, near Keʻei, as shown in Figure 3-5). That area is too small for further demographic analysis. More recent and detailed information is available for the combined Nāpōʻopoʻo and Hōnaunau Census Designated Place.

[32] Percentages calculated from U.S. Census data in State of Hawaiʻi Data Books for 2000 and 2015. Trend rates cannot be calculated for the last data column in Table 3-1, since those figures are for samples over a five-year period, not a single point in time.

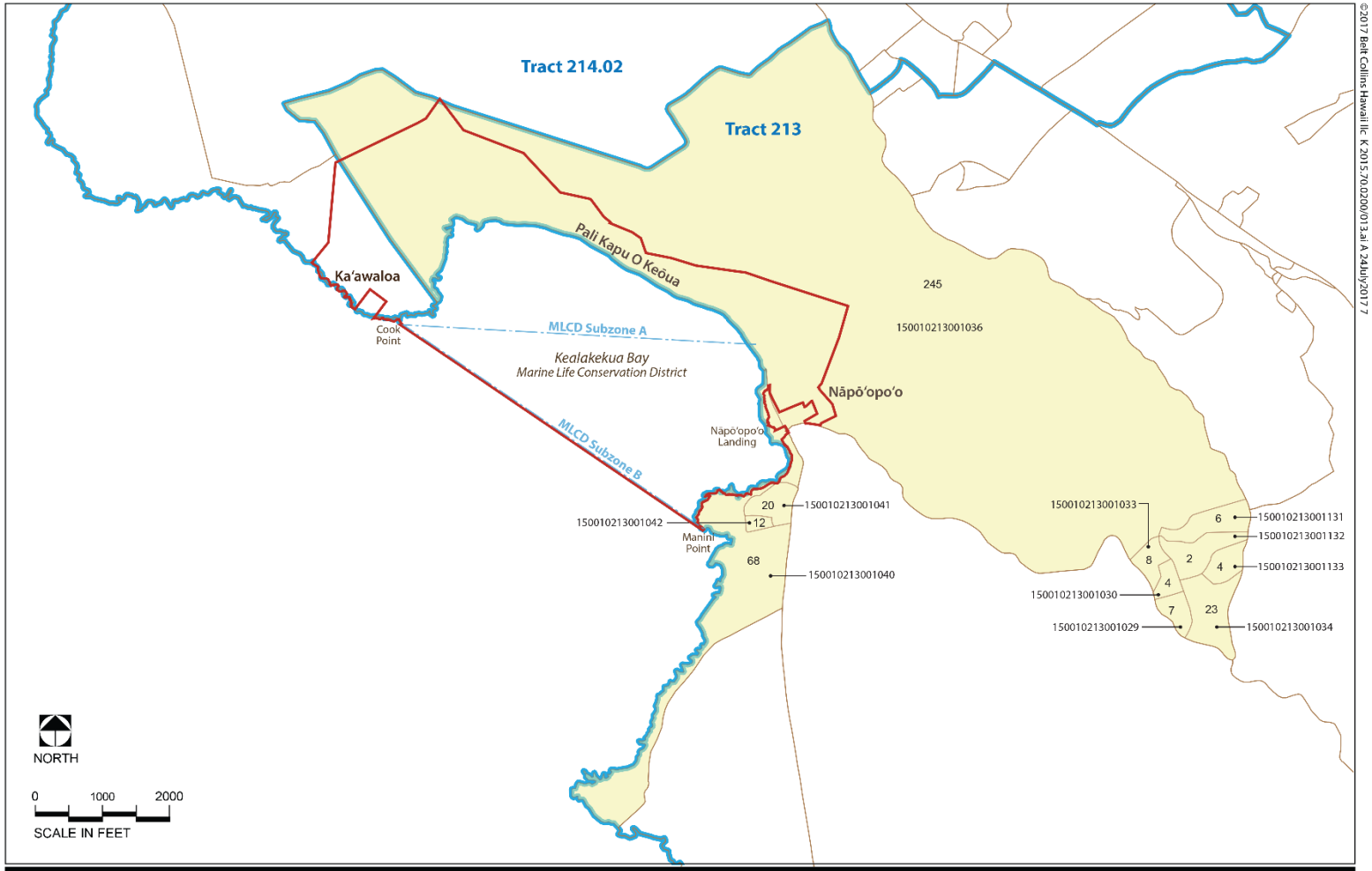

Figure 3-5: Nāpōʻopoʻo Census Blocks,2010

LEGEND

- Kealakekua Bay State Historical Park
- Census Tract Boundary
- Census Block Boundary
- 20 — 2010 Population within Census Block
- Nāpōʻopoʻo Area Census Block

Kealakekua Bay State Historical Park
EIS
South Kona, Hawaiʻi

Figure 3-6 shows the Hōnaunau-Nāpōʻopoʻo Census Designated Place (CDP) in relation to the South Kona District and the County of Hawaiʻi. The CDP is the smallest area for which information from the American Community Survey, gathered over five years, from 2010 through 2014, is available. It includes both the seaside village of Nāpōʻopoʻo and rural residential areas immediately mauka and to the south.

Data from the American Community Survey can help to characterize the population of the area immediately surrounding KBSHP. The CDP population stands out:

- As relatively old (with a median age of 43.3 years, shown in Table 3-2);
- As including large White, Asian and Native Hawaiian populations, with more people recognizing mixed ancestry than is common in Hawaiʻi, much less elsewhere in the country (shown by the average of 1.59 racial identifications for residents, in Table 3-3);
- Compared to the Hawaiʻi County and South Kona populations, the incidence of poverty in the CDP is low (as shown in Table 3-4);
- Similarly, the housing cost burden for renters – indicated by the share paying 35 percent or more of their income for housing (in Table 3-5) – is low in the CDP;
- Households of owner-occupants are large;
- Household incomes are, on average, high for the County of Hawaiʻi;
- Unemployment is low (as shown in Table 3-6), even though workers from the CDP have long commutes; and
- Over 15 percent of the workforce are in agriculture, while few workers are in industries closely associated with tourism.

The range of topics examined here covers the issues grouped as Environmental Justice. The CDP is home to a distinctive rural community, but it does not appear to be a disadvantaged community of the sort covered by that heading.[33]

[33] Federal agencies are enjoined to avoid actions with disproportionate adverse impacts on minority and low-income communities, per Executive Order No. 12898 of 11 February 1994, Environmental Justice in Minority Populations and Low Income Populations.

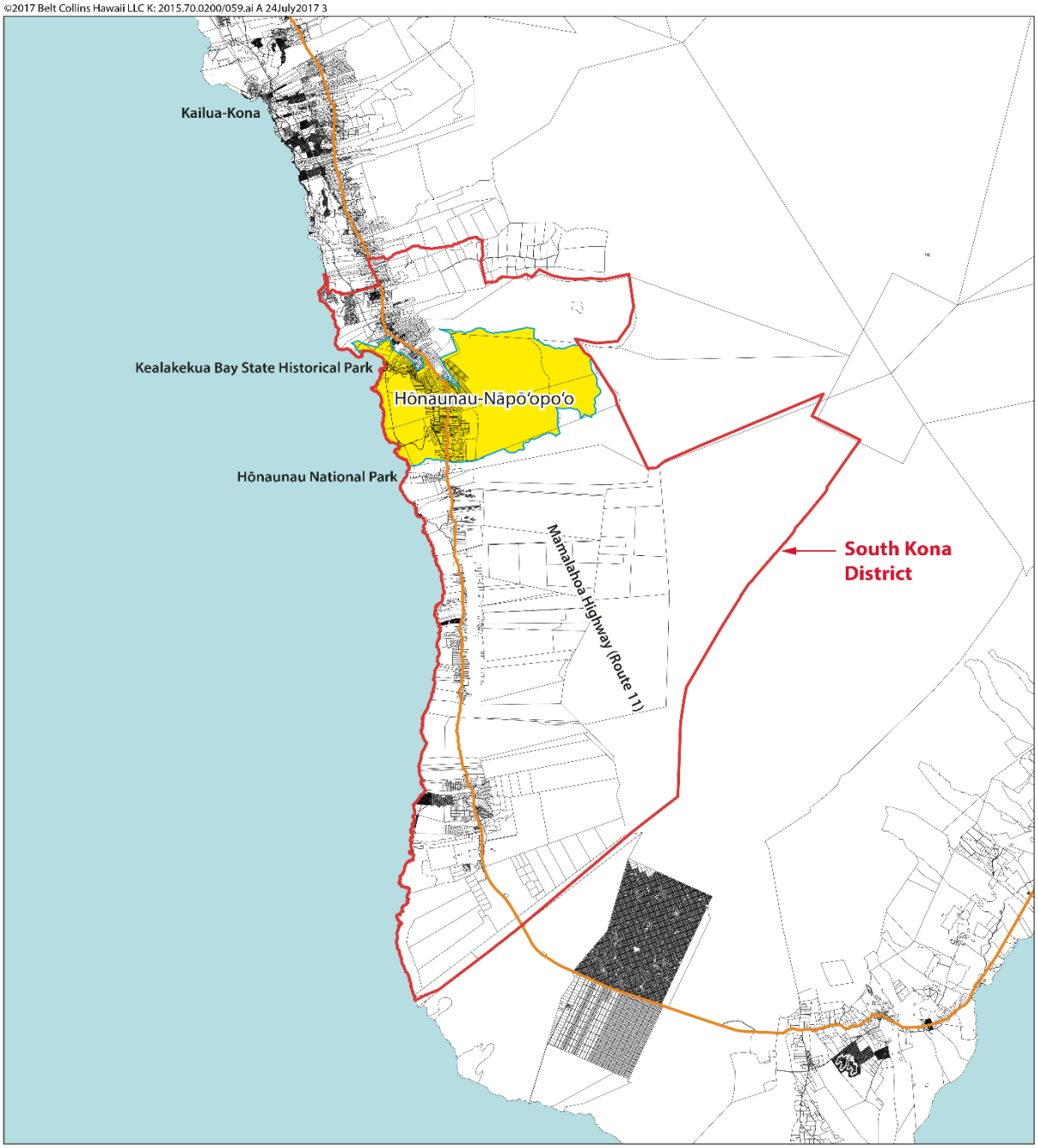

Figure 3-6: Hōnaunau-Nāpōʻopoʻo Census Designated Place and Comparison Census Geographies

Table 3-2: Population Characteristics: Age

	State of Hawai'i	Hawai'i County	South Kona District (Tracts 213 and 214.02)	Hōnaunau-Nāpō'opo'o Census Designated Place
Population				
Total Population	1,392,704	189,382	10,750	2,792
Under 5 years	6.5%	6.3%	7.9%	9.4%
5 to 9 years	6.0%	6.3%	5.9%	3.2%
10 to 14 years	6.0%	6.0%	5.1%	3.3%
15 to 19 years	5.9%	6.2%	5.2%	4.0%
65 to 74 years	8.2%	9.4%	10.6%	6.7%
75 to 84 years	4.5%	4.3%	4.7%	4.4%
85 years and over	2.5%	2.4%	2.1%	2.9%
Median age (years)	38.2	40.9	N/A	43.3

NOTE: N/A = not available (median not computable for combined tracts).

SOURCE: U.S. Census, 2014 American Community Survey, Five-year samples, downloaded from data profiles posted at http://census.hawaii.gov/acs/acs-2014/

Table 3-3: Population Characteristics: Race and Place of Birth

	State of Hawai'i	Hawai'i County	South Kona District (Tracts 213 and 214.02)	Hōnaunau-Nāpō'opo'o Census Designated Place
Population				
Total Population	1,392,704	189,382	10,750	2,792
Race (alone or in combination)				
White	42.6%	54.6%	57.6%	57.1%
Black or African American	3.4%	1.8%	2.0%	0.7%
American Indian and Alaska Native	2.4%	3.2%	4.0%	3.9%
Asian	56.4%	43.0%	48.0%	48.4%
Native Hawaiian and Other Pacific Islander	25.7%	34.2%	42.2%	47.6%
Some other race	2.6%	4.3%	4.5%	1.1%
Average Number of Race Identifications/Person	1.33	1.41	1.58	1.59
Hispanic (of any race)	9.6%	12.0%	7.6%	7.4%
Place of Birth				
Hawai'i	54.0%	57.4%	61.9%	60.2%
Other state	25.0%	29.5%	29.0%	31.2%
US Island	3.0%	1.9%	2.4%	0.7%
Foreign born	17.9%	11.2%	6.7%	7.9%

Table 3-4: Poverty and Disability Status

	State of Hawai'i	Hawai'i County	South Kona District (Tracts 213 and 214.02)	Hōnaunau-Nāpō'opo'o Census Designated Place
Poverty				
Share of Population under the Poverty line				
All people	11.3%	19.2%	13.8%	10.5%
Under 18 years	15.4%	27.8%	23.9%	9.2%
65 years and over	7.4%	9.9%	7.4%	11.5%
Disability Status				
Total Civilian Noninstitutionalized Population	1,340,207	188,166	10,724	2,792
With a disability	11.1%	13.3%	12.9%	11.4%
Under 18 years	306,259	42,334	2,372	461
With a disability	3.2%	3.3%	2.1%	4.1%
18 to 64 years	826,777	115,949	6,491	1,939
With a disability	8.0%	10.3%	9.4%	7.8%
65 years and over	207,171	29,883	1,861	392
With a disability	34.9%	39.0%	39.0%	37.2%

Table 3-5: Housing and Household Characteristics

	State of Hawai'i	Hawai'i County	South Kona District (Tracts 213 and 214.02)	Hōnaunau-Nāpō'opo'o Census Designated Place
Housing and Households				
Total housing units	524,852	83,904	4,340	963
Occupied housing units	450,299	64,586	3,553	803
Vacant housing units	74,553	19,318	787	160
Vacancy rate	14.2%	23.0%	18.1%	16.6%
Total households	450,299	64,586	3,553	803
Households with one or more people under 18 years	33.5%	30.0%	31.8%	27.6%
Households with one or more people 65 years and over	31.6%	32.1%	37.0%	38.7%
Average household size	3.00	2.88	3.02	3.47
Median household income (dollars)	68,204.00	51,213	N/A	54,083
Tenure				
Occupied housing units	450,299	64,586	3,553	803
Owner-occupied	57.1%	65.8%	64.5%	61.5%
Renter-occupied	42.9%	34.2%	35.5%	38.5%
Average household size of owner-occupied unit	3.15	2.91	3.07	4.01
Average household size of renter-occupied unit	2.79	2.84	2.92	2.61
Occupants per Room (Crowding)				
Occupied housing units				
1.00 or less	91.2%	92.3%	90.0%	90.8%
1.01 to 1.50	5.8%	4.6%	7.2%	7.1%
1.51 or more	3.0%	3.0%	2.8%	2.1%
Share of households paying > 35% of income for housing (for households with rent or mortgage data)				
Owners	27.9%	28.1%	25.7%	24.0%
Renters	47.2%	49.3%	48.0%	34.9%

NOTE: N/A = not available (median not computable for combined tracts).

Table 3-6: Economic Characteristics

	State of Hawai'i	Hawai'i County	South Kona District (Tracts 213 and 214.02)	Hōnaunau-Nāpō'opo'o Census Designated Place
Employment				
Population 16 years and over	1,118,419	151,514	8,603	2,343
In labor force	731,400	89,633	5,334	1,497
Labor Force Participation Rate	65.4%	59.2%	62.0%	63.9%
Civilian labor force	691,856	89,501	5,330	1,497
Employed	645,571	81,197	4,784	1,426
Unemployed	46,285	8,304	546	71
Armed Forces	39,544	132	4	0
Not in labor force	387,019	61,881	3,269	846
Commuting to Work				
Workers 16 years and over	668,457	79,289	4,639	1,413
Car, truck, or van -- drove alone	66.5%	72.5%	77.2%	75.8%
Car, truck, or van -- carpooled	14.2%	12.8%	10.5%	10.5%
Public transportation (excluding taxicab)	6.5%	1.4%	0.8%	0.0%
Walked	4.7%	2.5%	1.6%	2.1%
Other means	3.6%	2.5%	1.4%	0.4%
Worked at home	4.5%	8.4%	8.5%	11.1%
Mean travel time to work (minutes)	26.4	25.5	28.88	33.3
Industry (Selected)				
Civilian employed population 16 years and over	645,571	81,197	4,784	1,426
Agriculture, forestry, fishing and hunting, and mining	1.6%	5.0%	10.6%	15.5%
Construction	6.9%	7.8%	8.7%	9.3%
Retail trade	11.9%	13.0%	15.0%	22.5%
Professional, scientific, and management, and administrative and waste management services	10.1%	11.0%	10.7%	4.2%
Educational services, and health care and social assistance	20.8%	19.8%	16.6%	21.3%
Arts, entertainment, and recreation, and accommodation and food services	16.2%	17.3%	13.2%	8.2%
Public administration	8.8%	5.8%	5.3%	4.3%

A few residents of the CDP can walk to work or work at home. On average, workers in the area closest to KBSHP have the longest commute in the areas shown. With stores and restaurants located along Māmalahoa Highway, outside the CDP, the immediate area has few commercial sites.

Tourism

West Hawai'i has emerged as a major destination for Hawai'i tourism, with resorts and hotels extending from the Hāpuna Beach area of South Kohala along the coast to Keauhou, in North Kona.

The time visitors spend in West Hawai'i has grown at an average annual rate of 2.5% from 1990 through 2015.[34]

South Kona has several visitor attractions, most notably Pu'uhonua o Hōnaunau National Historical Park at Hōnaunau and KBSHP. Some 437,000 visitors came to this National Park in 2015. Also, many of the visitors to Hawai'i Volcanoes National Park come from West Hawai'i, driving through South Kona to reach the Park. Estimated visitor numbers at KBSHP are far smaller than for the nearby National Park, which accommodates busloads of visitors as well as visitors arriving by automobile.

Some visitor accommodations are found in the region, notably units rented through on-line sites such as Airbnb or VRBO. The former listed 40 rentals near KBSHP at the time of a recent search.[35]

Recreation

Recreation facilities in South Kona are limited. Greenwell Park in Captain Cook has a ball field and tennis courts. Ocean recreation occurs at small beach parks in Ho'okena and Miloli'i and at the boat ramp at Hōnaunau. Camping is available at Ho'okena. Manini beach provides access to the bay, while local residents often go to Ke'ei to swim and enjoy the beach. The pavilion area in KBSHP is used by local residents for gatherings, and Yano Hall in Captain Cook provides a meeting place for community groups. Manukā State Wayside, located much further south, has no facilities for active recreation.

Expected Trends

State forecasts anticipate continuing growth in the visitor counts. Given the projected growth rate for annual visitor days in Hawai'i County from 2010 to 2040 (1.26% per year), total visitor numbers would increase by 45 percent by 2040.[36] It seems reasonable to expect comparable growth in visitor counts at Kealakekua Bay independent of any improvements.

3.9.2 Potential Impacts and Mitigation Measures

The Proposed Action is designed to manage visitation and provide an enhanced visitor experience. The outcome of park development will be an increase in the number and length of visits to the Nāpō'opo'o Section of the Park, which will require facilities for parking to reduce the impacts of vehicle traffic in the residential areas of Nāpō'opo'o. The launch service available at the Landing, combined with parking available on Parcel 1, is likely to stimulate increased use of kayaks and SUPs by area residents and tourists. With increased visitation, increased need for management could arise.

The Master Plan will bring a small increase in local employment in the Park, with little indirect impact on the immediate community.

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34 Hawai'i Tourism Authority, data on "visitor days" Historical Visitor Statistics page, http://www.hawaiitourismauthority.org/research/reports/historical-visitor-statistics/, downloaded on September 26, 2016. Rates of growth for Hawai'i Island as a whole and for both the West Hawai'i and East Hawai'i subareas have been higher over this period than for any other island.

35 September 26, 2016; no arrival data specified.

36 DBEDT, 2040 Series Long Range Projections. 2012.

If the Master Plan works to alleviate congestion in Nāpōʻopoʻo Village, it would help to improve the quality of life for residents.

Improved management of Kaʻawaloa and increased access would likely lead to increased visitation and appreciation of the area's historical importance. This management requires personnel and a park presence on-site.

3.10 Traffic and Circulation

Traffic and circulation studies were conducted in 2009-2010 for the Master Plan effort, and an independent traffic study was conducted by Fehr & Peers. That study is included as Appendix D of the EIS.

3.10.1 Existing Conditions

Vehicle access to the Park is via Nāpōʻopoʻo Road (State Highway 160) , which feeds into Māmalahoa Highway at its intersection with Aliʻi Highway (also known as the Māmalahoa Bypass). Figure 3-7 shows the area roadways.

Māmalahoa Highway
Māmalahoa Highway (Belt Road) is a two-lane primary arterial with a posted speed limit varying from 25 miles per hour (mph) in towns and 30 or 35 mph in less developed sections near the Park. Māmalahoa Highway serves the local community, agricultural and tourist traffic. It connects the towns of Kealakekua, Captain Cook, and Hōnaunau. It links this area to West Hawaiʻi's primary urban center, Kailua-Kona, as well as its airport, harbor, and resort facilities. It provides access to areas south of Kealakekua Bay, such as Puʻuhonua o Hōnaunau National Historical Park and Hawaiʻi Volcanoes National Park.

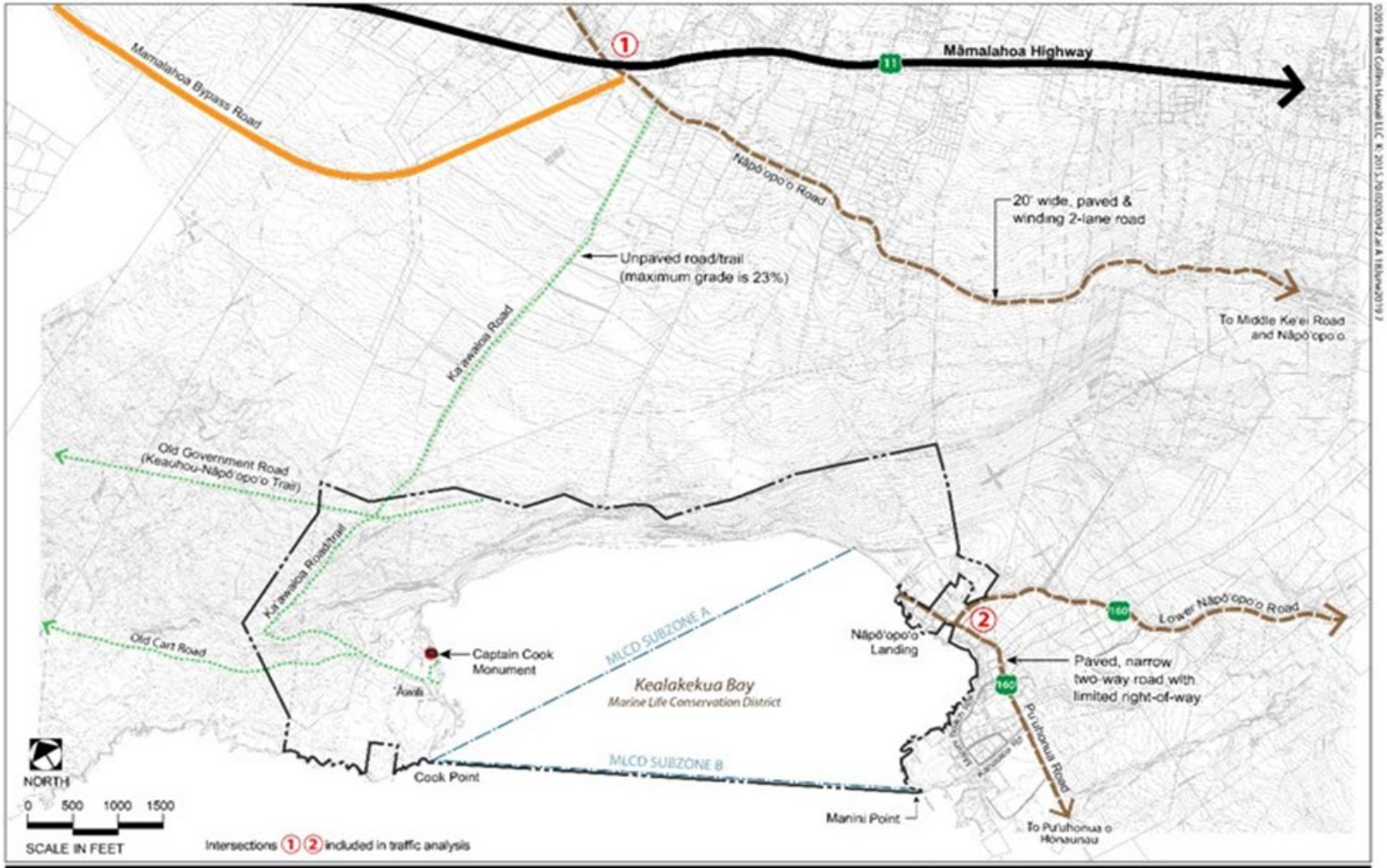

Figure 3-7: Existing Land Transportation Access

Kealakekua Bay State Historical Park
EIS

Māmalahoa Bypass Road

This newly-opened road is a two-lane arterial roadway that connects the Keauhou resort area with Captain Cook, linking Aliʻi Drive to Māmalahoa Highway. It provides an alternative connection to central Kona destinations. Its terminus at Māmalahoa Highway and Nāpōʻopoʻo Road is signalized. The posted speed is 25 mph in places, and 35 mph elsewhere.

State Highway 160

The road system connecting Kealakekua Bay to Māmalahoa Highway is State Highway 160, a U-shaped collector road system composed of Nāpōʻopoʻo Road, Puʻuhonua Road, and Keala o Keawe Road. Traffic along State Highway 160 is generated by three sources: (1) residents of properties makai, or below Māmalahoa Highway; (2) other island residents traveling to recreation areas along the shoreline and to the Nāpōʻopoʻo Solid Waste Transfer Station; and (3) visitors stopping at Kealakekua Bay, Puʻuhonua o Hōnaunau National Historical Park, coffee farms, and other visitor destinations.

As many have noted, hikers' demand for parking near the trailhead at the top of Nāpōʻopoʻo Road is greater than the limited space available along the side of the roadway. Hikers' cars can obstruct the roadway or block access to private driveways. Traffic moves quickly along this road segment, so hikers walking on the pavement can be in danger from speeding vehicles.

Nāpōʻopoʻo Road connects the Nāpōʻopoʻo section of the Park to Māmalahoa Highway. It is a two-lane, narrow, winding collector road with a posted speed limit of 25 mph. Traffic volumes on Nāpōʻopoʻo Road near the Park are similar in the mauka-makai directions throughout the day. The road pavement near the Park is in fair to poor condition, with cracking observed across the pavement, and in fair condition at the Nāpōʻopoʻo/Puʻuhonua intersection. Pavement distress and potholes may be attributed to a lack of drainage structures and water ponding.

Nāpōʻopoʻo Road ends at a T-intersection, with Beach Road leading a short distance into the Park, and Puʻuhonua Road extending to the south. Beach Road to the north is only 15 feet wide; Puʻuhonua Road south of the T-intersection is narrow. The posted speed limit on both is 10 mph. An entrance to Nāpōʻopoʻo Landing is about 16 feet wide, but is gated. Currently, the gate can be opened by permitted operators of guided kayak tours and DLNR personnel. In 2009, the gate was left open in the daytime, and the Landing provided a parking area but it is now normally locked. *See* Figure 3-8 (This intersection is marked as "2" in Figure 3-7).

The Beach Road terminates near Hikiau Heiau and the bay overlook. The road condition is good to excellent. The road serves as access to several residences, including two residential driveways opposite the Park. The road loops around within the Park property, but the turn-around is too narrow for emergency vehicle access requirements. The roadway does not accommodate two-way travel of large trucks or tour buses; no bus parking or turn-around is provided. Cars informally park along the road, paved and unpaved road shoulders, on the loop road, next to the heiau and on the grassed area to the south of the heiau. The makai side of Beach Road (south of the Park property) is signed, "No Parking Any Time."

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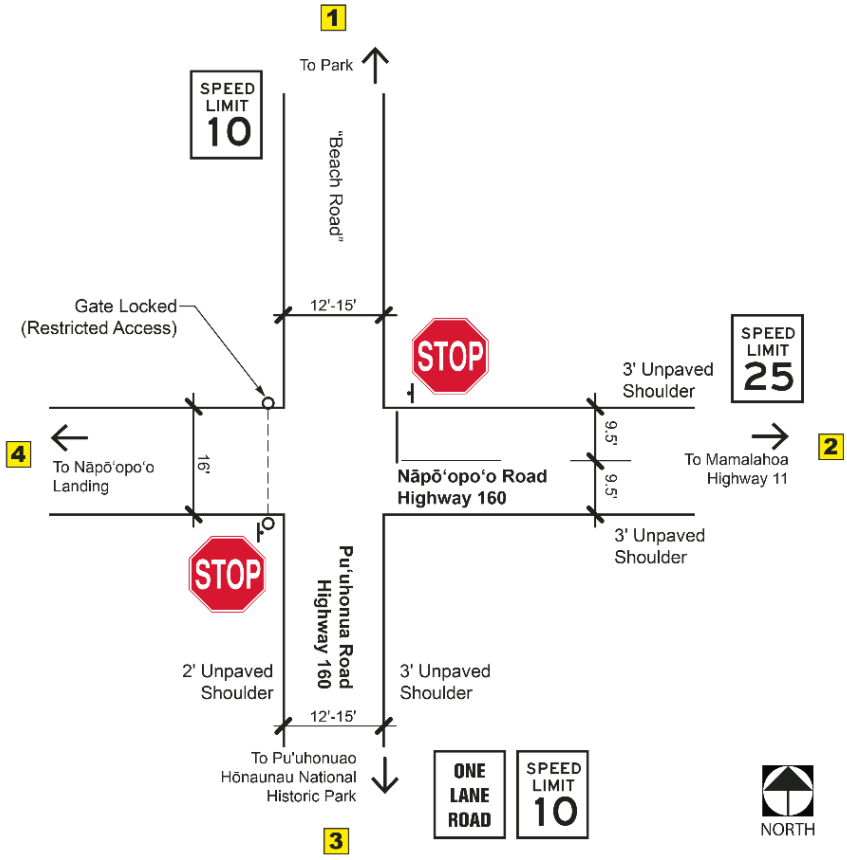

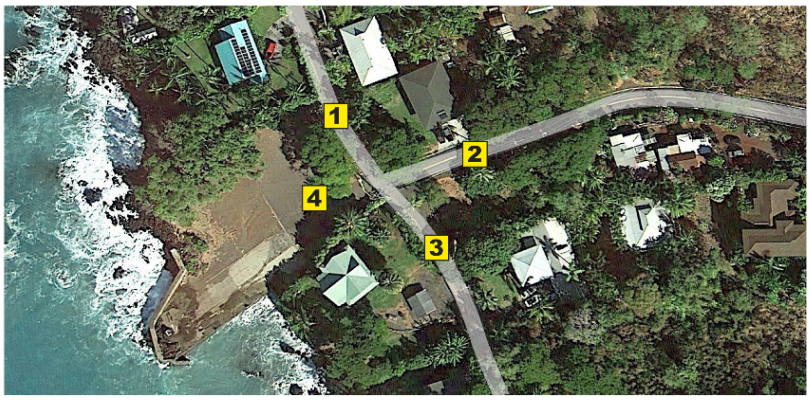

Figure 3-8 : Intersection of Nāpōʻopoʻo Road, Puʻuhonua Road and Beach Road

Kealakekua Bay State Historical Park
EIS

South Kona, Hawai'i

Pu'uhonua Road runs south from the T-intersection. In the residential area of Nāpō'opo'o, Pu'uhonua Road narrows to a 12-foot wide rural roadway with a posted speed limit of 10 mph. The road surface near the Nāpō'opo'o/Pu'uhonua Road intersection is in fair condition with potholes along the pavement edges and minor transverse alligator cracking. Residential roadways near the shore in Nāpō'opo'o are also very narrow. In 2015, these were posted with No Parking signs by the County of Hawai'i in order to assure emergency vehicle access.

As Pu'uhonua Road transitions to Keala o Keawe near the National Park, about 3.5 miles from the Nāpō'opo'o Road intersection, the road widens to provide for two standard 11 to 12 foot lanes. This portion of the road was resurfaced between 1997 and 2001.

Average daily traffic volume for Māmalahoa Highway north of Nāpō'opo'o Road ranged from 15,500 to 18,800 vehicles per day between 2010 and 2015. No State Department of Transportation traffic count has been published for 2016, when the Māmalahoa Bypass Road connection was opened.

Counts at Nāpō'opo'o Road just east of the T-intersection have ranged from 1,000 to 2,000 vehicles per day since the 1980s.

Observers noted whether vehicles using the Beach Road were locally owned or rented, assuming that rentals are operated by visitors. Rental cars accounted for 52 percent of the weekday peak hour traffic, and 62 percent of the weekend peak hour traffic. While most of the rental cars were probably traveling to and from the Park, some may be traveling to and from the residences along Beach Road.

No pedestrian lanes or crossings are marked at the study intersections.

3.10.2 Potential Impacts and Mitigation Measures

The traffic study examined conditions at the Nāpō'opo'o Road junction with Māmalahoa Highway and Ali'i Highway, and at the T-intersection in Nāpō'opo'o Village. Future conditions were estimated for 2037, and conditions with and without-project were assessed.

Figure conditions were estimated on the basis of State projections. BCH shared with the traffic consultant the expectation that Park visits could increase in number and last longer with the Master Plan improvements in place. Table 3-7 shows the calculated level of service at peak traffic hours in current, future without project, and future with project conditions. In all cases, traffic flow is well above the level at which State and County authorities treat as problematic.

With the proposed improvements, KBSHP is estimated to generate a total of 240 net new daily vehicle trips and 36 net new peak hour trips (18 inbound and 18 outbound) on a Saturday with slightly lower volumes estimated for a weekday PM peak hour (*see* Appendix E).

Table 3-7: Level of Service in Studied Intersections

Intersection	Peak Hour	Level of Service		
		Existing Conditions	Future without Project	Future with Project
Nāpōʻopoʻo T-Intersection	Weekday PM	A	A	A
	Saturday	A	A	B
Māmalahoa Highway/Nāpōʻopoʻo Road/Aliʻi Highway	Weekday PM	B	B	B
	Saturday	B	B	B

With the Proposed Action, most visitors will park in the new lot and reach the bay overlook and Hikiau Heiau by taking the new path from the lot. Kayakers will be encouraged to drive to the Landing, leave their vessels there, return to the parking lot to leave their vehicle, walk down to the Landing and then launch from the Landing. The result will be an increase in short vehicle trips through the intersection and an increase in pedestrian travel between the entrance to the new parking lot and the intersection.

Following the recommendation of the traffic consultant, a secure bicycle rack will be incorporated in the Park, so that employees and local residents can visit the Park by bicycle.

Signage at the entry to the new parking lot off Nāpōʻopoʻo Road will direct visitors to the lot, and away from the parking area at the end of the Beach Road. However, access to the end of the Beach Road will remain for ADA accessibility. Signs at the parking lot will also discourage visitors from traveling south of the intersection along Puʻuhonua Road. The County of Hawaiʻi will be encouraged to repeat this message by adding a "Narrow Road – No Through Traffic" sign at the intersection.

Nāpōʻopoʻo Road is a County facility, outside the Park. DSP will encourage the County to consider adding striping for a pedestrian lane between the driveway and the T-intersection, if this improvement can be managed on this narrow roadway.

Again, DSP recognizes that trailhead parking by hikers is an existing problem that would likely worsen over time, with or without the Master Plan improvements. DSP will encourage the County to address the problem by designating space for hikers' parking along the roadside. The traffic study further recommends monitoring the parked cars and studying the feasibility of back-in or angled spaces along this roadway area.

In sum, vehicle traffic will be manageable, and the Proposed Action will tend to reduce vehicle congestion in Nāpōʻopoʻo. Pedestrian traffic near the Nāpōʻopoʻo section of the Park will increase. The pedestrian movement could justify new road striping and signage warning drivers of the presence of pedestrians.

3.11 Vessel Traffic in and to Kealakekua Bay

3.11.1 Existing Conditions

Kealakekua Bay is no longer used for interisland shipping of goods, but it has attracted recreational vessels for many years. The existing mooring at Kaʻawaloa Cove was established in 1990 to accommodate tour boats. Occasional counts of vessel traffic have been made, as shown in Table 3-8. The reporting of vessels from Nāpōʻopoʻo by citizen observers deals only with kayaks. It indicates that kayak traffic could easily exceed the levels reported at different times for the Cove. However, the kayak operators estimated passenger numbers in June 2007 and 2008 that were much lower than the reported passenger counts from 2005.[37] In December 2009, DSP conducted observations of the bay to count the number of various vessels and hikers visiting Kaʻawaloa. The peak of visitation starts around 9:30 a.m. and end about noon as shown in Table 3-9.

[37] John Clark, Kealakekua Bay State Historical Park Master Plan Update and EIS: Draft Ocean Recreation Plan. Unpublished MS. Honolulu, HI, 2015, page 2. Table 3-8 only shows an average vessel count for Nāpōʻopoʻo because the reported passenger counts for 2005 and 2007-2008 vary greatly.

Table 3-8: Daily Visitation in Kealakekua Bay <u>by Vessels</u>

			Kaʻawaloa Cove		Nāpōʻopoʻo
			Persons	Vessels	Vessels
1997			250		
2001	July	Kayaks		56	
		Other vessels		25	
		Average Daily	330		
2005	August	Average, 4 days			102
2009	December	Kayaks		415	
		Other Vessels*		474	
2012		One day count, DSP	300		
2015		Ocean Rec. Study	250		
		Est. Maximum	400		
2016	August	Average, 8 days			
		Kayaks		30	
		Other vessels		17	

* Includes SUPs, Canoes, Inflatables, Boats

SOURCES: DLNR 2001, Clark, 2015, personal communication, M. Dant, 2016.

Table 3-9: Visitation in Kealakekua Bay December 2009

Landings at Ka'awaloa 8:00 a.m. to 3:30 p.m.								
Kayaks								
	Rental	**Private**	**Hiker**	**Other**				
Morning	54	2	9	4*				
Afternoon	14	0	2	0				
Total for the day	68	2	11	4				
Stays in Water at Ka'awaloa 8:00 a.m. to 3:30 p.m.								
Tour Boats					**Private**			
	Kayak	**Zodiac**	**Fixed Hull**	**Large Boat**	**Kayak**	**Zodiac**	**Fix Hull**	**Other**
Morning	8	41	6	~60	0	0	2	3**
Afternoon	0	0	0	~22	0	0	0	0
Totals for the day	6	41	6	~82	0	0	0	0

* Four stand-up paddleboards
** Two stand-up paddleboards and one canoe.

SOURCE: Division of State Parks

The daily number of vessels and passengers in the bay varies greatly. Reservations peak in midweek, both because of tourists' schedules during a week or so of vacation and because of cruise ship arrivals in Kona on Wednesdays. Visitor counts also increase in the summer and on holidays, as Clark has noted.). During the day, morning visits are more numerous than afternoon ones. The peak time for visiting Ka'awaloa Cove is between 9:00 AM and noon.

Based on interviews, Clark sees a continuing trend of slow growth in visitor numbers – even though the recent vessel counts are lower than ones from 2001. SUPs are becoming popular, along with kayaks. At Ka'awaloa Cove, visitors and boat captains have not reported crowding that would affect visitors' experience of the undersea habitat. However, established captains report that the drift plan is not consistently observed by all boaters. Area residents express concern about noise, pollution and risks to swimmers' safety.

External factors currently account for great variation in the number of visitors, from about 250 to about 400 per day. Similar factors could lead to increases in the frequency of peak visitor numbers (e.g., if cruise ship traffic increases again, and cruise ships visit West Hawai‘i two or three times per week).

The above counts do not deal with swimmers and vessels in the dolphin rest area when dolphins are nearby. Their numbers appear to have increased in recent years.

In 2010 DSP started permitting both commercial and private vessels to enter Kealakekua Bay. From July 1, 2018 ~~2019~~ to June 30, 2019 commercial vessels permitted totaled 249 and private vessels totaled 640. These vessels include kayaks, SUPs, canoes, inflatables and boats (*see* Table 3-10).

Table 3-10: Permits Issues between July 1, 2018 to June 30, 2019

	Kayaks	SUPs	Canoe	Inflatable	Boat
Commercial Vessels	115	52	5	22	54
Private Vessels	300	294	8	2	37

Source: Division of State Parks

3.11.2 Potential Impacts and Mitigation Measures

The Proposed Action will manage the number of vessels and swimmers at Ka‘awaloa Cove:

- With the creation of a managed launch site at the Landing, both resident and visitor kayak launches can be expected at the Landing;
- SUPs could also be launched from the Landing;
- With both resident and visitor kayaks and SUPs permitted to land at Ka‘awaloa, their visits to the Cove could last much longer than at present; and
- So long as DSP does not charge for vessel permits, the number of vessels entering the bay is likely to be stable or to grow over time. If charges per vessel or per commercial passenger are introduced, the number of permittees would likely decrease. The decrease in permits would be greatest among those who now pull permits but visit rarely, so the actual change in visitation could be smaller.
- In the course of park management over the coming years, visitation levels will be tracked if State Parks and DOCARE have the increased staffing necessary. The question of whether new management strategies will be needed to deal with impacts of visitation will be reviewed as warranted.

Replacement of buoys and creation of a new swimmers-only area are likely to reduce the risk of accidents for swimmers, but may not affect visitor numbers, since tourists are unlikely to know of the change.

~~Marking of dolphin rest area, along with~~ Monitoring of the dolphins in the bay ~~rest area~~ by members of the community and enforcement agencies, should reduce the number of persons interacting with dolphins in the bay. These steps would make enforcement of the State's rules and the federal regulation more effective.

3.12 Public Facilities and Services

3.12.1 Police

3.12.1.1 Existing Conditions

The Hawai'i County Police Department (HPD) has two areas. Area two includes West Hawai'i and Ka'ū. The Area Two headquarters is at Kealakehe, in Kailua-Kona, some 19 miles from Nāpō'opo'o. It has 83 authorized positions.[38] A substation is located in Captain Cook. HPD officers have authority in the Park as well as the surrounding area.

DLNR's Division of Conservation and Resource Enforcement (DOCARE) is responsible for police functions on State lands. It may deal with incursions in Conservation areas ranging from illegal hunting to the protest activities on Mauna Kea. It can also patrol State waters. It can enforce federal as well as State laws, and can be tasked by NOAA to help in protection of marine mammals or other resources. DOCARE has ~~28~~ 19 persons on staff in Hawai'i County with six persons in the Kona District.

NOAA has an Office of Law Enforcement (OLE) responsible for resource protection. Its Cooperative Enforcement Program has agreements with some 27 states for collaboration and local enforcement of federal regulations. OLE agents have patrolled off the Kona coast with State partners since 2016.[39]

3.12.1.2 Potential Impacts and Mitigation Measures

The Master Plan responds to a strong demand for increased enforcement of regulations in the Park. The ~~installation of buoys demarcating the dolphin rest zone,~~ establishment of the Makai Watch program and provision for DOCARE to store equipment at Nāpō'opo'o Landing and launch from there should contribute to increased enforcement

3.12.2 Fire Protection and Emergency Services

3.12.1.3 Existing Conditions

The Hawai'i County Fire Department (HFD) has both professional companies and volunteer stations spread across the island. Station 6, manned by HFD, is located in Captain Cook. At 4.7 miles distance from Nāpō'opo'o Landing, it is the closest facility to the Park.

HFD works with HPD and the County Civil Defense agency to respond to a wide range of emergency conditions, including hurricanes and lava flows. Private ambulance services also operate in the

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38 HPD 2014-2015 Annual Report, posted at http://www.hawaiipolice.com/about-us/annual-reports, and viewed on October 6, 2016.

39 Agency website reporting "Weekly Highlights" of activities as of September 12, 2016 http://www.nmfs.noaa.gov/ole/newsroom/enforcement-actions.html, viewed on September 23, 2016.

region. Kona Community Hospital contracts for helicopter transport of patients off-island in case of emergencies.

3.12.2.1 Potential Impacts and Mitigation Measures

A fire flow test of the hydrant closest to the Nāpōʻopoʻo section of the Park has been conducted per the direction of the Fire Department. It found the nearest hydrant capable of delivering 3,187 gallons per minute.

The proposed landing zone at Kaʻawaloa responds to a recognized need for emergency access to this location.

3.12.3 Medical Services

3.12.3.1 Existing Conditions

Kona Community Hospital is a general medical and surgical hospital in Kealakekua, HI, with 94 beds. Survey data for the latest year available shows that 19,971 patients visited the hospital's emergency room. The hospital had a total of 3,153 admissions. Its physicians performed 367 inpatient and 408 outpatient surgeries.[40]

The hospital was damaged during the 2006 earthquake, but has been extensively repaired.

3.12.3.2 Potential Impacts and Mitigation Measures

No impact on demand for medical services is anticipated. The proposed helicopter landing zone at Kaʻawaloa would allow for emergency evacuations of visitors in need of medical attention, but the numbers affected would be very small.

3.12.4 Education

3.12.4.1 Existing Conditions

Public schools in Kealakekua include Konawaena Elementary, Middle and High School. A Hawaiian language immersion school, Ke Kula o Ehunuikaimalino, is located on the Konawaena High School campus. In addition, a public charter school, Kona Pacific School, is located nearby.

A small private school, Kona Adventist, is located in Captain Cook.

Kamehameha Schools owns acreage between Nāpōʻopoʻo and Hōnaunau, and maintains a site at Keʻei for field trips and gatherings.

3.12.4.2 Potential Impacts and Mitigation Measures

The Proposed Action will have no impact on education beyond providing a venue for educational field trips.

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[40] http://health.usnews.com/best-hospitals/area/hi/kona-community-hospital-6950070 viewed on September 23, 2016.

3.13 Infrastructure

3.13.1 Water

3.13.1.1 Existing Conditions

The Department of Water Supply has an 8-inch diameter water line along Nāpōʻopoʻo Road and Puʻuhonua Road which service the Park and area residences. There are three (3) fire hydrants located near the site; the first at the south end of the Pavilion parking lot, the second on the makai side of the Nāpōʻopoʻo Road and Puʻuhonua Road intersection, and the third across the street from the proposed Interpretive Center parking lot. The fire hydrant across the street from the proposed Interpretive Center parking lot, at 82-6013 Lower Nāpōʻopoʻo Road, was flow tested with a discharge rate of 3,187 gallons per minute, which exceeds the required fire flow of 2,000 gallons per minute for parks. Based on the Water System Standards, the maximum velocity in a distribution water line is 10 feet per second, which equates to 1,565 gallons per minute in the 8-inch diameter water line.

The Pavilion is serviced through a 1-inch water meter connected to the 8-inch diameter water line on Puʻuhonua Beach Road. Until 2017, a PVC pipe ran from the meter near Hikiau Heiau. The pipe was located underground from the heiau to the Pavilion. A new water meter and box and lateral have been installed, connecting underground to the existing Pavilion water lateral. In 2016, 305,000 gallons (835 gallons per day) of water was recorded at the Pavilion water meter. The Pavilion includes restroom facilities for men and women, outdoor showers, water fountains, and hose bibs.

Kaʻawaloa has no existing water lines or wells on or near the site.

3.13.1.2 Potential Impacts and Mitigation Measures

The Proposed Action includes a new water service for the Interpretive Center, including two restrooms, a drinking fountain, a service sink, a kitchen sink, and hose bibs. The estimated daily water usage for the Interpretive Center, including irrigation for landscaping around the building and parking lot, is 2,100 gallons per day. The peak flow is estimated at 42 gallons per minute. Appendix F provides water usage calculations.

An on-site fire hydrant will be required for fire protection of the proposed Interpretive Center building. The fire hydrant is to be located within 150 feet of the furthest point on the Interpretive Center. To provide adequate fire flow to the on-site fire hydrant, an 8-inch diameter lateral with an MFM-MCT water meter are required for the project.

No significant impacts are anticipated to the area water system from the proposed action. The water system improvements will have minimal impacts on traffic during construction; these impacts can be mitigated with appropriate traffic controls. Refer to Figures 3-9 and 3-10 to see the proposed water lines, meters and hydrant.

The Proposed Action at Kaʻawaloa includes the addition of a waterless toilet. No water service will be provided to the area. *See* Figure 2-10 shows the location of the waterless toilet.

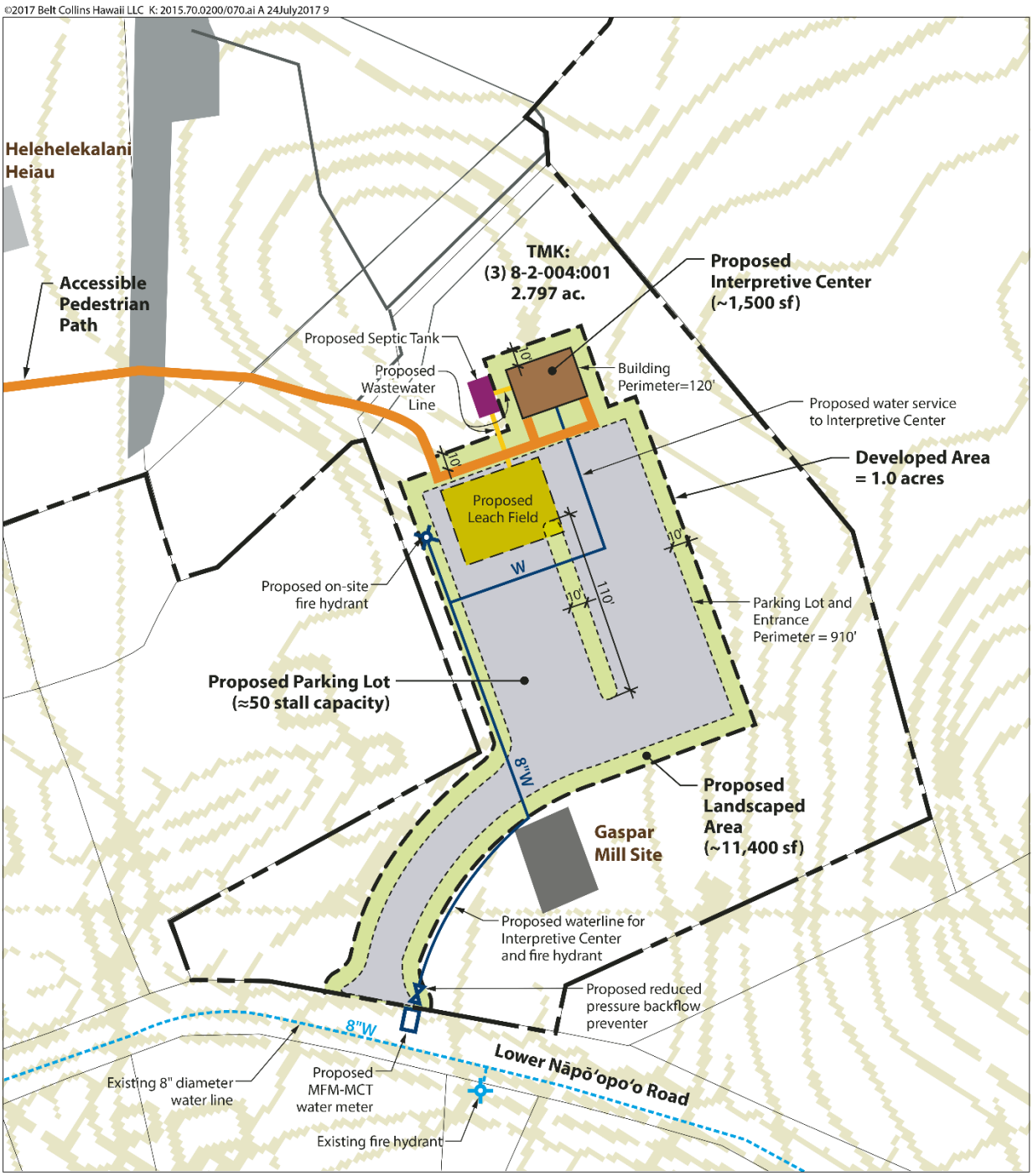

Figure 3-9: Water Improvements for the Proposed Action

Kealakekua Bay State Historical Park
EIS

South Kona, Hawai'i

3.13.2 Sewage

3.13.2.1 Existing Conditions

Both the Nāpōʻopoʻo and Kaʻawaloa sections of the Park have no sewer system infrastructure. Wastewater from the Pavilion is processed through a septic tank and percolates into the ground in a leach field, located on the south side of the Pavilion. The septic tank and leach field were installed in 2000 to replace a cesspool. No other wastewater treatment systems are located in the Park

3.13.2.2 Potential Impacts and Mitigation Measures

The Proposed Action includes restrooms in the Interpretive Center which require an on-site wastewater treatment system. The on-site treatment system will either be a septic tank with a leach field or an aerobic treatment system with a leach field. Routine maintenance of the on-site treatment system is required to avoid system failure. The leach field would be located away from trees or plants to mitigate the impacts of roots on the leach field. Refer to Figure 3-9 for a conceptual location of the leach field.

The Proposed Action includes a waterless toilet at Kaʻawaloa. The toilet's wastes will need to be removed periodically. Since the waterless toilet cannot be accessed by a pump truck, waste materials will probably be transported by helicopter (*see* Figure 2-10 for the approximate location of the waterless toilet and helicopter landing zones).

The waterless toilet will be secured to prevent tipping and overturning. To mitigate the potential for waste spills, a licensed service provider will be hired to remove and dispose of the sludge properly.

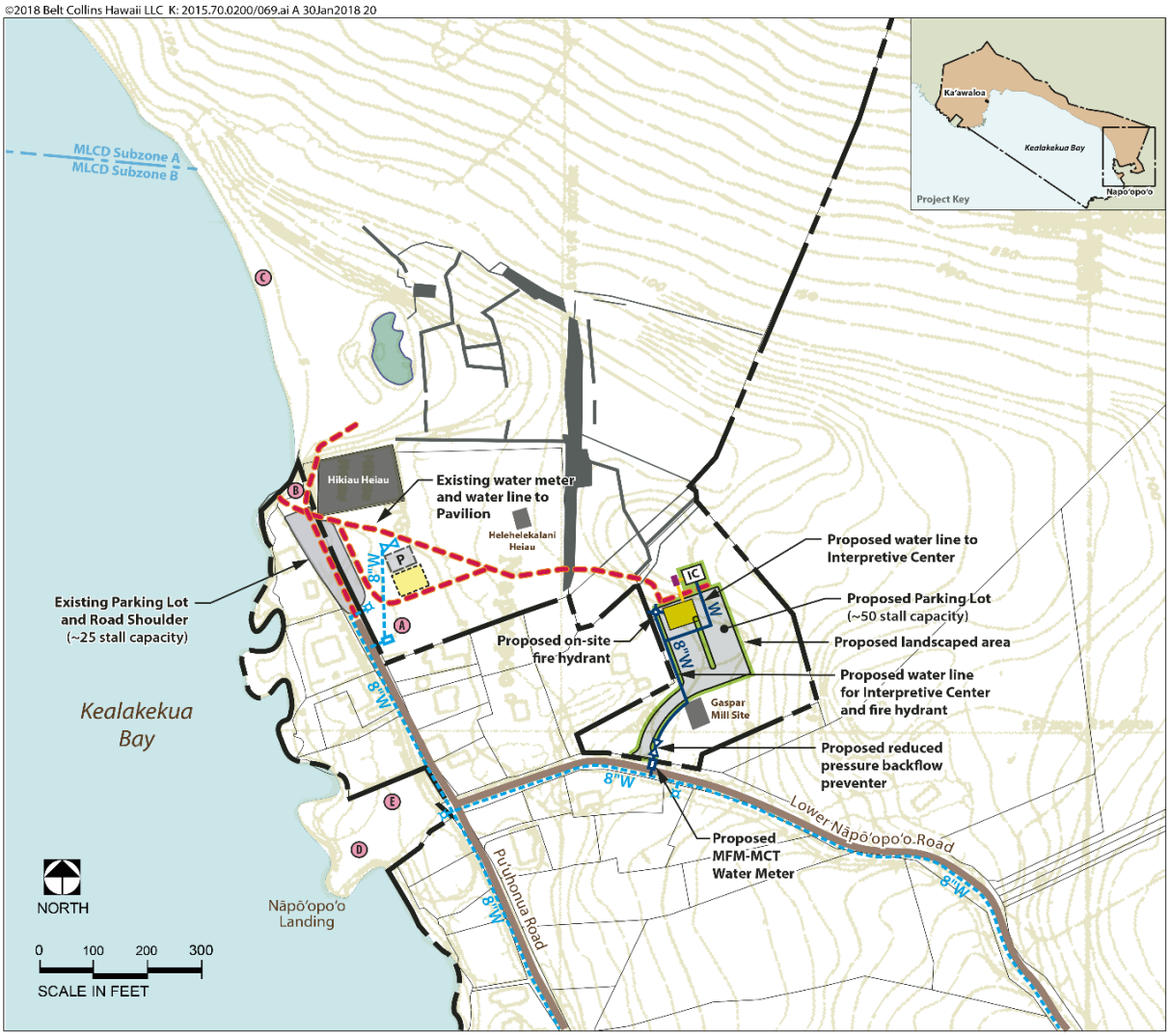

Figure 3-10: Proposed Utilities, Nāpōʻopoʻo Section

Kealakekua Bay State Historical Park

EIS

South Kona, Hawai'i

LEGEND

- Park Boundary
- TMK Parcels
- Parking (~25 stall capacity; State Park and County road shoulder)

Circulation

- County Road
- Accessible Pedestrian Path

Features

- Historic Site
- Pond
- Pavilion (Restroom, shower)
- Proposed Interpretive Center
- Proposed Landscape Area

Utilities

- Existing Water Line
- Proposed Water Line
- Proposed Wastewater Line
- Proposed Fire Hydrant
- Existing Fire Hydrant
- Proposed Water Meter
- Existing Water Meter
- Proposed Reduced Pressure Backflow Preventer (RPBP)
- Existing Reduced Pressure Backflow Preventer (RPBP)
- Proposed Septic Tank
- Existing Leach Field
- Proposed Leach Field

Elements

- Ⓐ Existing community park facilities and grass field
- Ⓑ Bay overlook, marine life interpretation, and park rules signage
- Ⓒ Nāpōʻopoʻo Beach
- Ⓓ Permitted kayak staging
- Ⓔ Restricted Parking

3.13.3 Electrical

3.13.3.1 Existing Conditions

Hawai'i Electric Light (HELCO) has overhead power lines along Nāpō'opo'o Road and Beach Road which service the Pavilion and local residences.

3.13.3.2 Potential Impacts and Mitigation Measures

The Proposed Action includes electrical fixtures in the Interpretive Center and lighting for the parking lot. The existing electrical distribution system along Nāpō'opo'o Road is adequate to provide service for this proposed action. Once the detailed design is complete, it will be submitted to HELCO to provide a firm cost to provide electrical power to the Interpretive Center. Electrical lines to be installed overhead on utility poles to match the existing area services.

To meet the Hawai'i County Code section 14-55 requirements and mitigate light pollution at night, parking lot lighting will be fully shielded low pressure sodium lamps

No significant impacts are anticipated from the electrical system improvements for the Proposed Action. No mitigation is needed

3.13.4 Telecommunication

3.13.4.1 Existing Conditions

Hawaiian Telecom and Spectrum have overhead telecommunication lines that extend along both Nāpō'opo'o Road and Beach Road. Hawaiian Telecom can only provide a telephone service, where Spectrum can provide telephone, high speed internet, and television services.

3.13.4.2 Potential Impacts and Mitigation Measures

The Proposed Action includes offices in the Interpretive Center. Telecommunication lines would be installed overhead on utility poles to match the existing area services. If feasible, underground is preferred.

No significant impacts are anticipated from the telecommunication system improvements for the Proposed Action. No mitigation needed.

3.14 Cumulative and Secondary Impacts

HAR §11-200-2 provides the following definitions:

"Cumulative impact" means the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

"Secondary impact" or "secondary effect" or "indirect impact" or "indirect effect" means effects which are caused by the action and are later in time or farther removed in distance but are still reasonably

foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

The discussion of traffic impacts (Section 3.10 and Appendix D) is a cumulative analysis, since it deals with traffic due to the Proposed Action in combination with current and likely future traffic conditions.

Slow growth in the resident population and continuing growth in visitor counts in West Hawai‘i will result in increased visitation at KBSHP. The planned parking area at Parcel 1 provides more parking than was available at Beach Road, in part because visitor numbers are likely to grow over time. With an increase in visitation, the number of tourist vehicles traveling on the Pu‘uhonua Road towards Hōnaunau could also grow. Since that road is very narrow, DSP will encourage the County of Hawai‘i to mark it as “Narrow Road – Local Traffic Only.”

Human-dolphin interactions within Kealakekua Bay are expected to be reduced through a combination of federal regulation, state regulation and enforcement, and community monitoring.

No other cumulative or secondary impacts are foreseeable. It is possible that the proposed improvements at the Park will make the immediate area much more attractive to visitors, and tend to increase the number of visitors in transient rental accommodations in Nāpō‘opo‘o and nearby. This effect is uncertain and likely small, since the area is already very attractive to visitors who seek secluded accommodations and outdoor recreation.

Chapter 4

Relationship to Public Policies and Programs

4. RELATIONSHIP TO PUBLIC POLICIES AND PROGRAMS

4.1 Introduction

This EIS satisfies the requirements of HRS Chapter 343 and its implementing regulations. In addition, several additional federal and state laws, Executive Orders (EO), permits and consultations, identified during the scoping/pre-consultation process and in preparation of this document, are described in this section.

4.2 Relationship to Federal Laws and Executive Orders

4.2.1 Clean Air Act

The Clean Air Act (CAA) and amendments (42 USC §7401 et seq.) comprise the comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. Pursuant to the CAA and amendments, state-operated permit programs serve to control emissions. In Hawai'i, the state operating permit program is implemented by the DOH, and emissions of regulated air pollutants within the state may be subject to permitting as required under HAR Section 11-60.1. Hawaii also has a state ambient air standard for hydrogen sulfide.

Relationship of the Proposed Action to the CAA. Until the release of vog from Kīlauea volcano in recent years, the entire state was in attainment of the NAAQS. Currently, stations close to the volcano may at times report emissions levels above NAAQS.

The nearest monitoring station to KBSHP is located on the grounds of Konawaena High School in Captain Cook. It measures both particulate matter and hydrogen sulfide concentrations. For the period 2010 through 2014, measured concentrations at that station were well below Federal and State standards.[1]

4.2.2 Clean Water Act

The Clean Water Act (CWA) of 1977, as amended (33 USC §1251 et seq.), is the major federal legislation concerning improvement of the nation's water resources. The CWA amended the Federal Water Pollution Control Act and requires federal agency consistency with state nonpoint source pollution abatement plans. Amended in 1987, the CWA strengthens enforcement mechanisms and regulations for storm water runoff, provides for the development of industrial and municipal wastewater treatment standards, and establishes a permitting system to control wastewater discharges to surface waters.

CWA Section 402. Discharges of point source pollutants into surface waters of the U.S. are controlled under the NPDES program, pursuant to Section 402 of the CWA. Pursuant to the CWA and amendments, states may be authorized to administer permit programs. In the State of Hawai'i, the DOH, Clean Water Branch, under HAR Chapter 11-55, administers the NPDES program. Requirements

[1] State of Hawai'i Department of Health, 2014 Hawai'i Air Quality Data. Honolulu, HI 2015, Tables 4-6, 4-11 through 4-14. Posted at http://health.hawaii.gov/cab/files/2015/09/aqbook_2014.pdf; viewed on October 4, 2016.

for NPDES permit coverage are triggered for construction activities of one acre or greater, construction dewatering, and hydrotesting.

Relationship of the Proposed Action to the CWA. The proposed entry, parking lot and interpretive facilities at Parcel 1 cover more than an acre. A request for an NPDES permit would be submitted before construction.

4.2.3 Coastal Zone Management Act

The purpose of the Coastal Zone Management Act (CZMA) of 1972 (16 USC §1451 et seq.) is to encourage coastal states to manage and conserve coastal areas as a unique, irreplaceable resource. The CZMA has objectives relating primarily to (1) protecting and preserving the coastal zone, (2) improving coastal scenic and open space resources; (3) ensuring that coastal developments are located, designed and built to minimize social, visual and environmental impacts; and (4) encouraging research and development of new technologies for exploring, using, or protecting marine and coastal resources.

The CZMA requires a consistency determination from the Department of Business, Economic Development and Tourism (DBEDT), State of Hawai'i, for actions subject to federal permits within the coastal zone, as defined by HRS Chapter 205A-1. Coastal zone management (CZM) consistency determinations are not required for actions on federal properties that would not have reasonably foreseeable direct or indirect effects on resources in the coastal zone.

Relationship of the Proposed Action to the CZMA. All of Hawai'i is within the coastal zone. The CZMA consistency determination is undertaken on the basis of permit requests, and would be issued only after this EA is accepted and a permit request is made.

The State Parks Division will follow applicable laws, regulations and BMPs for any construction associated with the Master Plan, in conformity with the demands of the CZMA. A consistency determination would be requested before federal funds are spent on such improvements.

4.2.4 Endangered Species Act

The Federal Endangered Species Act (ESA) of 1973 (16 USC §1531 et seq.) establishes a process for identifying and listing threatened and endangered species. It requires federal agencies to carry out programs for the conservation of federally-listed endangered and threatened plants and wildlife and designated critical habitats for such species. It also prohibits actions by federal agencies that would likely jeopardize the continued existence of those species or result in the destruction or adverse modification of designated critical habitat. Section 7 of the ESA requires consultations with federal wildlife management agencies, particularly U.S. Fish and Wildlife Service (USFWS), on actions that may affect listed species or designated critical habitats. Section 9 of the ESA prohibits the "taking" (through harm or harassment) of endangered species without an agency-issued permit.

Relationship of the Proposed Action to the ESA. No endangered species have been identified within the terrestrial area of the State Historical Park. Overflights by sea birds or the Hawaiian hoary bat are of concern. In the Bay, the resting area of nai'a, Hawaiian spinner dolphins, is recognized.

As noted in Section 3-4.2, best management practices to avoid any impact on Hawaiian hoary bats and seabirds will be followed. ~~The delineation of the dolphin rest zone, part of the Proposed Action, will help to prevent human interactions with dolphins in violation of the Marine Mammal Protection Act.~~ Enforcement of rules and guidelines of human-dolphin interactions under the Marine Mammal Protection Act will be implemented by NOAA.

4.2.5 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA), as amended (16 USC §661 et seq.), provides the USFWS the authority to evaluate impacts to fish and wildlife resources from new development and requires federal agencies implementing development projects to consult with the USFWS and appropriate resource management agencies regarding impacts and proposed mitigation measures.

Relationship of the Proposed Action to the FWCA. The USFWS has been consulted through circulation of the Notice of Preparation for this EIS and will be asked to review the DEIS.

4.2.6 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC §703 et seq.), as amended, establishes protections for migratory birds and prohibitions for activities involving migratory birds that "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export…" unless permitted by regulations.

Relationship of the Proposed Action to the MBTA. No activity considered for the Master Plan is expected to fall under the MBTA's list of activities. Any new lighting of roadways and parking areas will use shielded fixtures that may help to protect seabirds from disorientation and harm.

4.2.7 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 (16 USC §31), as amended, prohibits (with exceptions) the taking (i.e., harassment, hunting, capture or killing, or attempting to harass, hunt, capture or kill) of marine mammals in waters of the U.S. The implementing regulations at 50 CFR 216 identify definitions, prohibitions, exceptions, permit restrictions, and conditions associated with the MMPA.

Relationship of the Proposed Action to the MMPA. Kealakekua Bay is home to spinner dolphins (nai'a) and may be visited by whales – both protected under the MMPA. The marking of the Bay and the dolphin rest zone, included in the Proposed Action, are intended to warn visitors to the bay and help enforcement of Park rules, thereby encouraging enforcement of prohibitions under the Act.

4.2.8 Magnuson-Stevens Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 USC §1801 et al.), as amended (Public Law 94-265), provides for the protection and management of fisheries. Specifically, the Act requires that fishery management plans identify as essential fish habitat (EFH) those areas that are necessary to fish for their basic life functions. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity."

The Magnuson-Stevens Act requires NOAA National Marine Fisheries Service (NMFS) and regional fishery management councils to minimize, to the extent practicable, adverse effects to EFH caused by fishing activities. The Act also requires federal agencies to consult with NMFS about actions that could damage EFH. EFH can consist of both the water column and the underlying surface (e.g., seafloor) of a particular area. Areas designated as EFH contain habitat essential to the long-term survival and health of the nation's fisheries.

Relationship of the Proposed Action to the Act. The waters of Kealakekua Bay form a Marine Life Conservation District (under HRS Chapter 190 and HAR Chapter 13-29) established in 1969. The two subzones of the MLCD are shown in Figure 4-2. The following regulations are in force:

Permitted activities:

- Within Subzone B only, to fish for, take, or possess any finfish with or by the use of hook-and-line and thrownet, provided that any legal fishing device or method except traps may be used for the taking of akule, ʻōpelu, and crustaceans;
- To possess in the water any knife and any shark billy, bang stick, powerhead, or carbon dioxide injector; and
- With a permit, to engage in activities otherwise prohibited by law for scientific, propagation, or other purposes.

Prohibited activities:

- To fish for, take, or injure marine life (including eggs), except as indicated in "Permitted activities" above;
- To take or alter any sand, coral, or other geological feature or specimen; and
- To engage or attempt to engage in fish feeding;

NMFS has been consulted in the course of developing the Master Plan and EIS for KBSHP. The proposed action is not anticipated to affect EFH or fishing practices.

4.2.9 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, as amended (16 USC §470) recognizes the nation's historic heritage and establishes a national policy for the preservation of historic properties as well as the National Register of Historic Places. Section 106 of the NHPA requires federal agencies to take into account the effects of federal undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Section 106 process, as defined in 36 CFR §800, provides for identification and evaluation of historic properties, for determining the effects of proposed undertakings, and for ways to resolve adverse effects in consultation with concerned parties.

Relationship of the Proposed Action to NHPA. The Kealakekua Bay Historical District was listed on the National Register of Historic Places in 1973. The State acquired land for the Park in recognition of the historical and cultural importance of the area. The DLNR is submitting this DEIS for review by the SHPD to satisfy State requirements (HRS Chapter 6E-8). The Master Plan has been developed after consideration of the archaeological and historical studies, and consultation with members of the surrounding community. In the event that federal funding is sought to implement the Master Plan, the Section 106 process will be formally followed. Since no federal funding is involved at this time, the Master Plan is instead being reviewed under the State's HRS Chapter 6E process.

4.2.10 Compliance with Executive Orders

Federal agencies are subject to EOs while local governments and private parties are not. While DLNR is a State agency, it works closely with federal agencies such as NOAA and the NPS. EOs were considered in developing this EIS.

4.2.10.1 EO 12898, Environmental Justice in Minority Populations and Low-Income Populations

EO 12898 (11 February 1994) requires federal agencies to identify and address the potential for disproportionately high adverse environmental effects on minority and low-income residents as a whole.

Relationship of the Proposed Action Alternatives to EO 12898. This EIS has reviewed information about the residents living near the Park and finds they do not constitute a minority or

low-income community. Some members of the adjoining Nāpōʻopoʻo community can be characterized as members of a minority group, as Native Hawaiians. The actions considered in the Master Plan would have largely beneficial effects on Nāpōʻopoʻo residential areas, by working to locate vessel landings at Nāpōʻopoʻo Landing, rather than in and near the Manini Beach homes. The proposed action is expected to enhance, not detract from, quality of life in Nāpōʻopoʻo.

4.2.10.2 EO 13045, Protection of Children from Environmental Health Risks and Safety Risks

EO 13045 (21 April 1997) requires federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children.

Relationship of the Project to EO 13045. No action proposed in the course of the Master Plan would disproportionately affect children. If the State and County can create protected pedestrian access from the new parking area to the junction of Nāpōʻopoʻo and Puʻuhonua Roads, and along the Beach Road towards Hikiau Heiau, the result would be a safety improvement benefitting all pedestrians, including children.

4.2.10.3 EO 13089, Protection of Coral Reefs

EO 13089 (11 June 1998) requires federal agencies whose actions may affect U.S. coral reefs to identify such actions, protect and enhance the conditions of such ecosystems, and ensure to the extent permitted by law that actions authorized, funded or carried out would not degrade those ecosystems.

Relationship of the Project to EO 13089. Studies for the Master Plan included assessment of the impacts of a mooring, snorkeling, and kayak launching at Kaʻawaloa on corals in Kaʻawaloa Cove. (See Appendix B.) While corals are absent near the anchoring point for the mooring still in use, no other significant impact was found. Earlier studies failed to find significant impacts on corals from visitation at Kealakekua Bay (See Section 3.5.). The Proposed Action is intended to allow visitation without further impacts on coral.

4.2.10.4 EO 13112, Invasive Species

EO 13112 (10 January 2001) requires federal agencies to identify those actions (and not authorize, fund, or carry out actions) that they believe would cause or promote the introduction or spread of invasive species.

Relationship of the Project to EO 13112. No activity proposed in the Master Plan is expected to cause or promote the introduction or spread of invasive species.

4.3 Relationship to State Laws and Policies

4.3.1 Hawaiʻi Revised Statutes, Chapter 343

This EIS has been prepared to meet the requirements of HRS Chapter 343 and its implementing regulations, HAR Chapter 11-200. The proposing agency has reviewed the likely effects of the proposed action alternatives and finds none of the probable impacts would reach the level of significance. An EIS, rather than an Environmental Assessment, has been prepared in recognition of the location of the Park (in the Conservation District, in the Special Management Area, and in a Historic District).

4.3.2 Hawai'i State Plan

4.3.2.1 Overview

The Hawai'i State Legislature in 1978 adopted the Hawai'i State Planning Act (Planning Act) as HRS Chapter 226 to establish direction and provide long-range planning for the State. The Planning Act called for the creation of 12 functional plans to set specific objectives, establish policies, and implement actions for various fields of activity.

4.3.2.2 Hawai'i State Plan

In 1978, the Hawai'i State Department of Planning and Economic Development (predecessor to DBEDT) completed the Hawai'i State Plan to: (1) improve the planning process; (2) increase the effectiveness of government and private actions; (3) improve coordination among agencies and levels of government; (4) provide for the wise use of Hawai'i's resources; and (5) guide the future development of the state.[2]

The Planning Act consists of a series of broad goals, objectives, and policies that serve as guidelines for future long-term growth and development. The Planning Act is divided into three sections: Part I - Overall Theme, Goals, Objectives and Policies; Part II - Planning Coordination and Implementation; and Part III - Priority Guidelines. Part I of the Planning Act consists of three overall themes: (1) individual and family self-sufficiency; (2) social and economic mobility; and (3) community or social well-being. These themes are considered "basic functions of society" and goals toward which government must strive (HRS Section 226-3).

Part II of the Planning Act primarily addresses internal government policies to help streamline, coordinate, and implement various plans and processes between governmental agencies. It seeks to eliminate or consolidate burdensome or duplicative governmental requirements imposed on business, where public health, safety, and welfare would not be adversely affected.

Part III of the Planning Act establishes overall priority guidelines to address areas of statewide concern (HRS Section 226-101). The overall direction and focus are on improving the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action (HRS Section 226-102).

Table 4-1 evaluates the Proposed Action alternatives' conformance with the State's goals and objectives of Part I of the Planning Act. Parts II and III are not presented as those sections pertain to internal government affairs and statewide concerns.

Table 4-1: Hawai'i State Plan–HRS Chapter 226, Part I

SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
A= ACTIVELY SUPPORTS **C**= CONFORMS **F** = FAILS TO MEET GOAL **NA** = GOAL NOT APPLICABLE		
226-3	OVERALL THEME	
226-4	STATE GOALS. In order to guarantee, for present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:	

[2] State of Hawai'i Department of Planning and Economic Development, 1978, Revised 1989, 1991.

Table 4-1: Hawai'i State Plan–HRS Chapter 226, Part I		
SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
A= ACTIVELY SUPPORTS **C**= CONFORMS **F** = FAILS TO MEET GOAL **NA** = GOAL NOT APPLICABLE		
(1)	A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.	A
(2)	A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.	A
(3)	Physical, social, and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life.	A
CONFORMANCE DETERMINATION: The proposed action supports HRS Section 226-4 since it would encourage economic activity and respect for Hawai'i's unique environment.		
226-5	OBJECTIVE AND POLICIES FOR POPULATION	NA
226-6	OBJECTIVE AND POLICIES FOR THE ECONOMY – IN GENERAL	NA
226-7	OBJECTIVE AND POLICIES FOR THE ECONOMY – AGRICULTURE	NA
226-8	OBJECTIVE AND POLICIES FOR THE ECONOMY – VISITOR INDUSTRY	
(a)	Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.	
(b)	To achieve the visitor industry objective, it shall be the policy of this State to:	
(1)	Support and assist in the promotion of Hawaii's visitor attractions and facilities.	A
(2)	Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.	A
(3)	Improve the quality of existing visitor destination areas by utilizing Hawaii's strengths in science and technology.	C
(4)	Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.	A
(5)	Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.	C
(6)	Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.	NA
(7)	Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.	NA
(8)	Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.	A
CONFORMANCE DETERMINATION: The Proposed Action would increase both visitors' and residents' awareness of Hawai'i's distinctive history, while sustaining the Park as a visitor destination.		
226-9	OBJECTIVE AND POLICIES FOR THE ECONOMY – FEDERAL EXPENDITURES	NA
226-10	OBJECTIVE AND POLICIES FOR THE ECONOMY – POTENTIAL GROWTH AND INNOVATIVE ACTIVITIES	NA
226-10,5	OBJECTIVE AND POLICIES FOR THE ECONOMY – INFORMATION INDUSTRY	NA

Table 4-1: Hawai'i State Plan–HRS Chapter 226, Part I		
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226-11	OBJECTIVES AND POLICIES FOR THE PHYSICAL ENVIRONMENT – LAND BASED, SHORELINE, AND MARINE RESOURCES.	
(a)	Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:	
(1)	Prudent use of Hawai'i's land-based, shoreline, and marine resources.	A
(2)	Effective protection of Hawai'i's unique and fragile environmental resources.	A
(b)	To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:	
(1)	Exercise an overall conservation ethic in the use of Hawai'i's natural resources.	A
(2)	Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.	A
(3)	Take into account the physical attributes of areas when planning and designing activities and facilities.	A
(4)	Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.	A
(5)	Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.	NA
(6)	Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.	A
(7)	Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.	A
(8)	Pursue compatible relationships among activities, facilities, and natural resources.	A
(9)	Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.	A
CONFORMANCE DETERMINATION: The Master Plan actively supports the sustainable use of shoreline and marine resources.		
226-12	OBJECTIVE AND POLICIES FOR THE PHYSICAL ENVIRONMENT –SCENIC, NATURAL BEAUTY, AND HISTORIC RESOURCES	
(a)	Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.	
(b)	To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:	
(1)	Promote the preservation and restoration of significant natural and historic resources.	A
(2)	Provide incentives to maintain and enhance historic, cultural, and scenic amenities.	C

Table 4-1: Hawai'i State Plan–HRS Chapter 226, Part I		
SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
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(3)	Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.	A
(4)	Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.	A
(5)	Encourage the design of developments and activities that complement the natural beauty of the islands.	C
CONFORMANCE DETERMINATION: The project would preserve and enhance important natural, historic, cultural and scenic resources.		
226-13	OBJECTIVES AND POLICIES FOR THE PHYSICAL ENVIRONMENT – LAND, AIR, AND WATER QUALITY.	
(a)	Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:	
(1)	Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.	C
(2)	Greater public awareness and appreciation of Hawai'i's environmental resources.	A
(b)	To achieve the land, air, and water quality objectives, it shall be the policy of this State to:	
(1)	Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.	C
(2)	Promote the proper management of Hawai'i's land and water resources.	A
(3)	Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.	C
(4)	Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.	NA
(5)	Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.	NA
(6)	Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.	NA
(7)	Encourage urban developments in close proximity to existing services and facilities.	NA
(8)	Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.	NA
CONFORMANCE DETERMINATION: Construction and renovation for the Proposed Action would follow best management practices to minimize impacts on the environment.		
226-14	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – IN GENERAL	NA
226-15	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – SOLID AND LIQUID WASTES	NA
226-16	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – WATER	NA
226-17	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – TRANSPORTATION	NA
226-18	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – ENERGY	NA

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226-18,5	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – TELECOMMUNICATIONS	NA
226-19	OBJECTIVES AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – HOUSING	NA
226-20	OBJECTIVES AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – HEALTH	NA
226-21	OBJECTIVES AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – EDUCATION	NA
226-22	OBJECTIVES AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – SOCIAL SERVICES	NA
226-23	OBJECTIVE AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – LEISURE	
(a)	Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.	
(b)	To achieve the leisure objective, it shall be the policy of this State to:	
(1)	Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.	A
(2)	Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.	C
(3)	Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.	A
(4)	Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.	A
(5)	Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.	A
(6)	Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.	A
(7)	Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.	NA
(8)	Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.	NA
(9)	Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawaii's population to participate in the creative arts.	NA
(10)	Assure adequate access to significant natural and cultural resources in public ownership.	A

Table 4-1: Hawai'i State Plan–HRS Chapter 226, Part I		
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CONFORMANCE DETERMINATION: Planned improvements in the Master Plan would enhance recreational opportunities.		
226-24	OBJECTIVE AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – INDIVIDUAL RIGHTS AND PERSONAL WELL BEING	NA
226-25	OBJECTIVE AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – CULTURE	NA
(a)	Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people.	
(b)	To achieve the culture objective, it shall be the policy of this State to:	
(1)	Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.	A
(2)	Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaii's people and which are sensitive and responsive to family and community needs.	A
(3)	Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i.	NA
(4)	Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.	C
CONFORMANCE DETERMINATION: KBSHP includes significant historic sites. Its respectful interpretation would promote knowledge of Hawai'i's history and heritage.		
226-26	OBJECTIVE AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – PUBLIC SAFETY	NA
226-27	OBJECTIVE AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – GOVERNMENT	NA
226-108	SUSTAINABILITY PRIORITY GUIDELINES	
(1)	Encouraging balanced economic, social, community, and environmental priorities;	C
(2)	Encouraging planning that respects and promotes living within the natural resources and limits of the State;	A
(3)	Promoting a diversified and dynamic economy	C
(4)	Encouraging respect for the host culture;	A
(5)	Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;	A
(6)	Considering the principles of the ahupua'a system; and	C
(7)	Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii	C
CONFORMANCE DETERMINATION: The KBSHP Master Plan has been revised to emphasize sustainability.		
226-109	CLIMATE CHANGE ADAPTATION PRIORITY GUIDELINES	
(1)	Ensure that Hawai'i's people are educated, informed, and aware of the impacts climate change may have on their communities;	C

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A= ACTIVELY SUPPORTS **C**= CONFORMS **F** = FAILS TO MEET GOAL **NA** = GOAL NOT APPLICABLE		
(2)	Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;	C
(3)	Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State;	C
(4)	Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;	C
(5)	Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change	A
(6)	Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments	C
(7)	Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;	NA
(8)	Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;	A
(9)	Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans	NA
(10)	Encourage planning and management of the natural and built environments that effectively integrate climate change policy.	C
CONFORMANCE DETERMINATION: Climate change has been carefully considered in planning preservation and development activities at KBSHP. The proposed action includes repair of waterfront structures and increased attention to sustaining coastal resources in the Park.		

4.3.2.3 State Functional Plans

State of Hawai'i Functional Plans combine statements of long-term objectives and near-term actions and projects to address those objectives. The *Recreation Functional Plan* was adopted in 1991.[3] It is updated regularly in the *Statewide Comprehensive Outdoor Recreation Plan* (SCORP), most recently in 2015.[4] The SCORP includes four major goals:

1. Provide a world-class outdoor recreational experience;
2. Expand opportunities for public outdoor recreation;
3. Encourage physical fitness and healthy people through outdoor recreation; and
4. Promote recreational opportunities that preserve and sustain Hawai'i's natural and cultural resources.

[3] DLNR, *The Hawai'i State Plan: Recreation.* 1991. Posted at http://files.hawaii.gov/dbedt/op/docs/Recreation.pdf

[4] DLNR, *The Statewide Comprehensive Outdoor Recreation Plan 2015 Update.* Posted at http://dlnr.hawaii.gov/dsp/files/2015/08/2015-SCORP-with-Appendices.pdf, viewed October 5, 2016.

The Proposed Action advances these goals by sustaining the Park's resources and supporting recreational and educational access to the Park.

The *Historic Preservation Functional Plan* was also adopted in 1991.[5] It addresses three major issue areas:

- Preservation of Historic Properties, including the identification, protection, and management and treatment of historic resources;
- Collection and Preservation of Historic Records, Artifacts and Oral Histories, and Perpetuation of Traditional Skills; and
- Public Information and Education on the Ethnic and Cultural Heritages and History of Hawai'i.

The Proposed Action advances the State's goals by preserving and improving the management of cultural and historic resources at KBSHP, and by providing new opportunities for education about the pre-contact socio-political-economic system of Kona and Hawai'i Island, and the complex history of contact between Native Hawaiians and the world, including missionaries, whalers, ranchers, and others who together have been instrumental in shaping the cultural landscape of Kealakekua.

4.3.3 State Environmental Policy

The State Environmental Policy under HRS Chapter 344, established a policy that:
(1) encourages productive and enjoyable harmony between people and their environment;
(2) promotes efforts that will prevent or eliminate damage to the environment and biosphere;
(3) stimulates the health and welfare of humanity; and
(4) enriches the understanding of the ecological systems and natural resources important to the people of Hawai'i.

HRS Chapter 344-3(2)(C) states that it shall be the policy of the State, through its programs, authorities, and resources to establish communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian.

The Kealakekua Bay State Historical Park Master Plan has been developed to encourage harmony between people and the environment in the Park and surrounding lands while enriching residents' and visitors' understandings of the ecology and history important to the people of Hawai'i.

4.3.4 Hawai'i Coastal Zone Management Program

The Hawai'i CZM Program was established in 1977 as a result of the federal CZM Act of 1972. Established by HRS Chapter 205A, the objectives and policies of the Hawai'i CZM Program are intended to manage, develop and protect resources of the coastal areas. The State DBEDT, Office of Planning is the lead agency responsible for conducting a continuing review of actions by State and County agencies for compliance with HRS Chapter 205A. The project's relevance to key objectives and policies of the CZM program are summarized in Table 4-2.

[5] DLNR, *The Hawai'i State Plan: Historic Preservation.* 1991. Posted at http://files.hawaii.gov/dbedt/op/docs/HistoricPreservation.pdf., viewed April 13, 2017.

Table 4-2: Coastal Zone Management–HRS Chapter 205A		
SECTION	CHAPTER 205A – 2 Objectives and Policies	PROJECT RELEVANCE
RELEVANCE CRITERIA: **A** = Actively Supports **F** = Fails to Meet Program Objective/Policy **C** = Conforms **NA** = Objective/Policy is Not Applicable		
(1)	Recreational Resources	
	Provide coastal recreational opportunities accessible to the public.	A
	Improve coordination and funding of coastal recreational planning and management.	A
	Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area.	A
(2)	Historic Resources	
	Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.	A
	Identify and analyze significant archaeological resources.	A
	Maximize information retention through preservation of remains and artifacts or salvage operations.	A
	Support state goals for protection, restoration, interpretation, and display of historic resources.	A
(3)	Scenic and Open Space Resources	
	Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.	A
	Identify valued scenic resources in the coastal zone management area.	A
	Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.	NA
	Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources.	A
	Encourage those developments that are not coastal dependent to locate in inland areas.	NA
(4)	Coastal Ecosystems	
	Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.	A
	Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources.	A
	Improve the technical basis for natural resource management.	NA
	Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance.	A

Table 4-2: Coastal Zone Management–HRS Chapter 205A		
SECTION	CHAPTER 205A – 2 Objectives and Policies	PROJECT RELEVANCE
RELEVANCE CRITERIA: **A** = Actively Supports **F** = Fails to Meet Program Objective/Policy **C** = Conforms **NA** = Objective/Policy is Not Applicable		
	Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs.	NA
	Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.	NA
(5)	Economic Uses	
	Provide public or private facilities and improvements important to the State's economy in suitable locations.	C
	Concentrate coastal dependent development in appropriate areas.	C
	Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area.	A
	Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when: (i) Use of presently designated locations is not feasible; (ii) Adverse environmental effects are minimized; and (iii) The development is important to the State's economy.	C
(6)	Coastal Hazards	
	Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.	A
	Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards.	C
	Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards.	A
	Ensure that developments comply with requirements of the Federal Flood Insurance Program.	C
	Prevent coastal flooding from inland projects.	C
(7)	Managing Development	
	Improve the development review process, communication, and public participation in the management of coastal resources and hazards.	NA

Table 4-2: Coastal Zone Management–HRS Chapter 205A		
SECTION	CHAPTER 205A – 2 Objectives and Policies	PROJECT RELEVANCE
RELEVANCE CRITERIA: **A** = Actively Supports **F** = Fails to Meet Program Objective/Policy **C** = Conforms **NA** = Objective/Policy is Not Applicable		
	Use, implement, and enforce existing laws effectively to the maximum extent possible in managing present and future coastal zone development.	NA
	Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements.	NA
	Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.	C
(8)	Public Participation	
	Stimulate public awareness, education, and participation in coastal management.	A
	Promote public involvement in coastal zone management processes.	A
	Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities.	C
	Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.	NA
(9)	Beach Protection	
	Protect beaches for public use and recreation.	C
	Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion.	A
	Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities.	NA
	Minimize the construction of public erosion-protection structures seaward of the shoreline.	C
	Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor.	NA
	Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.	NA
(10)	Marine Resources	
	Promote the protection, use, and development of marine and coastal resources to assure their sustainability.	A

Table 4-2: Coastal Zone Management–HRS Chapter 205A		
SECTION	CHAPTER 205A – 2 Objectives and Policies	PROJECT RELEVANCE
RELEVANCE CRITERIA: **A** = Actively Supports **F** = Fails to Meet Program Objective/Policy **C** = Conforms **NA** = Objective/Policy is Not Applicable		
	Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial.	A
	Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency.	C
	Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone.	A
	Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources.	A
	Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.	C
CONFORMANCE DETERMINATION: The Master Plan conforms with and supports HRS Section 205A-2 as the project would advance the historic and scenic objectives and policies of the CZM program and would follow best management practices and other State environmental laws, rules, and regulations to protect the coastal and marine environments. The Master Plan further conforms with the program's emphases on public participation and marine resources.		

4.3.5 Hawai'i State Land Use Law

The Hawai'i State Legislature determined in 1961 that a state-wide zoning system was needed to protect Hawai'i's valuable land from development that provided a short-term gain for a few and resulted in a long-term loss to the income and growth potential of the state's economy. Accordingly, the Legislature established an overall framework of land-use management and adopted the Land Use Law under HRS Chapter 205. The law placed all lands in the state in one of four land-use districts: Urban, Agricultural, Conservation, or Rural (the Rural District was added in 1963), and established the Land Use Commission (LUC) under HRS Section 205-1. The bulk of the Park lands are in the Conservation district, although Nāpō'opo'o Landing and Parcel 8-2-4:001 are Urban (*see* Figure 4-1).

Section 205-2 (b) of the Land Use Law states that "Urban districts shall include activities or uses as provided by ordinances or regulations of the county within which the urban district is situated."

Conformance with State Land Use Law. The Urban areas in the project would be used for parking and as a wharf for launching non-motorized vessels. The latter use is a continuing one. Park use is in keeping with the Conservation District, while specific improvements will be subject to review by the Board of Land and Natural Resources.

4.3.6 Hawai'i Revised Statutes, Chapter 6E, Historic Preservation

HRS Chapter 6E-8 states that "before any agency or officer of the state or its political subdivisions commences any project which may affect historic property, aviation artifact, or a burial site, the agency or officer shall advise the department [DLNR, SHPD] and allow the department an opportunity for review of the effect of the proposed project on historic properties, aviation artifacts, or burial sites especially those listed on the Hawai'i register of historic places. The proposed project shall not be commenced, or in the event it has already begun, continued, until the department shall have given its written concurrence."

Conformance with the Law. Archaeological surveys with limited test excavations have been conducted within the State Historical Park. These surveys have inventoried the types of sites present and mapped the distribution of sites within most of the Park. Additional surveys and testing will be required to further assess the archaeological resources and determine the exact location for trails and facilities so that the cultural resources are adequately documented and protected. Sufficient research has been conducted to identify sensitive areas which should be set aside for preservation and where no development should occur, as well as disturbed areas where development will not adversely impact historic properties and the historical setting of the park. Buffers, interpretation, and park personnel are critical for protecting the sensitive areas and promoting visitor respect for the resources and history of the Park.

In consultation with SHPD, DSP will determine if a project is subject to further archaeological investigations to identify historic properties, evaluate the significance of the historic properties in the project area, determine the effect of a project on historic properties, and propose mitigation measures in conformance with HAR Chapters 13-275 through 13-284, Rules for Historic Preservation Review. It is anticipated that projects identified in the master plan and EIS may require archaeological inventory surveys, data recovery, monitoring and preservation plans.

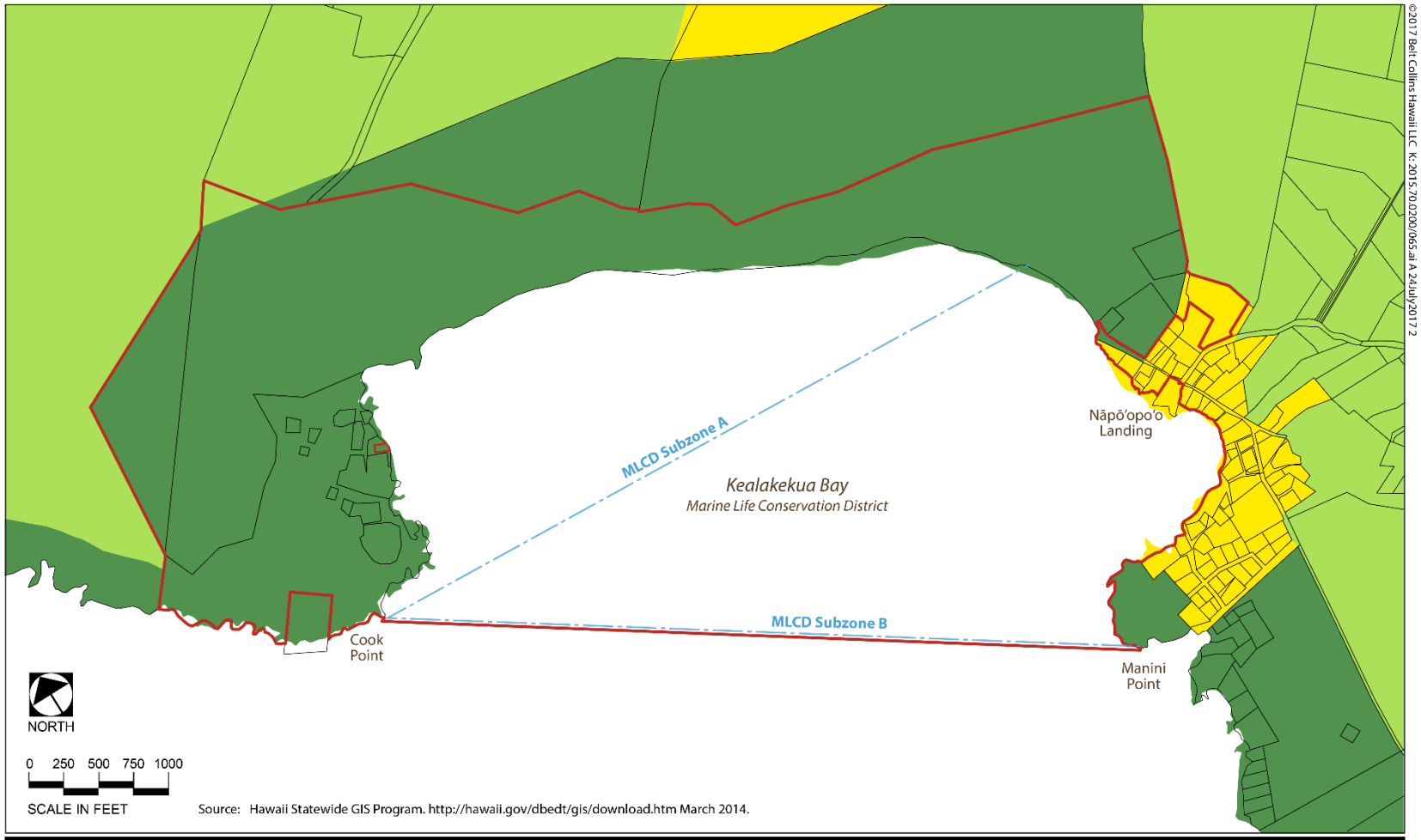

Figure 4-1: State Land Use Classifications

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND
- Park Boundary
- Urban
- Conservation
- Agricultural

The Proposed Action calls for various degrees of development at several locations. The routing of the interpretive trails at Kaʻawaloa and Nāpōʻopoʻo will require additional surveys because of the thick vegetation that currently covers much of the park area. Facilities at Kaʻawaloa are limited to a waterless toilet, helicopter landing zone and interpretive shelter. The selection of proposed sites for these facilities is based on the known distribution of archaeological sites. The development at Nāpōʻopoʻo is centered around Parcel 1 which was previously disturbed and archaeological testing has indicated a low potential for archaeological remains.

Archaeological investigations will be needed to address the following:

- A new waterless toilet at Kaʻawaloa. A location at the intersection of the Cart Road and Kaʻawaloa Road has been selected to avoid impacting the intact archaeological complex;
- A helicopter landing zone on a barren ʻaʻā lava area was selected because it lacks archaeological resources and is located near the toilet and the Cart Road which will assist with maintenance and emergency response;
- Buffers will be established for Hikiau Heiau and Helehelekalani Heiau for any development in this area of Nāpōʻopoʻo and archaeological monitoring will occur with any ground disturbing activities;
- Construction of a parking lot and interpretive center with infrastructure in Parcel 1 will require the establishment of buffers to protect the former Gaspar Coffee Mill site; and
- Architectural documentation of the pier at Nāpōʻopoʻo Landing will be needed prior to renovation (Renovation will be designed to retain the historical integrity of this structure built in 1912).

In compliance with HRS Chapter 6E and HAR Chapter 13-275, projects will be reviewed with SHPD and appropriate archaeological, historical, cultural, and architectural work will be conducted. Based on the archaeological surveys conducted to-date, preservation areas with buffers have been delineated where limited development will occur. Limited development includes vegetation clearing, interpretive trails, wayside exhibits, and interpretive shelters. Development is being proposed in previously disturbed areas which have been defined by the lack of surface features and the absence of subsurface cultural deposits. The development areas at Nāpōʻopoʻo are portions of Parcel 1 where the new parking lot and interpretive center are proposed, the area of south of Hikiau Heiau where the existing pavilion has been constructed, and the Nāpōʻopoʻo Landing. The development areas at Kaʻawaloa are the barren ʻaʻā areas. A more detailed discussion of the inventoried sites, preservation areas, and previously disturbed areas is presented in Appendix A.

4.3.7 State "Complete Streets" Policy

The Statewide Complete Streets Policy (Act 54) was enacted in 2009 and requires the State Department of Transportation and four county transportation departments to adopt a Complete Streets policy of their own. Hawaii County's Complete Streets Resolution 171-11 went into effect in October 2011.

Complete Streets is a comprehensive design approach to planning, design, and construction of transportation systems that accommodate all users of the road regardless of their age, ability, or preferred mode of transportation. Complete Streets features include sidewalks, crosswalks, traffic signals, bicycle lanes, street furniture, landscaping, and bicycle parking, among others. There are many community benefits to Complete Streets including improved quality of life, economic development, social equity, public health and safety, and ecological sustainability.

The KBSHP Master Plan proposes the conversion of the Beach Road and parking near Hikiau Heiau to pedestrian use, with limited access for nearby residents and service vehicles. The proposal is

intended to reduce the impact on the historic and cultural resources while promoting the scenic views of the bay and the cultural landscape of the Nāpōʻopoʻo section of the Park. The result is in line with the Complete Streets policy. Again, the parking for vehicles of kayak users in the new lot, after their vessels are dropped off at Nāpōʻopoʻo Landing, will reduce the number of such vehicles parked in residential areas of Nāpōʻopoʻo, where they may block access by residents and emergency vehicles.

Conformance with the Policy. The Master Plan provides facilities for increased pedestrian use of the Park lands and redirection of visitor vehicles away from residential areas. DSP will work with the County of Hawaiʻi to encourage safe routes for pedestrians.

4.4 Relationship to County of Hawaiʻi Policies

State law and county charter require each county to prepare and adopt a long-range general plan to guide the overall future development of the county. HRS Chapter 46 grants the counties certain powers and responsibilities. Among them is the power to regulate land development through zoning, which must be based on a general plan.

4.4.1 Hawaiʻi County General Plan

The most recent County General Plan was adopted in 2005.[6] The County is currently preparing General Plan 2040 to address land use and development for the next 20 years. The County of Hawaiʻi's General Plan is the policy document for long-range comprehensive development of the island. The General Plan provides direction for future growth, and offers policy statements to implement its goals for present and future generations.

The General Plan specifically recognizes Kealakekua Bay as a site of natural beauty of value to the County and encourages the development of a historical park at Kealakekua Bay, along with protection of historic sites and scenic aspects of the area (Section 13.5.8.2 (e)).

The Plan contains goals, policies and standards to guide the development of the County in 13 areas: economic, energy, environmental quality, flood control and drainage, historic sites, natural beauty, natural resources and shoreline, housing, public facilities, public utilities, recreation, transportation, and land use. The goals are discussed in relation to the project in Table 4-3. General Plan policies direct activities of the County, and accordingly are not listed in relation to this State of Hawaiʻi project.

6 *County of Hawaiʻi General Plan.* Version as amended through 2014, posted at http://records.co.hawaii.hi.us/weblink/1/edoc/69695/GP2005AmendthruOrd14-097PDF.pdf

Table 4-3: County of Hawai'i General Plan: Goals

RATING		
A= ACTIVELY SUPPORTS **C**= CONFORMS **F** = FAILS TO MEET GOAL **NA** = GOAL NOT APPLICABLE		
2.2	ECONOMIC	
(a)	Provide residents with opportunities to improve their quality of life through economic development that enhances the County's natural and social environments.	A
(b)	Economic development and improvement shall be in balance with the physical, social, and cultural environments of the island of Hawai'i	A
(c)	Strive for diversity and stability in the economic system.	NA
(d)	Provide an economic environment that allows new, expanded, or improved economic opportunities that are compatible with the County's cultural, natural and social environment.	A
(e)	Strive for an economic climate that provides its residents an opportunity for choice of occupation.	A
(f)	Strive for diversification of the economy by strengthening existing industries and attracting new endeavors.	NA
(g)	Strive for full employment.	NA
(h)	Promote and develop the island of Hawaii into a unique scientific and cultural model, where economic gains are in balance with social and physical amenities. Development should be reviewed on the basis of total impact on the residents of the County, not only in terms of immediate short run economic benefits	NA
CONFORMANCE DETERMINATION: The Master Plan supports sustainable economic activity within the Park.		
3.2	ENERGY	
(a)	Strive towards energy self-sufficiency.	C
(b)	Establish the Big Island as a demonstration community for the development and use of natural energy resources.	NA
CONFORMANCE DETERMINATION: The Master Plan conforms to the County's Energy Goals.		
4.2	ENVIRONMENTAL QUALITY	
(a)	Define the most desirable use of land within the County that achieves an ecological balance providing residents and visitors the quality of life and an environment in which the natural resources of the island are viable and sustainable.	A
(b)	Maintain and, if feasible, improve the existing environmental quality of the island.	A
(c)	Control pollution.	C
CONFORMANCE DETERMINATION: The Master Plan seeks to preserve and protect the quality of the environment at and near KBSHP.		
5.2	FLOODING AND NATURAL HAZARDS	
(a)	Protect human life.	A
(b)	Prevent damage to man-made improvements.	C
(c)	Control pollution.	C
(d)	Prevent damage from inundation.	C
(e)	Reduce surface water and sediment runoff.	A
(f)	Maximize soil and water conservation.	A
CONFORMANCE DETERMINATION: The Master Plan emphasizes restoration of the cultural landscape. With that in mind, trails and other improvements will be designed and situated to avoid or minimize potential damage from natural hazards.		

RATING		
A= ACTIVELY SUPPORTS **C**= CONFORMS **F** = FAILS TO MEET GOAL **NA** = GOAL NOT APPLICABLE		
6.2	HISTORIC SITES	
(a)	Protect, restore, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawaii.	A
(b)	Appropriate access to significant historic sites, buildings, and objects of public interest should be made available.	A
(c)	Enhance the understanding of man's place on the landscape by understanding the system of ahupuaʻa.	C
CONFORMANCE DETERMINATION: The Master Plan emphasizes restoration of the cultural landscape and expands appropriate access to the historic resources of the Park.		
7.2	NATURAL BEAUTY	
(a)	Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.	A
(b)	Protect scenic vistas and view planes from becoming obstructed.	A
(c)	Maximize opportunities or present and future generations to appreciate and enjoy natural and scenic beauty.	A
CONFORMANCE DETERMINATION: The Master Plan preserves and enhances the quality of the Park landscape and provides for facilities and management to help current and future generations appreciate the Park.		
8.2	NATURAL RESOURCES AND SHORELINE	
(a)	Protect and conserve the natural resources from undue exploitation, encroachment and damage.	A
(b)	Provide opportunities for recreational, economic, and educational needs without despoiling or endangering natural resources.	A
(c)	Protect and promote the prudent use of Hawaii's unique, fragile, and significant environmental and natural resources.	A
(d)	Protect rare or endangered species and habitats native to Hawaii.	A
(e)	Protect and effectively manage Hawaii's open space, watersheds, shoreline, and natural areas.	A
(f)	Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake.	C
CONFORMANCE DETERMINATION: The Master Plan preserves and enhances the natural resources of the park.		
9.2	HOUSING	NA
10.1.2	PUBLIC FACILITIES	
(a)	Encourage the provision of public facilities that effectively service community and visitor needs and seek ways of improving public service through better and more functional facilities in keeping with the environmental and aesthetic concerns of the community.	C
CONFORMANCE DETERMINATION: DSP supports continuing use of the Park facilities by members of the surrounding community and gladly recognizes community support for maintenance of the Park.		
11.1.2	PUBLIC UTILITIES	
(a)	Ensure that properly regulated, adequate, efficient and dependable public and private utility services are available to users.	C
(b)	Maximize efficiency and economy in the provision of public utility services.	C

RATING		
A= ACTIVELY SUPPORTS **C**= CONFORMS **F** = FAILS TO MEET GOAL **NA** = GOAL NOT APPLICABLE		
(c)	Design public utility facilities to fit into their surroundings or concealed from public view.	C
CONFORMANCE DETERMINATION: The Master Plan preserves the natural beauty of the Park while improving public utilities within the Park.		
12.2	RECREATION	
(a)	Provide a wide variety of recreational opportunities for the residents and visitors of the County.	A
(b)	Maintain the natural beauty of recreation areas.	A
(c)	Provide a diversity of environments for active and passive pursuits	A
CONFORMANCE DETERMINATION: The Master Plan preserves and enhances the Park as a unique recreational resource.		
13.1.2	TRANSPORTATION	
(a)	Provide a transportation system whereby people and goods can move efficiently, safely, comfortably and economically.	C
(b)	Make available a variety of modes of transportation that best meets the needs of the County.	A
13.2.2	TRANSPORTATION: ROADWAYS	
(a)	Provide a system of roadways for the safe, efficient and comfortable movement of people and goods.	NA
(b)	Provide an integrated State and County transportation system so that new major routes will complement and encourage proposed land policies.	NA
13.3.2	TRANSPORTATION: AIRPORTS AND HARBORS	
(a)	Provide transportation terminals and related facilities for the safe, efficient and comfortable movement of people and goods.	A
13.4.2	MASS TRANSIT	
	Provide residents with a variety of public transportation systems that are affordable, efficient, accessible, safe, environmentally friendly, and reliable.	NA
CONFORMANCE DETERMINATION: KBSHP is served by multiple types of transportation; the Master Plan recognizes the variety of ways people come to the Park and supports their safe movement on land or water.		
14.1.2	LAND USE	
(a)	Designate and allocate land uses in appropriate proportions and mix and in keeping with the social, cultural, and physical environments of the County.	A
(b)	Protect and encourage the intensive and extensive utilization of the County's important agricultural lands.	NA
(c)	Protect and preserve forest, water, natural and scientific reserves and open areas.	A
14.2 to 14.7 AGRICULTURAL AND URBAN LAND USES		NA
14.8.1	OPEN SPACE	
(a)	Provide and protect open space for the social, environmental, and economic well-being of the County of Hawaii and its residents.	A
(b)	Protect designated natural areas.	A
14.9.2	PUBLIC LANDS	
(a)	Utilize publicly owned lands in the best public interest and to the maximum benefit for the greatest number of people.	A
(b)	Acquire lands for public use to implement policies and programs contained in the General Plan.	NA

RATING
A= ACTIVELY SUPPORTS **C**= CONFORMS **F** = FAILS TO MEET GOAL **NA** = GOAL NOT APPLICABLE
CONFORMANCE DETERMINATION: The Master Plan identifies strategies for sustainable land use in the Park in the public interest.

The County Council passed unanimously Resolution 257-15, establishing overarching principles for the General Plan. The first principle identifies priorities for County decision-making, in the following order:

- Mālama ʻāina: Environmental well-being;
- Pono: Cultural and social well-being; and
- Kuleana: Economic well-being.

Conformance with the Plan. The KBSHP Master Plan emphasizes protection of environmental and cultural resources, in conformance with the Hawai'i County General Plan.

4.4.2 Hawai'i County Land Classification

In the General Plan, a Land Use Pattern Allocation Guide (LUPAG) system is used to identify current and likely future land uses. Nearly all of KBSHP is identified as Conservation or Open land, in line with its actual use as a park (as shown in Figure 4-2). A small section of the upland area on the Kaʻawaloa side of the Park is identified as Extensive Agriculture.

Hawai'i County zoning of the Park area is similar, with most of the Park treated as Open. A larger upland area on the Kaʻawaloa side is within the Agricultural District, while Nāpōʻopoʻo Landing and Parcel 1 (the Gaspar site) on the Nāpōʻopoʻo side are Single Family Residential, along with the neighboring residential area. Figure 4-3 shows County zoning for the Park and its surroundings.

Conformance with Hawai'i County Land Use Classification. The Proposed Action identifies improvements to the Park that follow from its current and anticipated use as a public facility. Hawai'i County Code 25-4-11 allows public buildings in all zoning districts, subject to plan approval by the Planning Director.

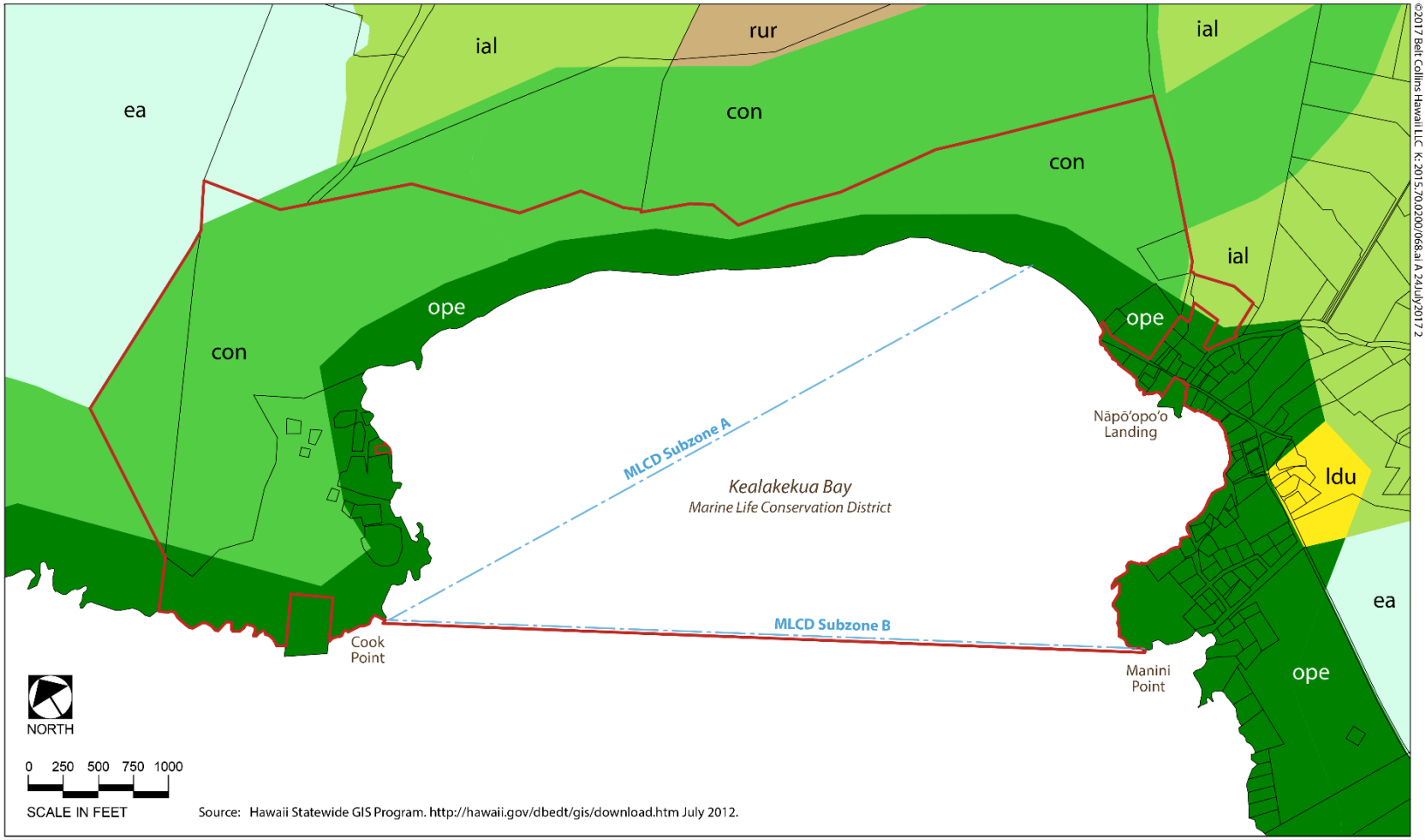

Figure 4-2: County Land Use Pattern Allocation Guide (LUPAG)

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- con–Conservation
- ea–Extensive Agriculture
- ial–Important Ag. Lands
- ldu–Low Density Urban
- ope–Open Area
- rur–Rural

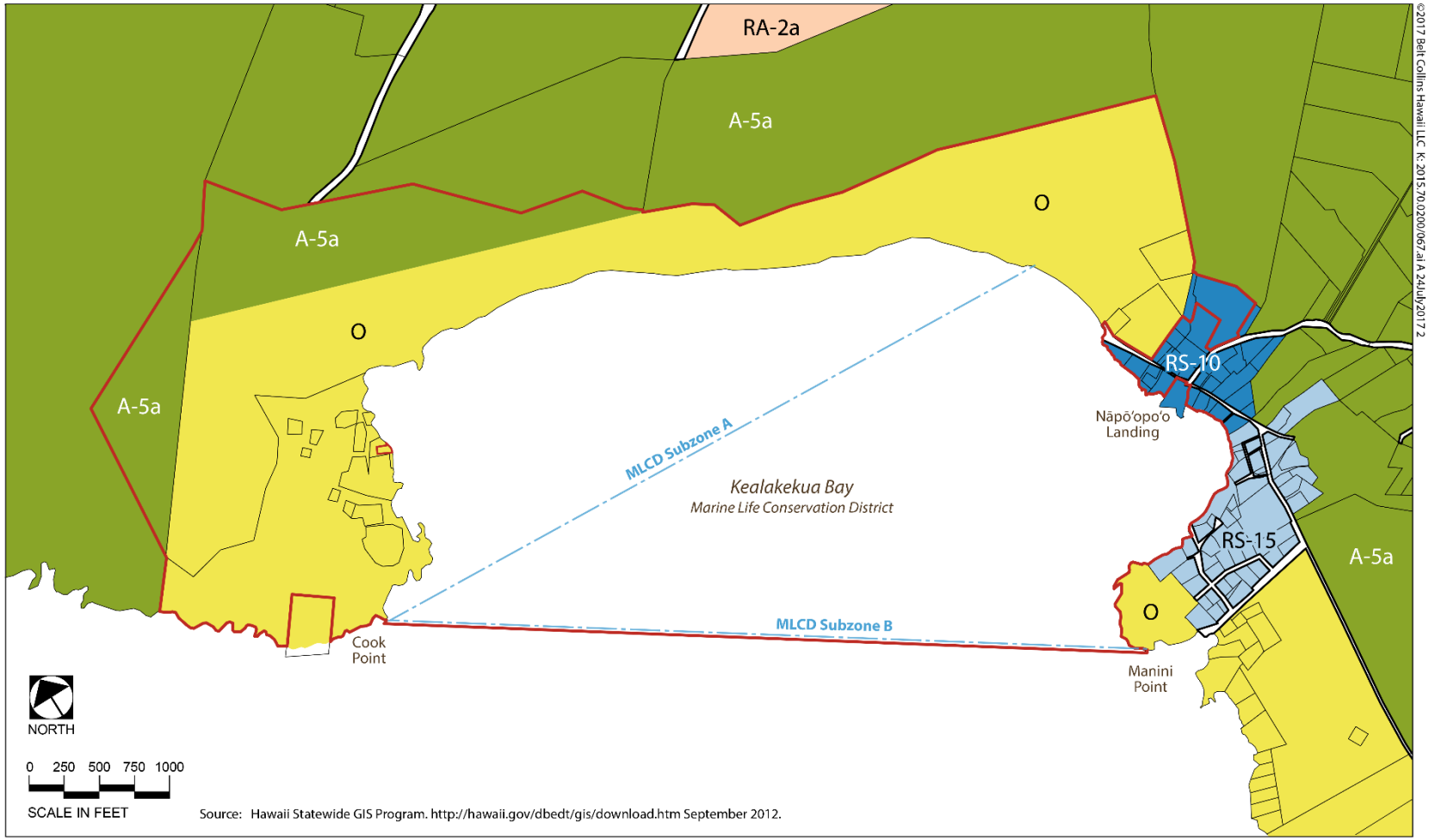

Figure 4-3: County Zoning

Kealakekua Bay State Historical Park
EIS
South Kona, Hawai'i

LEGEND

- Park Boundary
- A-5a - Ag Dist (min bldg site of 5 ac.)
- RA-2a - Res & Ag Dist (min bldg site area of 2 ac.)
- RS-10 Single - Family Res Dist (min bldg site area of 10,000 sf)
- RS-15 Single - Family Res Dist (min bldg site area of 15,000 sf)
- O - Open District

4.4.3 Kona Community Development Plan

The Kona Community Development Plan was adopted in 2008. It covers both North and South Kona districts. It emphasizes eight "guiding principles," the first of which is protection of Kona's resources and culture. It recognizes Kona's rich cultural heritage, its villages and lifestyle, and its diverse coast lines and other inspiring natural resources as unique and valued characteristics of the region.

The Plan develops strategies for urban development and transportation improvements for Kona. The area surrounding KBSHP is not densely populated, and is not discussed in those strategies.

Conformance with the Plan. The KBSHP Master Plan emphasizes protection of environmental and cultural resources, in conformance with the Kona Community Development Plan. Conformance with the specific goals and objectives of the Plan is indicated in Table 4-4.

Table 4-4: Kona Community Development Plan

RATING		
A=ACTIVELY SUPPORTS **C**=CONFORMS **F**= FAILS TO MEET GOAL **NA**=GOAL NOT APPLICABLE		
4.1	**Transportation Goal:** An efficient, safe, and attractive multi-modal transportation system integrated with land use planning that allows movement around and through Kona with minimal reliance on the automobile.	
TRAN-1	Transportation and Land Use. To organize growth on a regional level in Kona, growth should be compact and transit-supportive.	NA
TRAN-2	Street Network Connectivity. To develop a system of interconnected roads in Kona that will provide alternative transportation routes that will disperse automobile trips and reduce their length, while not compromising the through functions of arterials and major collectors with excessive intersections.	NA
TRAN-3	Multi-Modal System. To develop a multi-modal transportation system to encourage walking, biking, transit, and other non-vehicular modes of travel.	C
TRAN-4	Non-Structural Solutions to Manage Congestion. To manage peak-hour traffic using a diversity of non-structural approaches in order to reduce congestion on Kona roads, while acknowledging that building new roads is only one of many needed solutions.	NA
TRAN-5	Rural Transit. To provide a paratransit system for Kona – with emphasis on mauka areas and South Kona recognizing that a rural population cannot support an urban transit system.	NA
TRAN-6	Concurrency. To manage the timing of growth so as to avoid overloading the arterial system.	NA
CONFORMANCE DETERMINATION: The Master Plan addresses transportation problems in the area surrounding the Park, while having little relevance to the regional transportation objectives.		
4.2	**Land Use Goal:** Public policies set the foundation and framework within which the community and private sector work collaboratively towards a shared vision of concentrating growth within urban villages in North Kona, preserving rural character and agricultural lands, protecting significant natural and cultural resources, providing a range of housing opportunities, and a process to constructively, efficiently, and fairly achieve these ends with the best practices and quality.	

Table 4-4: Kona Community Development Plan		
RATING		
A=ACTIVELY SUPPORTS **C**=CONFORMS **F**= FAILS TO MEET GOAL **NA**=GOAL NOT APPLICABLE		
LU-1	Overall Growth Pattern. To identify areas where higher intensity growth areas should occur and areas where the rural character and open space along the shoreline should be preserved.	NA
LU-2	Urban Area Growth Management. Recognizing that the LUPAG Urban Area is larger than needed in order to accommodate the projected growth within the planning horizon, future growth within the Urban Area shall be encouraged in a pattern of compact villages at densities that support public transit.	NA
LU-3	Rural Area Growth Management. To preserve the rural character of the existing rural towns, the agricultural lifestyle, and the open landscape.	C
LU-4	Pro-active Design Review. To foster a spirit of excellence, creativity and collaboration among the applicants, community, and County to meet the Kona CDP goals, objectives and policies.	NA
CONFORMANCE DETERMINATION: KBSHP is part of the rural village of Nāpōʻopoʻo ; planning for the Park involves the surrounding community and includes consideration of nearby areas		
4.3	**Environmental Resources Goal:** The natural and cultural resources enhance Kona's character together with the built environment, developed in harmony with ecological principles, where residents and visitors enjoy and interact with nature through a networked system that promotes a healthy active lifestyle, and where the financial and moral commitment reflects the high level of caring that the Kona people have for the land.	
ENV-1	Managing Impacts. In order to minimize impacts on the land, make use of best management planning practices for any land-based endeavor by balancing public and private rights, and taking advantage of an ever-improving knowledge of resource sensitivity and natural processes.	A
ENV-2	Open Space Network. To develop a networked system of appropriate access to all significant open space resources that enhances opportunities for residents and visitors for recreational, educational, subsistence, or gathering purposes.	A
ENV-3	Fiscal Commitments to Open Space. To affirm the commitment that expenditures for open space management are just as important as investment in hard infrastructure (e.g., water, sewer, and roads).	A
CONFORMANCE DETERMINATION: The Master Plan works to make open space accessible to residents and visitors, minimizing impacts on the Park and the surrounding environment.		
4.4	**Cultural Resources Goal:** The multi-ethnic cultures of Kona are preserved, protected, and restored in a manner that perpetuates those cultures and all aspects of the Aloha Spirit.	
CR-1	Community-Based Program. Develop a community-based program to evaluate and to protect Kona's cultural resources.	A
CR-2	Funding of Kona Historic Resources Programs. In addition to budgeting general fund revenues, the County of Hawai'i shall seek and participate in programs that can provide resources serving to protect and enhance Kona's historic resources.	NA

Table 4-4: Kona Community Development Plan		
RATING		
A=ACTIVELY SUPPORTS **C**=CONFORMS **F**= FAILS TO MEET GOAL **NA**=GOAL NOT APPLICABLE		
CR-3	Preservation of Kanaka Maoli Culture and Island Values. Ensure that our Kanaka Maoli and island values and cultures are preserved and perpetuated.	A
CONFORMANCE DETERMINATION: The Master Plan emphasizes preservation of the cultural landscape and welcomes community participation. DSP also welcomes County participation in protecting Kona's historic resources.		
4-5	**Housing Goal:** Diversity of housing choices for all segments of the population close to places of employment and/or daily needs.	NA
4.6	**Public Facilities, Infrastructure, and Services Goal**: A community where the public infrastructure and facilities are sustainably built and maintained with innovation and pride, promote sense of community, and support a quality of life where visitors and residents feel safe, healthy, and inspired.	
PUB-1	To coordinate planning and budgeting for public facilities, the Official Public Facilities and Services Map shall identify existing and proposed public facilities.	NA
PUB-2	Public Safety. To establish a minimum level of service for public safety resources in order to identify deficiencies and plan for future growth, and to recognize that how we design our communities can help to prevent crime.	C
PUB-3	Healthcare. To ensure access to healthcare and promote a healthy lifestyle.	A
PUB-4	Growth Management. To prioritize and locate growth-supporting infrastructure (water, sewer, drainage) to support the TODs and infill development and to minimize the environmental impacts of such growth.	NA
PUB-5	Zero Waste. To maximize recycling, reuse, and reduction.	A
PUB-6	Quality of Life. To foster a sense of community and health through the public realm such as gathering places, parks, pedestrian networks, and open spaces.	A
PUB-7	Standard of Excellence. To set a standard of excellence in design, operation, and maintenance for public workers in Kona to strive toward and for the community to encourage such efforts through partnerships.	C
PUB-8	To promote the cooperation between government, citizens and organizations, and to facilitate the development of programs to strengthen families and communities.	C
CONFORMANCE DETERMINATION: The Master Plan addresses issues of waste, health care and crime recognized as potential problems in the Park.		
4.7	**Energy Goal:** Establish Kona as a model for sustainability and energy self-sufficiency**.**	
ENGY-1	To provide a multi-prong framework, including standards, innovations, incentives, and education, to reduce the dependency on imported fossil fuels through energy efficiency and renewable energy generation.	C
CONFORMANCE DETERMINATION: Following State policy, new structures will be designed to be energy-efficient.		

Table 4-4: Kona Community Development Plan		
RATING		
A=ACTIVELY SUPPORTS **C**=CONFORMS **F**= FAILS TO MEET GOAL **NA**=GOAL NOT APPLICABLE		
4.8	**Economic Development Goal:** To foster economic diversification, reduce import dependence, and increase employment opportunities that pay living wages.	
ECON-1	Strategic Public Facilities and Business Opportunities as Economic Stimuli To optimize the potential of certain public facilities and policies to stimulate ancillary economic growth that is desirable because they are environmentally clean, diversify the economy (i.e., not visitor-dependent), pay decent wages, and demand skills and intellect that challenge Kona's existing and upcoming workforce.	C
ECON-2	Strengthen and Encourage New Agricultural-Related Endeavors. To enhance existing and encourage new agriculturally-related endeavors.	NA
CONFORMANCE DETERMINATION: Development of KCSHP is planned as a sustainable economic strategy of benefit for nearby communities. .		

4.4.4 Special Management Area

Although the Special Management Areas (SMAs) originated under the federal CZM and Hawai'i CZM Programs, the counties in Hawai'i regulate and administer the SMAs in their respective jurisdictions. The Planning Department assesses all uses, activities or operations proposed in the SMA. Any activity defined as "development," pursuant to Hawai'i Revised Statutes Section 205A -22, will require an SMA (Minor or Major) Use Permit. Except for a small part of the Ka'awaloa section, the fast lands of the Park are within the SMA, as shown in Figure 4-4.

Conformance with the SMA Rules. All grading, construction, reconstruction or demolition within the SMA constitutes "development," so the creation of the proposed parking lot and interpretive center, along with any rebuilding of the Nāpō'opo'o Landing wharf and the Cook Monument wharf would be subject to County review. These activities are in support of access to a public recreation site, and are assessed in this EIS as having little or no environmental impact so long as best practices are followed to insure protection of the environment, especially the shoreline and nearshore waters (per HRS 205A-26).

Development valued at $125,000 or more in the SMA triggers a SMA Major Use Permit, issued by the Planning Commission. Presumably the new construction proposed for the Nāpō'opo'o area (parking lot and interpretive center) would need such a permit**.**

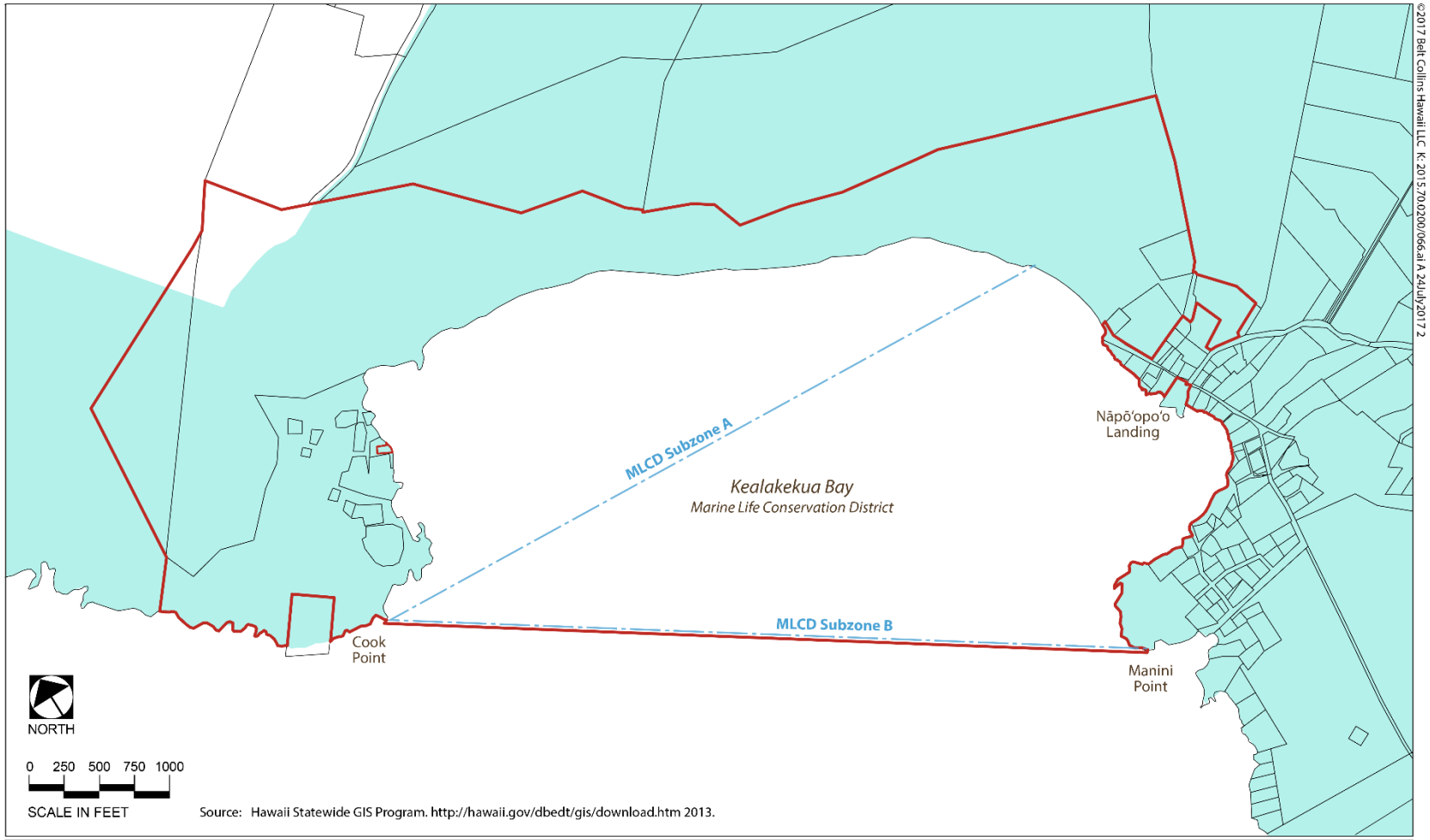

Figure 4-4: Special Management Area

Kealakekua Bay State Historical Park
EIS
South Kona, Hawaiʻi

LEGEND
Park Boundary
SMA Area

4.5 List of Required Environmental Permits and Consultations

Table 4-5 identifies consultations, approvals, and permits required for implementation of the proposed action alternatives. Additional permits and approvals may be required as a result of construction or of the environment, e.g., consultation would be required with SHPD and the Hawai'i Island Burial Council should an inadvertent discovery of human remains occur during construction.

Table 4-5: Permit, Approval or Consultation

	Permit Approval or Consultation
United States	
USFWS	Consultation in accordance with Section 7, Endangered Species Act
U.S. Army Corps of Engineers	Permit for work in a wetland (restoration of pond)
U.S. Coast Guard and U.S Army Corps of Engineers	Alterations to port facilities (at Nāpōʻopoʻo Landing and the Captain Cook Monument), installation of buoys
State of Hawai'i	
DLNR OCCL and BLNR	Conservation District Use Permit
DBEDT, Office of Planning	Coastal Zone Management Federal Consistency Review
DOH	National Pollutant Discharge Elimination System permit for discharge of storm water associated with construction activities
SHPD	Consultation and project approvals in accordance with HRS Chapter 6E-8
County of Hawai'i	
Mayor	Consultation on easement or acquisition of Beach Road
Planning Department and Leeward Planning Commission	Review of Proposed Action under SMA rules; SMA Use Permit
Public Works	Building and grading permits for new construction
Public Works and Police Department	Consultation on improvements on Nāpōʻopoʻo Road (near new Park vehicle entry) for pedestrian safety

NOTES:
BLNR = Board of Land and Natural Resources
DBEDT = Department of Business, Economic Development and Tourism
DLNR = Department of Land and Natural Resources
DOH = Department of Health
OCCL = Office of Conservation and Coastal Lands
SHPD = State Historic Preservation Division
USFWS = U.S. Fish and Wildlife Service

Chapter 5

Additional Issues

5. Additional Issues

5.1 Significance Criteria

In the EIS process, an agency must consider whether impacts are significant. DSP has considered the criteria listed in HAR 11-200-12:

- *A. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource*
- *B. Curtails the range of beneficial uses of the environment*
- *C. Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in HRS Chapter 344, and any revisions thereof and amendments thereto, court decisions, or executive orders*
- *D. Substantially affects the economic or social welfare of the community or State*
- *E. Substantially affects public health*
- *F. Involves substantial secondary impacts, such as population changes or effects on public facilities*
- *G. Involves a substantial degradation of environmental quality*
- *H. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions*
- *I. Substantially affects a rare, threatened, or endangered species, or its habitat*
- *J. Detrimentally affects air or water quality or ambient noise levels*
- *K. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters*
- *L. Substantially affects scenic vistas and view planes identified in county or state plans or studies*
- *M. Requires substantial energy consumption*

The Proposed Action will contribute to preservation of the natural and cultural resources of the Park. Best management practices identified as part of the Proposed Action will avoid potential impacts on threatened or endangered species. The scenic vistas of the Park will be retained. With more interpretive staff and programs, DSP will be able to share the history and resources associated with the view corridor. The Proposed Action will not have significant environmental impacts.

5.2 Relationship between Short-Term Uses of Environmental Resources and Long-Term Productivity

The Proposed Action does not affect the long-term productivity of the lands and waters of the Park. No narrowing of the range of beneficial uses of the environment is proposed.

5.3 Irreversible and Irretrievable Commitments of Resources

The Proposed Action involves paving over land in Nāpōʻopoʻo for a parking lot and an access route to the existing pavilion and Hikiau Heiau. The site has long been unused, and this commitment of

resources supports the preservation of the Park resources by designating visitor use areas and reducing the impact of visitation on the surrounding residential community.

5.4 Unresolved Issues

The Master Plan seeks to support both visitation and resource protection. It provides ways to access the Park sections by vessel, vehicle, or foot trails. Two issues related to access are not resolved, because they depend on collaboration between the State, the County of Hawai'i, and private parties that goes beyond the scope of the Master Plan and this EIS. The State has been in conversation with the County and will collaborate on a solution once cost elements are identified and sources of funding are identified.

First, the Master Plan provides a new access point to a parking area in Nāpō'opo'o for vehicles, and new procedures for ocean-goers to drop off and pick up kayaks at Nāpō'opo'o Landing. These steps are expected to reduce congestion on the narrow roads of Nāpō'opo'o and reduce pressure on very limited roadway and parking resources. The Master Plan identifies as an eventual objective the redirection of nearly all visitor traffic away from the end of Beach Road, so that visitor use of that road will be by pedestrians. Eventually, that road could be gated, if necessary. Nāpō'opo'o Road and Beach Road are County roadways, so the State's role is to encourage continuing County actions that could result in increased public safety along these roadways. Any change beyond restriping a few parking spaces located on State land would be made by the County, and the County and State would both consider the needs and concerns of private parties with property along those roads.

Second, hikers' access to the Park is not addressed, except by recognizing the existing access on Ka'awaloa Road.

Ka'awaloa Road is a government road but only comes under the jurisdiction of DSP at the Park boundary. Hikers reach the trail by driving to the trailhead, near the intersection of Māmalahoa Highway and Nāpō'opo'o Road, and parking nearby. Hikers tend to park off the side of the paved roadway but no official off-street parking is provided, so vehicles may crowd the roadway and, at times, block private driveways. The trailhead is the property of the County of Hawai'i but both sides of the upper road are privately owned parcels.

Residents of the area near the intersection have asked the County to provide off-road parking for hikers, but that was not included in the bypass project.[1]

All observers agree that the current situation is unsatisfactory. A trailhead parking area would reduce risks to hikers and drivers. However, a new parking lot could also encourage increased visitation along a route which has no services and which could deteriorate if traffic, especially vehicle traffic, increases.

The State will work with the County and private landowners to consider this problem and seek a solution.

Finally, the creation of a dolphin rest zone involves not only DSP's role as steward of KBSHP but also NOAA's responsibilities to implement the Marine Mammal Protection Act. NOAA does not currently

[1] "Residents: Parking, facilities needed Captain Cook trailhead." *West Hawai'i Today,* March 12, 2015, posted at http://hawaiitribune-herald.com/news/local-news/residents-parking-facilities-needed-captain-cook-trailhead.

propose any area restrictions for the protection of spinner dolphins. This component, earlier proposed but no longer part of the Proposed Action, can only be implemented with the close collaboration of NOAA.

Chapter 6

Public Input and Consultation

6. PUBLIC INPUT AND CONSULTATION

6.1 Public Input in the Master Plan Process

The Master Plan for KBSHP has been shaped by repeated public discussions over several years. As described in the Master Plan, public meetings were held in 2009, 2010, and early 2016. Less formal discussions with boaters and Nāpōʻopoʻo residents occurred in mid-2015, and a talk-story session was held at Nāpōʻopoʻo in August 2016. The EISPN was published in April 2017. A second talk-story session was held on April 14, 2018 after publication of the Draft EIS to share information about the EIS and hear stakeholders' concerns.

A survey was conducted in 2016 to learn in some detail about stakeholders' views of the Park and attitudes towards various options for preserving, managing, and making changes to the Park. The survey questions and response are in the Master Plan's Appendix D.

In the course of outreach for the Master Plan, information about DLNR's initiative and about alternatives under consideration were posted on the DLNR webpages.[1]

A list of more than 300 e-mail addresses has been compiled from meeting attendees, holders of Kealakekua Bay vessel permits, and other interested parties. This list was used to alert interested parties of the August 2016 gathering and publication of the EISPN and draft EIS.

6.2 Agency Consultation for this EIS

Consultations during the Master Plan development have involved federal, State and County agencies. These consultations have involved phone conversations, interviews, and a group meeting with County staff. Table 6-1 lists consulted parties if they have responded in writing. Written comments in response to the EISPN and DEIS are included in Appendices H and I.

Table 6-1: Agency and Public Comments

Respondents and Distribution	Received EISPN	Comment on EISPN
UNITED STATES		
U.S. Army Corps of Engineers (USACE)	x	
U.S. Coast Guard (USCG)	x	
U.S. Fish and Wildlife Service (USFWS)	x	
National Oceanic and Atmospheric Administration (NOAA):		
National Marine Fisheries Service (NMFS)	x	
Office of Protected Resources	x	

[1] For DLNR's aims, see http://dlnr.hawaii.gov/dsp/announcements/kealakekua-bay-state-historical-park-planning-effort-restarts/; for footage of the January 2016 open house, see http://dlnr.hawaii.gov/blog/2016/02/02/nr16-021/ for survey results, see http://dlnr.hawaii.gov/dsp/parks/hawaii/kealakekua-bay-state-historical-park/

Respondents and Distribution	Received EISPN	Comment on EISPN
National Park Service (Puʻuhonua o Hōnaunau)	x	x
National Park Service (Ala Kahakai)	x	
Environmental Protection Agency (EPA)	x	
Federal Aviation Authority (FAA)	x	
U.S. House of Representatives, Rep. Tulsi Gabbard	x	
U.S. Senator Mazie Hirono	x	
U.S. Senator Brian Schatz	x	
STATE OF HAWAIʻI		
Department of Business, Economic Development and Tourism (DBEDT):		
Office of Planning	x	x
Department of Hawaiian Home Lands (DHHL)	x	
Department of Health (DOH):	x	
Environmental Planning Office		x
Office of Environmental Quality Control		x
Department of Land & Natural Resources (DLNR):	x	
Division of Aquatic Resources		x
Division of Boating and Ocean Recreation		x
Division of Forestry and Wildlife		x
Engineering Division		x
Land Division		x
Office of Conservation and Coastal Lands		x
State Historic Preservation Division	x	x
Department of Transportation (DOT)	x	
Office of Hawaiian Affairs (OHA)	x	
University of Hawaiʻi at Mānoa, Environmental Center	x	
State Senate, District 3, Senator Josh Green	x	
State House of Representatives, District 5, Representative Richard Creagan	x	
COUNTY OF HAWAIʻI		
Mayor, County of Hawaiʻi	x	
Department of Environmental Management	x	
Fire Department	x	
Department of Civil Defense	x	
Department of Parks and Recreation	x	
Department of Planning	x	x
Department of Public Works	x	

Respondents and Distribution	Received EISPN	Comment on EISPN
Department of Research and Development	x	
Department of Water Supply	x	x
Police Department	x	x
County Councilmember, South Kona, Maile David	x	
LIBRARIES AND NEWS OUTLETS		
Hawai'i State Main Library	x	
Kealakekua Public Library	x	
Kailua-Kona Public Library	x	
University of Hawai'i Library	x	
Honolulu Star-Advertiser	x	
Hawai'i Tribune Herald	x	
West Hawai'i Today	x	
COMMUNITY GROUPS, STAKEHOLDERS AND NEARBY LANDOWNERS		
Ho'ala Kealakekua	x	
West Hawai'i Fisheries Council	x	
Kamehameha Schools (West Hawai'i office)	x	
Hōkūli'a Development Company	x	
Christopher Norrie	x	
Gordon Leslie	x	
Bob Masuda	x	
Lee Ann Leslie	x	
Michael Matsukawa	x	
Mendy Dant	x	x
Bill Zabolski	x	x
Claudia Merrill	x	
Frank Carpenter	x	x
Geoff Hand	x	
Iwa Kalua	x	
Oceanside 1250	x	
Consul General of Australia, Honolulu	x	
Embassy of the United Kingdom, Washington D.C.	x	
British Consulate, Los Angeles:		x
Sally B. Baughman		x
Ken Beilstein		x
Elizabeth M. Crabtree		x
Alayna Debina		x

Respondents and Distribution	Received EISPN	Comment on EISPN
Steve Johnson		x
Swani Khalsa		x
Elizabeth Kilpatrick		x
Ella Kilpatrick Kotner		x
Usha Kilpatrick Kotner		x
Philip Koszarek		x
Ben Lipman		x
Steve Marshall		x
William Morris		x
Ken Pastore		x
Heather Reynolds, Esq.		x
Lanny Sinkin		x
Brock Stratton		x
Mavoureen Wilcox		x
Steve Wilcox		x
Anonymous (Name withheld by request)		x
All persons on the list of stakeholders who have attended Park planning meetings since 2015 or commented during the process or are vessel permit holders were notified of the publication of the EISPN and DEIS and invited to comment.		
UTILITIES		
Hawai'i Electric Light Company	x	x
Hawaiian Telcom	x	
Oceanic Time Warner Cable	x	

6.3 Public Input on the EIS

The Draft EIS was submitted for publication in February 2018 and published in March 2018. It was sent to all parties on the above distribution list. E-mail announcements went to all parties on the stakeholder list. A community meeting to learn of community reactions to the Draft EIS was held at Konawaena Elementary School on April 14, 2018. (Announcements went to all parties on the stakeholder list; the meeting was also announced on the DLNR website.) Participants were urged to provide written comments on the DEIS. Those comments are included in Appendix I.

Major themes of that meeting were:

- **Respect for continuing cultural practices and the cultural significance of KBSHP**. Several speakers found the DEIS and the CIA unsatisfactory because they did not recognize ongoing cultural practices, notably prayers and astronomical observation at Hikiau Heiau. They urged DSP to provide a more complete record, and wanted the establishment of a cultural advisory group.

- **Measures to regulate human-dolphin interactions**. Some speakers objected to the proposed buoys around the dolphin rest zone; others argued that the zone was not correctly delineated.

Since that meeting, DSP has withdrawn the proposal to demarcate a dolphin rest zone. Next, a Cultural Advisory ʻOhana has been formed. DSP anticipates continuing consultation with the group on management and interpretive strategies for the Park and the future implementation of park interpretive programs.

Participants in the April 2018 meeting who provided their names are listed in Table 6-2. Written comments, delivered at that meeting, e-mailed or mailed to DLNR or Belt Collins, were received from the parties listed in Table 6-3. Written comments and responses are included in Appendix I.

Table 6-2: Cultural Advisory ʻOhana – April 2018 Meeting Participants

Name		
Aaron Brown	Harlan Miyashi	Maureen Datta
Alfredo Gormezano	Hitomi Kuribayashi	Melody Carvalho
Anela Bonafede	Isabel Godfray	Mike McCann
Anna Bonas	Jacob Lindsay	Monica Ferreira
Anne Melrose	James Prattas	Nancy Pisicchio
Anthony Casciato	Jim McManus	Paul and Debra Chapman
Aruls Upites	JoAnn Prattas	Peter Robin
Aultr Reeves	Joellen Salisbury	Phil Henson
Barbara Kossow	John Mitchell	Pohai Wessel
Brenda Ford	June Van Leynseele	Rae Godden
Brock Stratton	Karen Anderson	Richard Crealan
Cameron Miculka	Kawahi Nguyen	Rusty Navin
Carol Borfoot	Kiwina De Soto	Ruthie Robertson
Catherine Sacan	Krista Johnson & Chuck Leslie	Shane Palacet-Nelsen
Chad Burt	Lawrence Alu	Stathis Prattas
Charles Flaherty	Leimana Damate	Susan Kim
Conall & Cherish Ravenscaft	Lloyd Walker	Thomas Hickox
Dale Viloria/Hoʻopiʻi	Manu Powers	Una Greenaway
Dru Kanuha	Marilyn Crealan	Usha Kilpatrick
Frank Carpenter	Martha Donney	Wally Nakamoto
Gerry Palacat	Mason Myrona	
Gordon Leslie	Mattson Davis	

Table 6-3: Parties Commenting on the Draft EIS

Federal Government
USACE
USGS

State of Hawai'i
DAGS
DHHL
Dept of Health EPO
OHA
Office of Planning

County of Hawai'i
Office of the Mayor
Planning Department
Department of Public Works
Department of Water Supply

Stakeholders

Karen Anderson	Alfredo Gormenzano	Jean Kingsley Love
Kristina Anderson	Gonnie Heggen	Kelly Mankin
Anonymous	Phil Henson	Scott Marshall and Deanna Lin
Elizabeth Biritz	Tommy Hickcox	Kate Martel
Anna Bonas	Stacy Himmel	Shane Akoni Palacat-Nelsen
Ru Carley	Mike Jacobson	Malcolm Nicolson
Claire Elizabeth	Pia Jacobsson	Saxon Parks
Alan D. Elf	Kathryn Jensen	Alyson Provax
Elizabeth	Jesse Kekoa Kahoʻonei	Anne Provax
Kanani Enos	Alexandra Kennedy	John Provax
Charles Flaherty	Crystal Kia-Paul	Cherish Ravenscraft
Bob Flatt	Elizabeth Kirkpatrick	Conail Ravenscraft
Margot Fuchs	Dennix Klimke	Catherine Sagan
Mirabai Galashan	Phillip Koszarek	Joellen Salisbury
Shawn Gallaway	Laksmi Ditton	Cherokee Shaner
Rae Godden	Milton Leslie	Lloyd Walker

6.4 Community Interviews and Ethnography

In 2019, Nohopapa Hawai ʻi prepared a community ethnography report which included additional community interviews within Kaʻawaloa and Kealakekua Ahupuaʻa, Kona Moku, Hawaiʻi Mokupuni. The purpose of the ethnography and community interviews is to obtain current and historical cultural practices for the KBSHP area, including but not limited to, cultural practices, spiritual practices, interpretation and utilization of heiaus, fishing practices and cultural use of natural resources. The interviews were conducted in December 2018 and the ethnography report is included in Appendix J.

Chapter 7

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KEALAKEKUA BAY STATE HISTORICAL PARK MASTER PLAN IMPROVEMENTS ENVIRONMENTAL IMPACT STATEMENT

Keōpuka, Ka‘awaloa and Kealakekua,
South Kona District, Hawai‘i County

APPENDICES A - J

October 2020

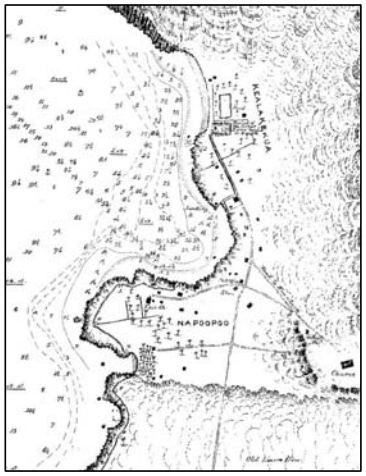
Appendix A

Historic Sites and Cultural Resources

APPENDIX A
HISTORIC SITES AND CULTURAL RESOURCES



1779 map by Henry Roberts



1883 map by George Jackson

1. GEOGRAPHICAL AREAS

The park sections identified for planning and management correspond rather closely with the geography of the park and the different areas of cultural occupation. In 1779, Lt. King of the Cook expedition recorded four "villages" of about 80 houses each along the 3 miles of coastline at Kealakekua Bay (1779 map by Henry Roberts). He estimated about 2,000 Hawaiians living at Kealakekua based on six people to each house.

Kekua (Nāpōʻopoʻo): At contact, the religious center at Nāpōʻopoʻo was defined by the Great Wall that encompasses Hikiau Heiau and Helehelekalani Heiau. This area was referred to as Kekua in the journals and maps from the Cook expedition. An 1883 map by Jackson indicates Kealakekua referred to the lands around Hikiau Heiau and Napoʻopoʻo referred to the lands at Manini Point. Today, several features of Kekua remain, including the heiau, Great Wall, house platforms, and pond. Post-contact activities within the Kekua area are evident in the rock walls and pumphouse complex from the 1930s. Outside the Kekua area but within the Nāpōʻopoʻo Section are other sites from the post-contact period, including the foundation of the former coffee mill (ca. 1920), concrete loading docks/chutes from the ranching era, and stacked rock walls associated with the parcel boundaries (Fig. A.1). Being adjacent to Pali o Manuahi, the area is susceptible to slopewash, flooding, rockfall, and landslides which may affect the preservation of cultural deposits. The site is also subject to tsunami and Hurricanes Iwa (1982) and Iniki (1992) have illustrated how these natural events can alter Nāpōʻopoʻo Beach and the cultural resources along the shoreline.

The ongoing siltation of the pond from both slopewash and tsunami/high surf further demonstrates the need for additional archaeological investigations within Kekua to assess the impacts of all these changes from natural events and historic land use.

Kaʻawaloa: The archaeological sites of Kaʻawaloa reflect the occupation of this coastal flat from pre-contact times until approximately 1940. At the time of Captain Cook's arrival in 1779, Kaʻawaloa was one of the seven chiefly residential compounds in Kona and home to some of the island's most important ruling chiefs. At least two (2) heiau are recorded on Kaʻawaloa Flat, as well as Puhina o Lono Heiau on the slopes above. During the Māhale of 1848, there were 13 Land Commission Awards (LCA) and many correspond the rock wall enclosures mapped by Bishop Museum in 1969-1970. The archaeological mapping of the uplands of Kaʻawaloa in 1968 (Soehren and Newman) documented remnants of the Kona Field System, as well as three (3) historic roads/trails (Fig. A.2). The archaeological mapping of a portion of Kaʻawaloa Flat in 1969 and 1970 (Hommon and Crozier) indicates a well-preserved archaeological complex of sites that reflect settlement in the 1800s with some features thought to be from the pre-contact period (Fig. A.3). Further archaeological research will be needed to identify the pre-contact sites and assess the degree to which the pre-contact sites were modified during the post-contact period. Currently, Kaʻawaloa Flat is covered by a dense growth of kiawe trees which creates some protection but also threatens to damage sites and disturb subsurface cultural deposits.

Pali Kapu o Keōua: The name of the pali alongside Kealakekua Bay comes from Keōua Kalanikupuapaʻikalaninui, the 18th century chief whose bones were deposited there. The literal translation is Sacred Cliff of Keōua. In 1829, the pali was recommended as a safe repository for the remains of ancient chiefs by aliʻi Kapiʻolani and Queen Kaʻahumanu because of its isolation and difficulty in accessing the many lava tubes on the cliff face. Unfortunately, for more than a century, vandals and curiosity-seekers have been able to remove remains from some of these caves. Local residents also believe the caves were damaged by recent earthquakes that sheared off sections of the pali face and created landslides that covered the openings to other caves. At the southern end, the pali turns inland and is known as Pali o Manuahi. Located atop the pali are remnants of the Kona Field System that extends up the slopes of Kaʻawaloa, The pre-contact system of garden plots with stone walls and earthen berms has been impacted by later use of this area for the cultivation of pineapple and coffee, and ranching activities. The northern portion of the fieldsystem on the pali was part of the archaeology map prepared in 1968 (Fig. A.2).

2. SOURCES OF INFORMATION

Kealakekua is significant as one of the best documented sites in Hawaiʻi at the time of Western contact, albeit this documentation is largely from the Western perspective and found in references such as the explorer's journals, maps, and drawings. Research conducted for the planning of Kealakekua Bay State Historical Park has addressed a

diversity of resources, including written literature, land records, historic photographs, oral histories, and archaeology.

2.1 Literature Surveys

1. The Division of State Parks contracted with Carol Silva in 1978 to compile a bibliography of historic resources related to Kealakekua Bay. This contract produced a listing 206 documents pertaining to Kealakekua Bay with copies of selected documents. These files are stored at the Division of State Parks Honolulu Office.

2. An expanded bibliography was compiled in 1986 (Hommon 1986). This bibliography includes written sources (492 documents), graphic sources (131 documents), and indexes (38 documents).

3. The bibliography was updated in 1991 by the Division of State Parks (Smith 1991).

2.2 Oral History Interviews

1. The Division of State Parks contracted with the Multi-Cultural Center in 1977 to collect oral histories from residents of Kealakekua Bay. L. Kimura interviewed fourteen individuals, all current or past residents of the area. Tapes and transcripts of the interviews were deposited at the Division of State Parks (Kealakekua Oral History Project, Hawai'i Multi-Cultural Center).

2. Additional oral histories were recorded in 1980 by the Ethnic Studies Program, University of Hawai'i. The interviews included 26 individuals living in the Kealakekua Bay area. Transcripts of these interviews are published by the Ethnic Studies Program, University of Hawai'i 1981).

3. As a part of this Master Plan/EIS contract, Maria Orr of Kaimipono Consulting prepared a Cultural Impact Assessment. In 2009, Ms. Orr collected oral histories of eleven residents that either grew up, live, or do volunteer work in Ka'awaloa, Kealakekua, or Nāpō'opo'o. Transcripts are included in the Master Plan.

2.3 Land Record Research

In 1988, the Division of State Parks contracted Patricia M. Alvarez to conduct a comprehensive study of the land records for Ka'awaloa (Alvarez 1990). Title documents were examined for thirteen (13) Land Commission Awards (LCA) from the Māhele of 1848-1850 up until the acquisition by the State of Hawaii in the 1970s. Nine (9) other parcels located on Ka'awaloa Flat were also researched. A number of LCA were awarded at Nāpō'opo'o but only two (2) were within the park boundaries.

Land Commission Awards and Testimonies

The Great Māhele of 1848 and the subsequent kuleana laws provided for the division of Hawai'i's land among the royal family, the government, Hawai'i's chiefs and commoners. Initially, all lands were turned over to the king who then entertained the claims, first of the

chiefs and then of the commoners to lands which they traditionally lived on or farmed. Successful claimants were awarded title to their land through a Land Commission Award (LCA), and subsequently confirmed by Royal Patents (RP). These land awards provide valuable information about land use, inheritance practices, kinship, agriculture and many other aspects of life in the region. At the time of the Māhele, much of the Ka'awaloa and Kealakekua ahupua'a were conveyed to Ane Keohokalole and her husband Caesar Kapa'akea in the form of LCA 8452 (March 30, 1853). Chiefess Keohokalole claimed that her family held the land "from very ancient times". It was a large parcel of land, stretching up the side of Mauna Loa volcano. On Ka'awaloa Flat, she was awarded four small 'āpana which contained a coconut grove, a pond, and the household lots of former chiefs. Her konohiki Awahua was awarded two 'āpana in close proximity to her own; these later became the property of Princess Miriam Likelike and her husband Archibald Cleghorn. At the Flat, the government retained most of the land for itself. In the Royal Patent which accompanied the award, the king added a significant reservation for the government and "reserving the flat land makai and the harbor." No sooner had Kapa'akea and Keohokalole acquired title to their lands than they were forced by their financial circumstances to sell them. The entire ahupua'a of Kealakekua was sold to Stephen Hastings Atkins, a British subject, for $2,000 while the ahupua'a of Ka'awaloa was sold to Reverend John D. Paris, Sr. in 1859 for $3,000. Paris would also purchase the ahupua'a of Kealakekua from Atkins in 1863. A more detailed discussion of the LCA is provided at the end of this appendix.

Once part of the Kona Field System, Pali Kapu o Keōua includes portions of Kealakekua and Ka'awaloa ahupua'a. These upper kuleana were considered of little value in 1848 but eventually became the most valuable part of the ahupua'a. The entire area was granted to Chiefess Ane Keohokalole in the Māhele but owned by Reverend Paris by 1863 and converted to other agricultural crops and later pasture for ranching.

2.4 Archaeological Surveys and Excavations

Early archaeological work in the Kealakekua area focused on mapping the Hikiau Heiau Complex (Stokes 1906) and the sites of Ka'awaloa Flat (Reinecke 1929-1930). More comprehensive surveys occurred in conjunction with establishment of the park in the late 1960s. Initial surveys atop Pali Kapu o Keōua and the slopes above Ka'awaloa Flat in 1968 identified remnants of the Kona Fieldsystem (Soehren and Newman, 1968). Mapping of the sites on about two-thirds of Ka'awaloa Flat by Bishop Museum in 1969-1970 illustrated the wealth of well-preserved archaeological sites in this section of the park (Hommon, 1969; Hommon and Crozier, 1970). In 1984, State Parks archaeologists surveyed the Nāpō'opo'o Section of the park (Yent, 1985). A topographic survey in 1986 mapped many of the sites and provided a more accurate map of site distribution relative to the topography and park boundaries (Inaba Engineering, Inc.).

Archaeological test excavations were initiated in 1977 when Hommon placed with two units around the pond to the north of Hikiau Heiau. State Parks archaeologists conducted limited testing in 1985 (Yent, 1985). These excavations indicated the presence of subsurface cultural deposits with artifacts from both the pre-contact and post-contact periods. More

extensive excavations to the south of Hikiau Heiau were conducted in 1988 when the restroom was relocated and in 1999 when the park pavilion was reconstructed (Fig. A.4). This area was previously disturbed by the original grading for a park in 1951 and there was a mixing of the pre-contact and post-contact layers and materials (Yent et al. 2000). Excavations at Kaʻawaloa have been limited to three units placed between ʻĀwili and the Captain Cook Monument in 2007 by State Parks archaeologists before delineating a visitor path (Maigret et al. 2007). These excavations identified a post-contact deposit.

State Parks archaeologists continue to monitor the condition of the archaeological sites of Nāpōʻopoʻo and Kaʻawaloa. Some vegetation removal projects have been conducted with volunteers such as the Hale Mua Cultural Group of the Royal Order of Kamehameha I at Kaʻawaloa (2007-2012) and Hoʻala Kealakekua in the area around Hikiau Heiau (2015 to present). Several vegetation removal plans have been prepared for this work in the Nāpōʻopoʻo Section (Yent 2003, 2006, and 2016). In 2007, State Parks conducted a more intensive survey with test excavations at Hanamua, Kaʻawaloa Flat in advance of considering a limited number of commercial user permits to allow kayak tour operators to land and conduct tours there (Maigret et al. 2007).

3.0 INVENTORY OF HISTORICAL SITES

The Park is within the Kealakekua Bay Historical District (State Site Number 50-10-47-7000), a 375-acre area around Kealakekua Bay that was listed on the National Register of Historic Places in 1973 (Martin 1973) (Fig. A.5). The significance of Kealakekua falls into 4 categories (NRHP, 1973):

1. Preservation of the material remains. The wealth of archaeological sites at both Kaʻawaloa and Nāpōʻopoʻo represent some of the most intact remains of a former royal center. These remains include both surface structures and subsurface cultural deposits.

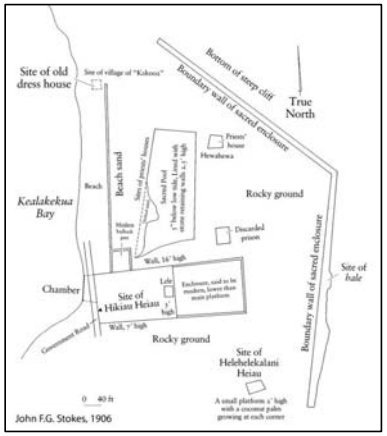
2. Abundance of written sources. As a natural harbor, Kealakekua was a favorite stopping point for many explorers, missionaries, and travelers, many of whom recorded the area in writings, drawings, and maps.

3. Continuity of cultural traditions through time. The sites at Kealakekua reflect temporal continuity, as well as, changes in land use from a royal center in the pre-contact period to a subsistence based shoreline community in the historic period.

4. Occurrence of significant cultural and historical events and association with important Hawaiian persons. As a royal center, Kealakekua is associated with several renown rulers, such as Kalaniʻōpuʻu and Kamehameha. Kealakekua is also important as the site of Captain Cook's arrival and death in 1779.

The district contains multiple archaeological and historic sites, including the Hikiau Heiau Complex and the sites at Kaʻawaloa. Refer to Tables and Figures at the end of Appendix A.

3.1 Traditional Hawaiian Sites (Pre-1779) of Nāpōʻopoʻo



Hikiau Heiau: The best known of the religious sites at Kealakekua, the site complex was initially mapped by John Stokes in 1906. The heiau served, at various times, as the site both for fertility ceremonies dedicated to the god Lono and for ceremonies, including human sacrifice, dedicated to the god Kū. This heiau was the center of Makahiki ceremonies at the time of Western contact and was the temple where Cook was first honored as the returning Lono. The dimensions of the "great temple" were recorded as 50 yards by 30 yards, a raised stone platform enclosed by a palisade of wooden posts. Due to natural collapse and damage from tsunami, the heiau has been restored and altered from its original form. Recent repairs/ reconstruction of Hikiau Heiau occurred in 1917, 1960, 1977, 1979 and 1993. The earliest work is poorly documented, sometimes carried out by concerned individuals or County of Hawaiʻi park crews. A report of repairs was submitted to the Division of State Parks in 1979 (Roy), and 1993 (Yent). Hikiau Heiau is part of the Hikiau Heiau Complex which is designated on the State Inventory of Historic Places as 50-10-47-1963. It was originally listed as a State Monument, most likely in the 1960s. However, nomenclature for heiau was revised in 2003, approved by BLNR.

Helehelekalani Heiau: As part of the priestly compound, this small platform structure functioned as the training site for priests. High priest Hewahewa and the priests of Lono-i-ka-makahiki are associated with this site. This is the heiau where Henry ʻŌpūkahaʻia was in training for the priesthood with his uncle Pahuʻa before leaving for New England and converting to Christianity. This heiau is located approximately 250 feet southeast of Hikiau Heiau (Stokes, 1991) and was relocated during the 1985 archaeological survey.

Great Wall: This massive wall defines the mauka boundary of the priestly compound. The north-south wall measures 2 meters high, 5 meters wide, and 160 meters long.

Pond: This brackish water pond behind the sandy beach and north of Hikiau Heiau was a central feature of the priestly compound. The priests' houses were situated alongside this pond amongst a grove of coconut trees (Ledyard, 1963:110). The pond was recorded as a bathing place. A stacked rock retaining wall defines the perimeter of this pond that measures approximately 75 by 50 meters. The bottom of the pond is said to be rock-lined. The pond has been largely filled in by flooding and tsunami during the 20th Century. Informants talk of collecting ʻōpae from the pond but there is no evidence that this pond

was ever used as a fishpond. Later structures, such as a stone prison and a residence, were also built on the mauka side of the pond.

Hewahewa's House Site (into contact period): This stone platform off the northeast corner of the pond is labeled as Hewahewa's house platform by Stokes (1991). Hewahewa was the high priest for Kamehameha and associated with Nāpōʻopoʻo during the time of Kamehameha and earlier.

Kamehameha I Residence (into contact period): The "royal apartments" in 1793 consisted of several houses surrounded by a stone wall in a large square adjacent to Hikiau Heiau. As described in historical accounts, the largest, about 30 feet in length, was Kamehameha's eating house. Another of similar size served as the queen's eating house. Other structures were a sleeping house and a structure used by court attendants. This site has been altered by the construction of a prison, residence, pumphouse, and related ranching activities around the pond.

3.2 Traditional Hawaiian Sites (Pre-1779) of Kaʻawaloa

Heiau (3) on Kaʻawaloa Flat: Two heiau are documented along the southwestern shoreline of Kaʻawaloa Flat but there is little information available about them. Both structures have been damaged significantly by high surf along this coast. A large stone platform in the central portion of Kaʻawaloa Flat may also have been a heiau.

Puhina o Lono Heiau: This heiau on the slope above Kaʻawaloa Flat is where a chief's body was prepared for burial. Captain Cook's body was brought here upon his death. In 1823, Ellis described the site as "a small enclosure, about 15 feet square, surrounded by a wall 5 feet high; within is a kind of hearth, raised about 18 inches from the ground and encircled by a curb of rude stones". The walls of the enclosure have been altered historically by the installation of a post and plaque in 1825 by Lord Byron and by the gate and plaque placed by the Historical Society in 1928.

Kalaniʻōpuʻu's House Site: Located at Kaʻawaloa near the shore, it is believed to be located at ʻĀwili and within LCA 8452.2.

'**Umi's Well/'Umi's Trail**: This well is a rock-lined pit dug below ground with steps down to the water level. The name first appears on the 1928 USGS map. May be named after the chief Keawe-nui-a-'Umi who lived at Kaʻawaloa. 'Umi's Trail is named after a sixteenth century Hawaiian chief and formed part of the boundary of the Kaʻawaloa ahupuaʻa.

Hāliʻilua: This pond was created by constructing a stacked rock wall contiguous to the pāhoehoe shoreline. The pond is spring-fed making the water brackish. Said to have been reserved for the chiefs as a bathing place (Kalokuokamaile, 1933). Named after Manuahi's wife (Kelsey, n.d.).

House platforms: Numerous platforms are found along the southern shoreline. These platforms are of an undetermined age.

3.3 Traditional Hawaiian Sites (Pre-1779) of Pali Kapu o Keōua

The pali took its name from the 18th century chief Keōua Kalanikupuapaʻikalaninui whose bones were deposited there. The literal translation is Sacred Cliff of Keōua.

Kona Field System: Remains of this pre-contact agricultural system consist of a series of rock field boundaries above the pali face and extending mauka. Portions of the system have been impacted by later use of this area for pineapple or coffee cultivation and for stock raising activities.

Burial Caves: In 1829, Chiefess Kapiʻolani and Queen Kaʻahumanu recommended the pali as a safe repository for the remains of ancient chiefs because of its isolation and difficulty in accessing. Both women were converts to Christianity and they removed the bones of almost two dozen chiefs from their resting places at Hale o Keawe at Hōnaunau and Hale o Līloa in Waipiʻo to prevent the worship of the bones by chiefs who were resisting the new foreign influences. These bones were moved in 1858 at the order of King Kamehameha IV, and finally laid to rest in the Royal Mausoleum in Nuʻuanu, Oʻahu. The caves continued to be guarded by local residents. Any research of the caves must take into account the values and beliefs of the local Hawaiian community.

Pali Trail: In one translation, the name Kealakekua means "the way of the gods" or "the road of the Gods" and this name is said to derive from the path linking the settlements of Nāpōʻopoʻo and Kaʻawaloa on opposite sides of the bay. Apparently, it was used to carry idols in regular processions to Kaʻawaloa. (Only one account records a processional trail of several people carrying torches along a trail at the base of Pali Kapu o Keōua). This trail was in use in the late 1700s, was later employed to bring cows down to the wharf for shipping, and portions of it remain today.

3.4 Historic Sites (Post-1779) of Nāpōʻopoʻo

Wharfs:

Nāpōʻopoʻo Wharf. Located at the Nāpōʻopoʻo Landing site, this wharf was the center of shipping for Kealakekua Bay following its construction in 1894. Nāpōʻopoʻo Road was laid out in 1895 to connect the upper road (Māmalahoa) to the wharf. In 1912, it was rebuilt of permanent concrete construction, and included a large (120' x 60') open frame shed with corrugated iron roofing. The concrete wharf at Nāpōʻopoʻo dwarfed the old wooden pier at Kaʻawaloa, and business in the bay moved to the latter facility. Alongside the wharf were the Hackfeld store (owned by H. Hackfeld and Co., later renamed American Factors), a lumberyard, and a warehouse. The steamer Humuula arrived twice a week with mail, news and cargo, and its arrival was an anticipated event for the area.



Napo'opo'o Wharf, 1917 (Bishop Museum)



Gaspar Coffee Mill, ca. 1930

Buildings:

Gaspar Coffee Mill. Originally built by Amfac, this coffee mill was owned and run by John Gaspar, circa 1920. A photograph of the coffee mill indicates a large wooden structure. The concrete foundation of the mill remains (TMK: 8-2-04:1).

Nāpō'opo'o Prison. An 1890s photograph and an 1892 map show a stone and masonry prison building on the mauka side of the pond, reportedly built by Kapi'olani. Land records indicate that the prison was built circa 1850 and used until the late 1870s. The prisoners built the prison, planted gardens in the area, and later grew pineapples for commercial use. There is no archaeological evidence of this structure on the surface.

McFarlen's House. Another photograph shows that the prison was replaced by a house around 1920. This house was built by McFarlen, manager of the Captain Cook Coffee Company. There is no archaeological evidence of this structure on the surface.

Hackfeld General Store. Hackfeld was a German shipping company based in Honolulu that built a store at Nāpō'opo'o Landing to facilitate the shipping business at Kealakekua Bay in the late 1800s. A photograph of the store indicates a 2-story wooden building that no longer is standing.



McFarlen's House, ca. 1920 (Bishop Museum)

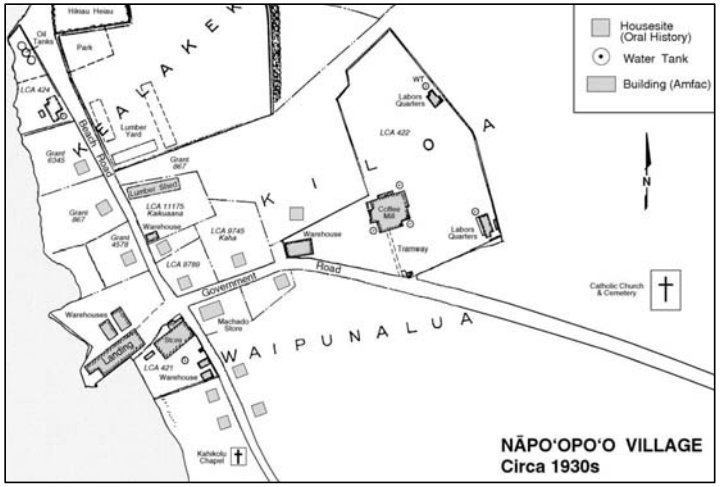


Hackfeld Store at Wharf, ca. 1930 (Bishop Museum)





Ranching activities on Nāpō'opo'o Beach, ca. early 1900s (Kona Historical Society)



1930s map of Nāpō'opo'o showing location of lumberyard, stores, and coffee mill.

Walls & Ranching Features:

Pumphouse by pond. A pumphouse was built on the mauka side of the pond around 1930 to pump water from the pond to the top of the pali for the cattle. This corrugated metal structure with rock and mortar lined pits/wells remain intact but use was discontinued when the County water lines were installed.

Ranching Walls. Stone walls were built as holding pens for cattle at Nāpō'opo'o before being loaded onto ships in the bay. Most of these walls on the shoreline have been destroyed by tsunami and high surf.

Property Boundary Walls. Stacked rock walls have been built to delineate many of the parcel boundaries by previous land owners.

Loading Docks. Concrete loading docks with chutes were constructed adjacent to Nāpōʻopoʻo Road to load cattle onto trucks.

Monuments:

Henry ʻŌpūkahaʻia (monument). Trained as a Hawaiian priest, a young man named Henry ʻŌpūkahaʻia journeyed to New England in 1809 and was instrumental in bringing American missionaries to Hawaiʻi. Although he died of typhoid fever at age 26 in New England, his body was returned to the Islands in 1993. A monument to him was placed at Hikiau Heiau in 1920 and moved to his gravesite at Kahikolu Church in 1993.

Kona Historical Society (Watman). Erected at Hikiau Heiau in 1928 to recognize the first Christian service in Hawaiʻi. Installed by Kona Hawaiian Civic Club (KHCC) to commemorate the sesquicentennial of Cook's arrival. The bronze plaque was stolen sometime after 2010.

3.5 HISTORIC SITES (POST-1779) OF KAʻAWALOA

The relative political and economic isolation of Kaʻawaloa in the 19th and 20th Centuries has preserved many of the archaeological and historic sites.

Wharfs:

Monument Wharf. For the Cook Sesquicentennial Celebration in 1928, a temporary concrete pier was erected to transport dignitaries from their ships to Kaʻawaloa Flat. In 1929, the Territory of Hawaiʻi constructed a more permanent stone jetty fronting the monument with funding from the Australian Government.

Government Wharf. This was a favorite stopping place for British & American ships in late 1700s, but the wharf's significance as a port decreased in the 1800s as better ports were built at Kailua and Hilo. Generally, ships anchored in the deep waters of the bay and sent small whale boats with passengers and goods to shore, where they would have to brave the surf while disembarking. In 1863, the first documented government wharf was constructed at the landing, and a subsequent wharf served shipping interests for the next 50 years. This wharf disappears from view in the 20th century. The Government Wharf was used as a foreign port for whalers & traders in the 1820s to 1840s; they came for firewood for rendering whale oil on shipboard.

Ranching (or Interisland) Wharf. Intermittent and mostly private until the 1870s, when the Kilauea and later the Likelike (Wilder Steamship Co.) provided subsidized interisland freight and passenger service. The wharf was used to load cattle onto ships and included a wooden cattle chute built atop the pāhoehoe that extended beyond the shoreline. This wharf also served as a landing for small boats in the late 1800s and early 1900s.



Ranching Wharf, ca. 1880 (Bishop Museum)



Kaʻawaloa Road, 1836 (Theodore-Auguste Fisquet)

Roads:

Kaʻawaloa Road. The Kaʻawaloa Road runs downslope from Nāpōʻopoʻo Road near the intersection with Māmalahoa Highway to Kaʻawaloa Flat where it intersects the Old Government Road and the Cart Road. The dirt and rock road bisects the archaeological complex and ends at ʻĀwili. Originally a foot trail, the missionaries (with the assistance of Naihe and Kapiʻolani) used the labor of those Hawaiians found guilty of adultery to widen the trail into a cart road. Any person convicted of breaking the new Christian marriage laws was required to either pay a fine or labor on the road for four months. Building began about 1827, and it was completed in less than two years. It was the only cart road to Kaʻawaloa until the early 1900s. Despite its winding route round the cliff, the road was still very steep, requiring periodic "rani" (temporary resting sheds) for travelers. Later, the road was used to haul timber for the fire wood trade. The use of 4-wheel drive vehicles on the road in the 20th Century caused damage and the lower portion can no longer be travelled by vehicles.

Old Government Road (Keauhou-Nāpōʻopoʻo). This road from Keauhou to Kaʻawaloa was surveyed in 1847 with construction occurring in the late 1850s. By 1862 there was "a good cart road from the beach at Keauhou to the Kaʻawaloa Road" (Letter to the Minister of the Interior, February 1862). This road was described as being about a mile inland from the shoreline and about 1,000 feet above sea level. In 1858, T.H. Paris the South Kona Road Supervisor, reported that he was reopening the old road over the pali to link Kaʻawaloa to Kaʻu. This includes the switchback from the pali to Nāpōʻopoʻo.

Cart Road (Coastal). Built by Governor John Adams Kuakini in 1836, it was described as the "ancient trail to Kailua" bordered by the smooth stepping stones of a still older trail. The road is clearly visible in an engraving from 1840. Others described the road as a "C" trail, a refined horse trail. It provided a straighter route to Kailua and corresponds to today's jeep trail that intersects the Kaʻawaloa Road on the Flat.

Buildings:

Stone & Mortar Structure (Halekuki). This is the only stone and mortar building at Kaʻawaloa. It is built atop a larger raised stone platform and the structure measures approximately 8m by 9m with walls about 2m high. It has a "basement" excavated into the platform and lined with mortar. This is a likely site of King Kamehameha I's stone warehouse. While the King lived in Kailua after 1813, he found use for the nearby harbor at Kealakekua as a storehouse for his strategic weapons and other goods, most notably rum. Stone buildings were still a rarity in the islands in the early 19th century, and the king evidently commissioned a foreign stonemason named Akiona to build the structure, using ʻōhiʻa wood beams. The building was probably "kapu" or off limits to even the chiefs living there.

Barrett Hotel. The Barrett Hotel was a seaside residence owned by Moses Barrett, a second-generation kamaʻāina. Although he and his wife lived above Kaʻawaloa Flat at Keōpuka, they came down periodically when there were customers for the hotel. The hotel was apparently in operation from 1875 until Barrett's death in 1894. The hotel's location is believed to have been at Hanamua (LCA), east of the road, although one informant suggests it was located at ʻĀwili. Descriptions of the hotel vary. One is a grass house with a long piazza on both sides; walls stopped halfway to the roof, like a screen. An 1890 description and photos of the era suggest that an entirely new building replaced the earlier grass house. The hotel survived until WWII (approximately 1940).



Barrett Hotel, ca. 1880 (drawing by George Chaney)



Kapiʻolani's house, ca. 1880 (HMCS)

House Site of Kapiʻolani and Naihe. Most likely located at ʻĀwili (LCA). Described in writings as the "great house" of Kapiʻolani and Naihe.

Mission Station. Built at the insistence of Kapiʻolani who wanted a local mission station nearby, the Mission Station consisted of a house of worship (a thatched house) near the shore and a school house which served as a training school for teachers from other districts. The Mission Station at Kaʻawaloa was used from 1824 to 1831, when it was moved to Kuapehu to escape the heat of Kaʻawaloa Flat. The probable location for the church was either Kalaemanō or Hanamua, while the school was probably located at Halehuki, behind the residence of Kapiʻolani.

Wooden buildings (20th century house sites). Collapsed wooden structures were noted at 3 locations on the south side of the road on Kaʻawaloa Flat during the 1970 archaeological survey.

Nāpōʻopoʻo Light (and remains of keeper's house site). Land was set aside by the Territory of Hawaii in the early 1900s to build a navigational light at Kalaemamo Point to aid ocean traffic which shifted to the bay at Nāpōʻopoʻo. Kealakekua Bay, however, was not considered important enough (or sufficiently dangerous perhaps) to merit a light until the twentieth century. The light was 42' above water, and could be seen for 9 miles. Its construction required the removal of "ancient salt works....large stones hollowed out for the evaporation of sea water". The Federal Government was officially given 2.93 acres near Kalaemamo Point for the lighthouse in 1909. An automatic beacon light, placed 18' from the original, was built in 1922 as a white pyramidal concrete tower. The Coast Guard is its current guardian, and is one of about 2 dozen on Hawaii Island. A keeper's house, a white house with brown roof, was also constructed. The keeper was an essential part of the lights operation until 1922.

Cook Memorials:

From the time of Captain James Cook's death, Kaʻawaloa has been a stopping point for ships of the British Commonwealth to leave small plaques and more formal memorials.

Captain Cook Monument (1875). The present monument to Captain Cook is an obelisk constructed of stone and plastered with mortar. In 1876, the HBM ship Fantome arrived to place a dozen cannons and a heavy chain around the monument. They also planted the area inside the fence with four small flower beds, one in each comer. An acacia tree also grew within the square. Originally, this garden was tended by ships' crews visiting the area and later by a paid retainer; the Greenwell and Leslie families report that they had this retainer at one time.

Cook Plaque (1928). The Hawaiian Historical Society placed a bronze plaque at the water's edge at ʻĀwili to mark the spot of Cook's death. It later disappeared and was replaced in 1956 with a plaque that was vandalized and replaced by a marble plaque in 1990. Because of the subsidence of the land, it is often under water, and was knocked off its foundation during a 1995 storm.

3.6 Historic Sites (Post-1779) of Pali Kapu o Keōua

Old Government Road. A third road was built above the shoreline flats in the late 1850s to connect Kailua to Kaʻawaloa. Its starring place at Kealakekua was the Paris house at Kuapehu. Government documents of the time describe this road as the "Road from Kealakekua pali". Samuel Clemens travelled it in 1866 and described the occasional "great boughs which overarch the road and shut out the sun and sea and everything, and leave you in a dim, shady tunnel."

4.0 LAND HISTORY

4.1 Family Histories

Alvarez profiled eight major families of Kealakekua Bay. These families, for one or more generations, influenced events at Kealakekua Bay and at Kaʻawaloa in the historical period. They owned or leased land, conducted business, and lived in this area. Family members who still reside in the district area contributed substantially to that report.

Families of Hawaiian Chiefs

Keawe-a-Heulu: Chief of Kaʻawaloa during the early years of the reign of King Kamehameha I. They were succeeded by his son Naihe and daughter-in-law Kapiʻolani as chiefs, serving until Naihe's death in 1831 and Kapiʻolani's in 1841.

Ane Keohokalole: With her husband Caesar Kapaʻakea, Ane Keohokalole was the ruling chiefess of Kaʻawaloa from 1841 until 1859. She was given much of the ahupuaʻa of Kaʻawaloa and Kealakekua in the Māhele but in 1859, she and her husband sold the land to pay off debts. Both husband and wife were active in the Hawaiian monarchy; it is unlikely that she ever lived at Kaʻawaloa. Ane Keohokalole was the mother of Kalākaua and Liliʻuokalani.

Awahua: Konohiki of Keohokalole lands in Kaʻawaloa. Named Princess Miriam Likelike as owner of Awahua's two ʻāpana at Kaʻawaloa.

Local Families

John Paris, Sr.: The Paris family dominated the life of the ahupuaʻa from its purchase in 1859 to the death of Rev. John Paris, Sr. (a Congregational minister) in 1892. The son, John Paris, Jr., retained much of his father's interests. Descendants of this family continue to be a presence in Kaʻawaloa. A large family home, called Mauna'alani or Orange Hill, was built at Kuapehu. His only son, John, Jr. became a stock raiser of both cattle and goats, kept at Kaʻawaloa and other nearby lands. He was also the recipient of his father's most choice land. The Paris' daughter, Ella, ran a boarding house on the site of Kapiʻolani's mauka house referred to as the Paris Hotel.

Moses Barrett: Members of the Barrett family owned parcels at the Flat from 1862 until the end of the century. Daniel Barrett was a British ship's carpenter who married a Hawaiian woman, Keoholua. Barrett's attempt to gain land near the seaside at Kaʻawaloa succeeded in 1862 when he bought a lot in the Village from which to conduct his wood-supplying business for the weekly steamer that stopped at Kaʻawaloa in the 1860s. Moses Barrett established an enterprise at Kaʻawaloa known as the Barrett Hotel. He and his wife came down to the hotel periodically when there were guests. The hotel was apparently in operation until Barrett's death in 1894. Moses was at various times also Road Supervisor and overseer of the Kaʻawaloa burial grounds in the cliff above the village.

Peter Whitmarsh: The family's connection to Kaʻawaloa began in 1889 when Peter Whitmarsh bought Kaʻawaloa Flat from John Paris. It continued until 1959. Peter Whitmarsh was a carpenter's apprentice married to a Hawaiian woman, Kamaka. Their son, Joseph married Hannah Spencer. They both worked for Hawaiʻi Telephone Company in Kealakekua and he later worked as a county road supervisor. For financial reasons, Joseph was forced to sell his interests in Kaʻawaloa Flat in 1913 and 1914.

Henry Greenwell: A British citizen who arrived in Kona in 1851, he became a prominent businessman through his general merchandise store in Kalukalu. A noted coffee processor and orange grower, he held several government retainers besides...Collector of the Port and Postmaster for Kealakekua. Henry bought a portion of the Kealakekua ahupuaʻa in 1880, and other acquisitions in Kaʻawaloa beginning after 1900. About 1929, members of the Greenwell family decided to resume shipping cattle from Kaʻawaloa Flat, and built an experimental new cattle chute at the now-abandoned wharf there. The Greenwell family played a prominent role in Kona, with members serving in the Territorial Legislature and the county Board of supervisors. Various family members are leaders on the Kona Historical Society.

Leslie Family: Henry Leslie's maternal grandfather, John Gaspar, built the first coffee mill in Kona at Nāpōʻopoʻo. He married Mary, daughter of Henry Kaneao. Various members of the family tended the Cook Monument or the beacon light.

Kaneao Family: Several Hawaiian or part-Hawaiian families were said to be living at Kaʻawaloa Flat in the early 20th century. The only family named with certainty, however, is that of Henry Lanui Kaneao, a local fisherman. Theirs was the last known family to live at Kaʻawaloa flat.

4.2 Land Commission Awards

Most of the ahupuaʻa of Kealakekua was given to Ane Keohokalole and her husband Kapaʻakea. Keohokalole was the granddaughter of Keaweaheulu, niece of Naihe and Kapiʻolani, and mother of David Kalakaua and Lydia Liliʻuokalani.

Nāpōʻopoʻo (Fig. A-6)

LCA 8452:2 Royal Patent 3607. The area south of Hikiau Heiau corresponds to the lands called Kaahaloa which were included in a claim filed by A. Keohokālole and Kapaʻakea in 1854 (Fig. A.6). Testimony describes the parcel as a houselot enclosed all around with a stone wall. The following year, Keohokālole sold the ahupuaʻa of Kealakekua, including her awards at Nāpoʻopoʻo, to S. Atkins.

LCA 7101 (Ialua). Located between the pond and Pali o Manuahi. The property is described as a pāhale.

LCA 9453:2 (Papaula). Located at the mauka boundary of the park and mauka of Hikiau Heiau. Award mentions 2 pāhale within Waipunaula.

Ka'awaloa (Fig. A-7 and Table A-5)

Most of the ahupua'a of Ka'awaloa was awarded to Chiefess Ane Keohokalole (LCA 8452:10) with portions of Ka'awaloa Flat, about 35 acres, being designated government land. In addition, Keohokalole received 4 smaller awards on Ka'awaloa Flat. There was a total 13 awards made on Ka'awaloa Flat (Fig. A.7):

Kalaemano (LCA 8452:1). Awarded to Ane Keohokalole, the name refers to "the mano fishing point". The property contained a grove of coconut trees, a heiau, and a large wetland/marsh. The land was sold to John Paris who then sold it to Whitmarsh.

'Āwili (LCA 8452:2). Awarded to Ane Keohokalole, the name means "swirl" and gets its name from the whirlpool created at its doorstep by the lapping of the surf at the lava outcropping there. 'Āwili was said by the historian Samuel Kamakau to have been the home Kalani'ōpu'u at the time of Cook's arrival in Kealakekua Bay, making this the probable scene of Cook's last interview. 'Āwili is where Kapi'olani built a dwelling house for the missionaries. This property was also sold to Paris and then Whitmarsh.

Halehuki (LCA 8452:3). Awarded to Ane Keohokalole. Described in the mid-1800s as an "enclosed lot with a high wall…and containing "a stone building and several other houses". Halehuki may also be the location of the Protestant school established by the missionaries in the 1820s. Later, the area was owned by a Japanese consortium until the Greenwells purchased it in 1930 for their ranching operations.

Hanamua (LCA 8452:4). Awarded to Ane Keohokalole, the property was the home of Kapi'olani and Naihe, and earlier of Keawe-a-Heulu. This is also the site mentioned as the possible location where Cook held his last talks with Kalani'ōpu'u before his death. In 1853, this area still included "the great house" occupied by a former chief and a "new house which Kapa'akea has lately built". A crude 1876 map placed a hotel in about this location, to the east of the road. Since it is not unreasonable to assume that the Kapa'akea home of 1853 would still be in good condition in 1875, the Alvarez report states that evidence points to this as the site of the Barrett Hotel. The property was sold to James B. Castle for the West Hawaiian Railroad Company when there were plans to extend the railroad to Ka'awaloa. This site was where the Greenwell's built a cattle chute to load cattle onto the ships.

Awahua (LCA 6750:1 and 6750:2). Awahua was the konohiki of Ane Keohokalole at Ka'awaloa. He was awarded 2 Apana which became the property of Princess Miriam Likelike and her husband Archibald Cleghorn in 1869. Likelike deeded a portion of one apana to British consul James Wodehouse for the construction of the Cook Monument in 1874. The Cleghorns build a wooden house on the other apana behind the Monument. Wodehouse sold the property to Great Britain for $1, despite American ideas of sovereignty which forbid the sale of American property to a foreign government. A vote was taken at the Territorial Legislature in 1928 to confirm British ownership of the land.

Maka (LCA 9441:1). This small property on the shoreline was conveyed to Barrett in 1862 and eventually to the Greenwells in 1901.

Palau (LCA 9442). This property was located at the back of the flat and ended up with Akui, a Chinese former plantation worker, in 1911.

Apana (LCA 9443). The property was bought by John Paris in 1895. It ended up with the Greenwells in the 1930s and was used for their ranching operations.

Nahaku (LCA 9444). This became the property of Miriam Likelike and leased by Paris in 1899. The Greenwells also purchased this property in the 1930s for their ranching activities.

Ioba (LCA 9446). On the shore, this small LCA contained a valued canoe landing. The lot soon went to Awahua and then to Likelike in 1869. The property was later purchased by West Hawaii Railroad Co. and then the Greenwells.

Palahu (LCA 9447). This interior lot came under Awahua but little is documented about this property.

Naahu (LCA 9449). Little is known about this interior lot.

5.0 Significance Evaluation

The significance of the sites and features within Kealakekua Bay SHP encompasses the traditional Hawaiian culture of the pre-contact period into the post-contact period with the arrival of the missionaries and whalers. Kealakekua played a key role in the events of Western Contact with the arrival of Captain Cook in Kealakekua Bay in 1779. The area was also important in the early economic history of Kona, including shipping, ranching, coffee, and fishing. The village at Nāpō'opo'o is representative of a small community along the Kona coast that transitioned from a fishing subsistence to a market based economy in the 19th and 20th Centuries.

Significance is evaluated according to the 5 criteria identified in HAR §13-275-6 and the significance evaluations made during previous archaeological surveys are shown in Tables A.1 to A.3:

a. Associated with events that made significant contributions to broad patterns of history. The significance of Kealakekua is related to its role as a chiefly center in the pre-contact period, the arrival and extended contact with Captain Cook's arrival in 1779, the arrival of the missionaries in 1820, and the transition of the community in the post-contact period from a fishing subsistence to a shipping port and a market economy that included ranching and coffee.

b. Associated with lives of persons significant in our past. Kalani'ōpu'u and Kamehameha I are prominent chiefs associated with Kealakekua before and during the arrival of Captain Cook. Captain Cook's arrival and death at Kealakekua was a critical turning point in

Hawaiian history. The missionaries played an important role in the early post-contact period when the traditional religion was abandoned and young Hawaiians, such as ʻŌpūkahaʻia were influenced to leave Hawaiʻi and convert to Christianity.

c. Distinctive characteristics of a type, period, or method of construction. Hikiau Heiau is representative of the large, massive stone platform heiau that illustrates the monumental architecture of pre-contact Hawaiʻi.

d. Site has the potential to yield information important in prehistory or history. Archaeological testing has indicated that there is the potential for subsurface cultural deposits associated with many of the surface features and future excavations may provide information to learn more about the function of these sites and the lifestyle of the inhabitants.

e. Traditional cultural value to the Hawaiian people with associations important to Hawaiian history and cultural identity. Kealakekua remains an important and cultural site to the Hawaiian community based on its history and significant cultural events, including Makahiki.

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Table A.1 Summary of Historic Sites and Features in the Nāpōʻopoʻo Section (Refer to Fig. A.1)

SIHP #	Feature[1]	Bishop Museum	Site Type	Significance
50-10-47-1963	1,5,20,21 27-29,50		Hikau Heiau Complex	a, b, c, d, e
3732	1	C23-1	Hikau Heiau – raised platform with surface features	a, b, c, d, e
	2		Free-standing wall	d
	3		Free-standing wall	d
	4		Retaining walls (2) & platforms (2)	d
	5		Pond and retaining wall	a, d, e
	6		Enclosure	d
	7		Mounds	d
	8		Platform	d
	9		Platform with retaining wall/alignment	d
	10		Rock wall complex	d
	11		Retaining wall	d
	12		Free-standing wall	d
	13		Enclosure	d
	14		L-shaped retaining wall	d
	15		Cultural deposit exposed on beach face	d
	16		Retaining wall	d
	17		Free-standing wall	d
	18		Platform defined by L-shaped retaining wall	d
	19		Retaining wall	d
	20		Kamehameha's Compound - Wall complex	a, b, d
	21		Hewahewa's Housesite - Platform	a, b, d
	22		Pumphouse building with rock-lined pit/well and concrete lined pit	a, c, d
	23		Concrete features by pumphouse	d
	24		Platform	d
	25		Wall complex	d
	26		Free-standing wall	d
	27		Great Wall - Free-standing wall	a, c, d
	28		Platform within the Great Wall	
	29		Platform abuts the Great Wall	
	30		Pit	d
	31		Free-standing wall	d
	32		Concrete crypt burial	a, c
	33		Free-standing wall	d
	34		Mound complex	d
	35		Free-standing wall – parcel boundary	d
	36		Free-standing walls	d
	37		Rock mound	d
	38		Rock mound	d
	39		Retaining wall	d
	40		Platform	d
	41		Free-standing wall – parcel boundary	d
	42		Free-standing wall – parcel boundary	d
	43		Retaining wall	d
	44		Retaining wall	d
	45		Gaspar Coffee Mill - concrete slab	a, c, d
	46		Concrete slab	a, d
	47		Wall – parcel boundary	d
	48		Concrete slab	a, d
	49		Free-standing wall – parcel boundary	d
	50	C23-2	Helehelekalani Heiau – 2 platforms	a, b, c, d, e
	51		Enclosure	d
	52		Agricultural pits	d
	53		Agricultural pits	d
	54		Rock mounds	d
	55		Retaining walls (2)	d
	56		Free-standing wall	d
	57		Platform	d
	58		Rock mounds	d
	59		Free-standing wall – parcel boundary	d
	60		Free-standing wall	d
	61	C23-208	Switchback trail from pali	a, d

[1] Feature numbers assigned and significance assessed during 1984 survey (Yent 1985).

Table A.2 Summary of Historic Sites and Features in the Pali Section and Upper Slopes of Kaʻawaloa and Keōpuka (Refer to Fig. A.2)

SIHP #	Bishop Museum	Description	Within Park	Significance
3733	C23-3	Burial caves in pali	X	a, b, d, e
3734	C23-4	Puhina o Lono Heiau	X	a, b, d, e
	C23-201	Shelter cave		
	C23-202	Graves		
	C23-203	Housesite		
	C23-204	Enclosure		
	C23-205	Pen		
	C23-206	Graves		
	C23-207	Graves		
	C23-208	Trail-Type C	X	a, c
	C23-209	Trail, Gov't Road-Type A	X	a, c
	C23-210	Cave with petroglyphs	X	a, d
	C23-211	Graves		
	C23-212	Clearing		
	C23-213	Depressions		
	C23-214	Clearing	X	d
21,664	C23-215	Kaʻawaloa Road	X	a, d, e
6601		Kona Fieldsystem	X	a, d

Table A.3 Summary of Historic Sites and Features in the Ka'awaloa Section (Refer to Fig. A.3)

State Site #	Bishop Museum	Land Commission Award		Description	Significance[1]
4401				Paved trail; terraced platform	
4402				Mound	
4403				Terraced platform	
4404				Paved trail	
4405				Paved platform	
4406				2 terraced platforms with steps	
4407				Series of 6 terraced platforms	
4408				Terraced platform	
4409				Mound	
4410				Paved kipuka	
4411				Paved kipuka	
4412				Paved platform	
4413				Mound	
4414				Paved platform, enclosed, mound	
4415				Terraced platform with wall	
4416				Mound	
4417				Modified kipuka	
4418				Trail; terraced platform	
4419				Paved platform	
4420				Modified kipuka	
4421				4 contiguous enclosures	
4422				Terraced platform	
4423				2 terraced platforms with mound	
4424				Walled enclosure	
4425				Walled enclosure with paved platforms	
4426				Terraced platform	
4427				Paved platform	
4428				Terraced platform	
4429				Paved trail; paved kipuka; terraced platform	
4430				Series of terraced platforms	
4431				Paved platform with 2 enclosures	
4432				Terraced platform	
4433				Paved platform; wall; paved kipuka	
4434				Wall; enclosure; mound; paved kipuka	
4435				Enclosure with paved platform and enclosure	
4436		Palahu	LCA 9447	Enclosure with platforms & interior enclosures	
4437				Paved platform	
4438				Paved kipuka	
4439		Naahu	LCA 9449	Terraced platform with attached enclosures	
4440				Series of 4 paved platforms	
4441		Palau	LCA 9442	Enclosure with interior platforms & enclosures	

State Site #	Bishop Museum	Land Commission Award		Description	Significance[1]
4442	C23-30			Paved platform with contiguous enclosure	
4443	C23-29			Paved platform with contiguous enclosure	
4444	C23-28			Paved platform; enclosure, mound, wall	
4445	C23-27			Paved platform	
4446	C23-26			Partial enclosure	
4447	C23-21			Spring	
4448	C23-19			Series of contiguous small enclosures	
4449				Wall	
4450	C23-18			Paved platform	
4451				Haliilua (walled spring at shoreline)	
4452	C23-24	Apana	LCA 9443	Enclosure w/platforms; enclosures; 'Umi's well	
	C23-25			Platform	
	C23-17			Terraced platform	
4453	C23-16	Ioba	LCA 9446	Paved platform	
4454		Awahua	LCA 6750:1	Paved platform with contiguous enclosure	
4455		Awahua	LCA 6750:1	Series of 3 terraced platforms	
4456				Wharf north of monument (postholes)	
4457		Awahua	LCA 6750:1	Enclosure	
4458		Awahua	LCA 6750:1	Paved kipuka	
4459		Awahua	LCA6750:2	Captain Cook Monument	a, b
4460				Postholes or bait cups on pāhoehoe shoreline	d, e
4461		Nahaku	LCA 9444	Paved platform	
4462	C23-12	Nahaku	LCA 9444	Enclosure	
4463					
4464	C23-11	Halehuki	LCA 8452:3	Enclosure w/paved platform & masonry bldg.	
4465		Hanamua	LCA 8452:4	Enclosure w/2 terraced platforms & mound	a, b, d, e
4466				Paved kipuka	
4467				Paved kipuka	
4468				Paved kipuka	
4469				Paved platform	
4470			a	(Complex)	
4471	C23-9			Heiau; complex of terraced platforms	
4472	C23-74			Terraced platform	
4473	C23-73			Terraced platform; walls	
4474	C23-72			Complex of platforms & enclosures	
4475				Enclosure	
4476		Kalaemano	LCA 8452:1	Platforms makai of pond	
4477	C23-71	Kalaemano	LCA 8452:1	Platform within pond	
4478	C23-10	Kalaemano	LCA 8452:1	Heiau; platforms; enclosures; pond	
4479		Kalaemano	LCA 8452:1	Enclosure	

State Site #	Bishop Museum	Land Commission Award		Description	Significance[1]
4480		ʻĀwili	LCA 8452:2	Enclosure w/wooden bldg.; masonry basement	a, b, d, e
4481		Hanamua	LCA 8452:4	3 paved platforms	d
4482				Enclosure w/wooden bldg.	
4483				Enclosure 2ith platforms & enclosures	
4484				Enclosure with paved platform	
4485				Enclosure 2/ numerous platforms	
4486				Enclosure 2/ wooden bldg.	
4487				Platform	
4488				Large paved platform (heiau?)	
4489				Scattered platforms	
4490				Enclosure with wall and mound	
4491				Kipuka with platforms	
4492				Scattered platforms and kipuka	

[1] Significance assessment made during 2007 archaeological investigations (Maigret, Yent, and McEldowney 2007:83-92).

Table A.4 Summary of Test Units Excavated in the Nāpōʻopoʻo Section (Refer to Figure A.4)

Unit	Date	Location	Description of Deposits	Age
1-2	1977 (Hommon)	Pond	Unit 1 located N of the pond by Hewahewa's platform (Feat. 21) had charcoal and ash lenses underlain by boulder layer at 50cm below surface; below boulder layer was volcanic glass, fish bone, bone picks, basalt flakes; base of excavation 90cm below surface.	A.D. 1855 (volcanic glass)
			Unit 2 located S of pond and contained metal and glass; base of excavation 60cm below surface.	A.D. 1725 (volcanic glass)
3-4	1985 (State Parks)	W of Great Wall and N of Helehelekalani Heiau	Shallow deposit (15cm) with reworked adzes; adze flakes, volcanic glass, poi pounder frags, mammal bone, shell, kukui.	Pre-1778
5,6,11,12,14-20 (7-10, 13 not excavated)	1988 (State Parks	S of Hikiau Heiau; pavilion area	Disturbed upper layer with metal, glass and ʻiliʻili pebbles, shell, adze flakes and high quantities of adze materials but disturbed context; base of layer about 30cm below surface.	Post-1778
			Lower layer contained pre-contact artifacts (esp. adze forms and flakes), shell midden; base of excavation about 40cm below surface.	Pre-1778
21-23	1989 (State Parks)	Gaspar Coffee Mill (Parcel 1)	Upper layer (extended 20cm to 40cm below surface) appears to be connected with the coffee mill and post-contact era – nails, window glass, metal fragments.	Post-1778
			Lower layer contained shell midden, mammal bone, volcanic glass; base of excavation varied from 30 to 95cm below surface.	Pre-1778
24-28	1999 (State Parks)	Pavilion and Ballcourt area	Upper layer (extended 10cm to 35cm below surface) contained ʻiliʻili pebbles, shell, fish and mammal bone; glass and metal.	Mixed
			Lower layer contained basalt flakes, volcanic glass, shell midden, fish and mammal bone, charcoal, ʻiliʻili pebbles and coral; base of excavation varied from 45cm to 73cm below surface.	Pre-1778

Table A.5 Land Commission Awards in the Ka'awaloa Section (Refer to Fig. A.7)

LCA	Kuleana	Awardee	Transfer	Description
6750	Awahua	Awahua	M. Likelike Cleghorn	ʻĀpana 1 – Taro; Cleghorn built wooden bungalow
		(Keohokalole's Konohiki)		ʻĀpana 2 – Deeded to Britain for Capt. Cook Monument
8452:1	Kalaemano	Ane Keohokalole	Rev. John Paris	Heiau; wetland area; many coconut trees; no housesite
			Whitmarsh	First missionary structure may have been built here (atop Heiau?)
8452:2	ʻĀwili	Ane Keohokalole	Rev. John Paris	Home of Kalaniōpuʻu at time of Cook's arrival (Kamakau)
			Whitmarsh	2 pāhale occupied by Rev. Ely (land from Kapiolani & Naihe)
				Site of Barrett Hotel (?) and home of Lanui Kaneao family
8452:3	Halehuki	Ane Keohokalole	Rev. John Paris	Stone & mortar building (Kamehameha's storehouse?)
			Moses Barrett	(Mission Station or School?)
8452:4	Hanamua	Ane Keohokalole	Rev. John Paris	Home of chief Keawe-a-Hulu
			Moses Barrett	Home of Kapiʻolani and Naihe
				Site of Barrett Hotel (?)
8452:10	Upper Kaʻawaloa	Ane Keohakalole	Rev. John Paris	Kona Field system; pineapple cultivation; ranching
9441:1	Maka	Maka	Daniel Barrett	Taro, potato, and coffee gardens
			Greenwell	
9422	Palau	Palau	Chu Chung Akui	
9443	Apana	Apana	Rev. John Paris	Housesite; ʻUmiʻs well; sweet potato and taro gardens
			Greenwell	Ranching activities
9444	Nahaku	Nahaku	M. Likelike Cleghorn	Housesite; taro and potato gardens
			Greenwell	Ranching activities
9446	Ioba	Ioba	Awahua	Canoe landing; housesite; taro and sweet potato gardens
			M. Likelike Cleghorn	
			Greenwell	
9447	Palahu	Palahu	Awahua	Housesite; sweet potato and coffee gardens
9449	Naahu	Naahu		Sweet potato gardens

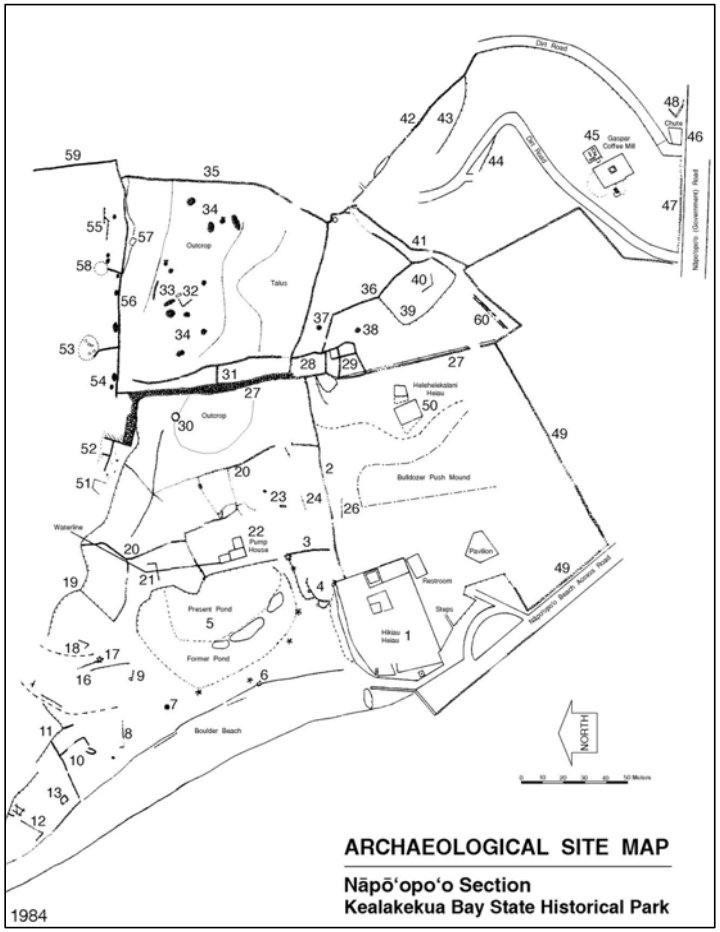

Figure A.1.1984 map of the archaeological sites and features in the Nāpōʻopoʻo Section (From Yent 1985).

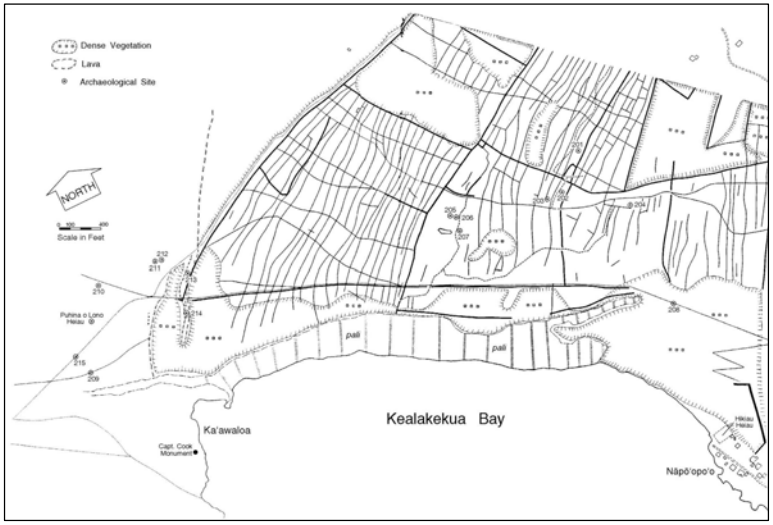

Figure A.2. 1968 map of archaeological sites on Pali Kapu o Keōua and the slope of Ka'awaloa (From Soehren and Newman 1968).

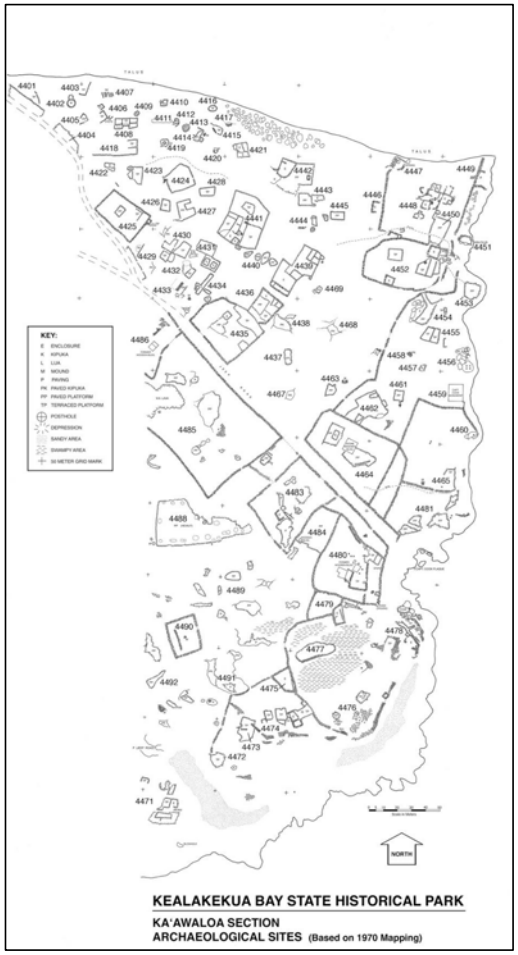

Figure A.3. 1970 map of archaeological sites on Ka'awaloa Flat (From Hommon and Crozier 1970, with SIHP numbers added.)

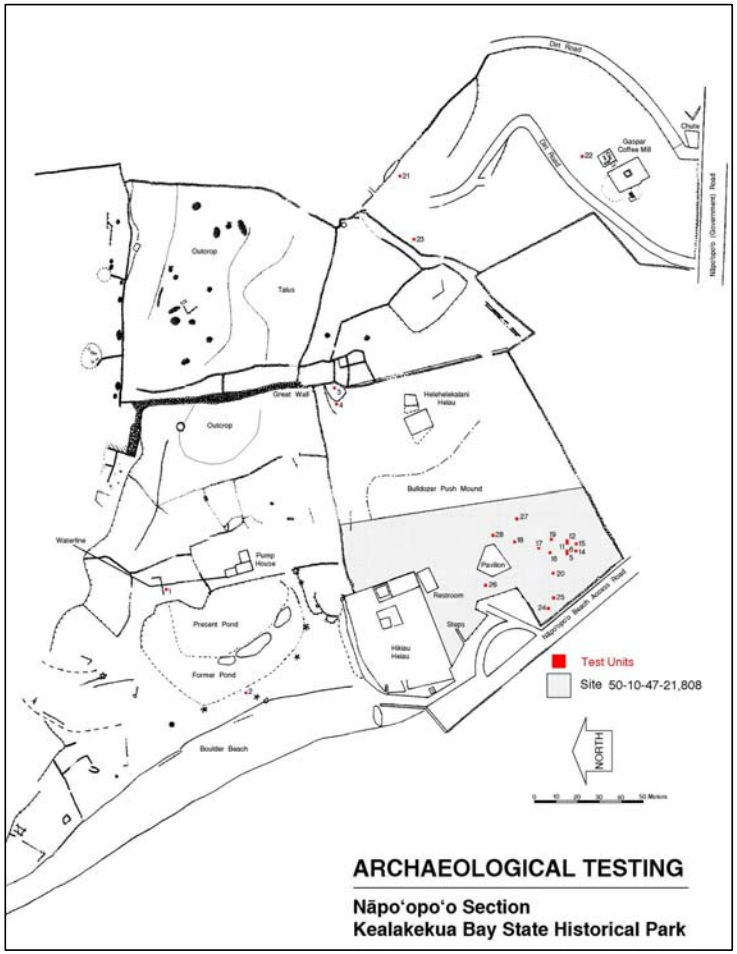

Figure A-4. Archaeological test units excavated in the Nāpōʻopoʻo Section.

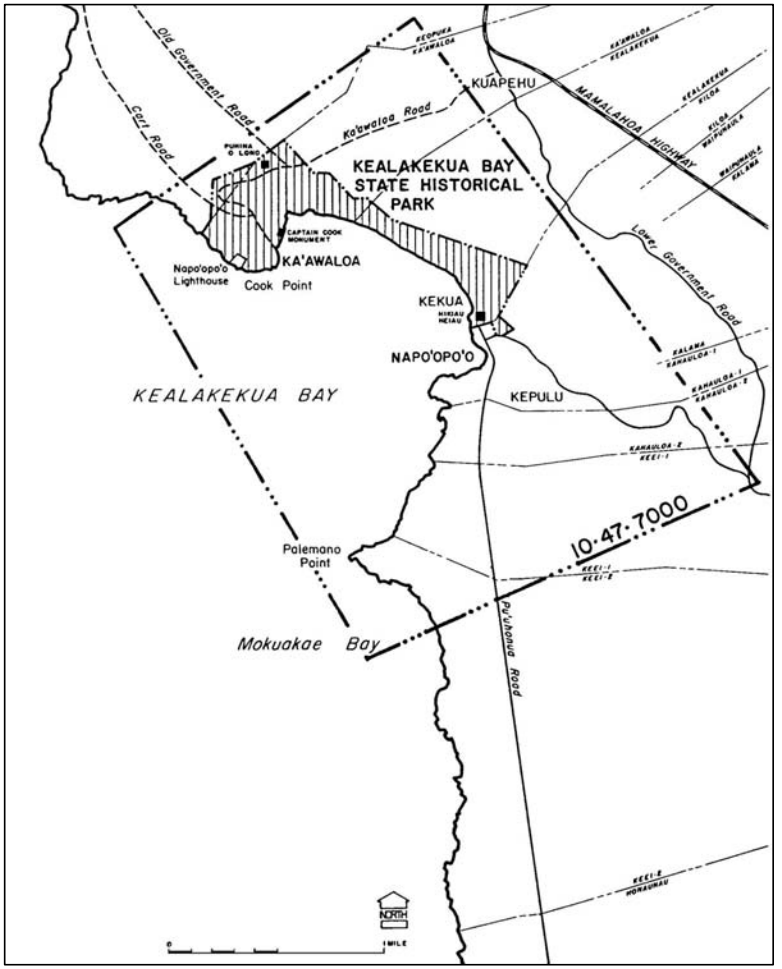

Figure A.5. Boundaries of the Kealakekua Bay Historical District (Site 50-10-47-7000).

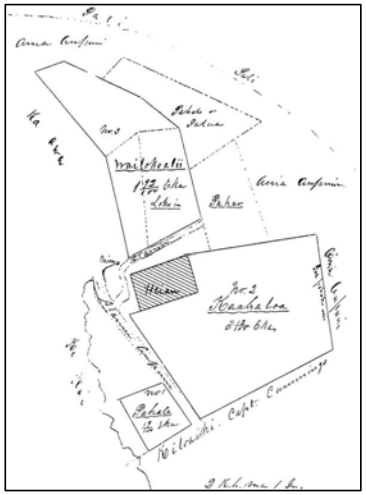

Figure A.6a. Map attached to the Māhele claim filed by Ana Keohokālole and Kapakea in 1854. Hikiau Heiau is highlighted for reference.

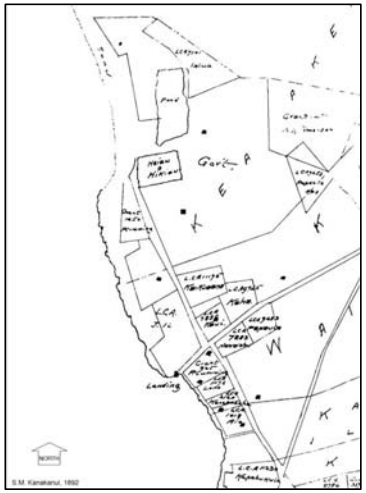

Figure A.6b. 1892 map by Kanakanui showing the LCA, Hikiau Heiau, and pond in the Nāpōʻopoʻo Section of the park.

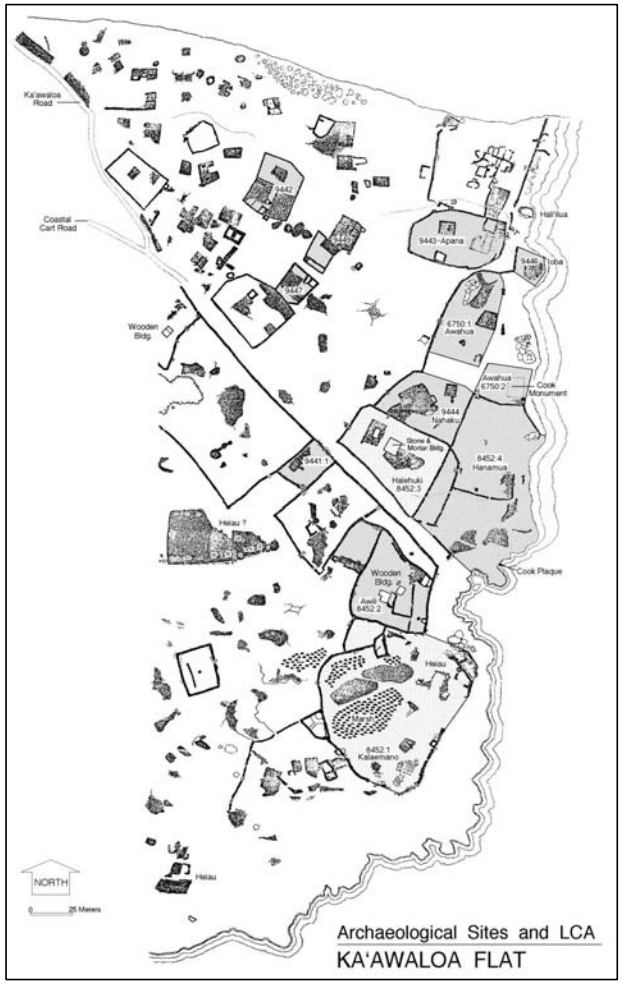

Figure A.7. Land Commission Awards at Kaʻawaloa Flat.

Appendix B

Cultural Impact Assessment

FINAL

Cultural Impact Assessment for Kealakekua Bay State Historical Park Ahupuaʻa of Kaʻawaloa, Kealakekua and Keōpuka South Kona, Hawaiʻi Island



View of Kealakekua Bay from rocky shore of KBSHP
(All photos were taken by author unless otherwise specified)

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2009, Revised 2015 and 2018

EXECUTIVE SUMMARY

This Cultural Impact Assessment (CIA) is in response to a request from *Belt Collins Hawaii LLC* for *Kealakekua Bay State Historical Park*. This study is part of a larger project that includes an Environmental Impact Statement (EIS) and an updated Master Plan in compliance with federal and state requirements to identify and evaluate possible cultural impacts to cultural resources, cultural practices and access to resources and/or practices in advance of any undertaking.

The purpose of a CIA is to gather information about traditional cultural practices, ethnic cultural practices and pre-historic and historic cultural resources that may be affected by the implementation of this project or undertaking in accordance with the State of Hawaii Environmental Council *Guidelines for Assessing Cultural Impacts* (Adopted on November 19, 1997) [Appendix B]. The *level of effort* for this CIA included ethnographic research (10 oral histories) of people who are connected to these lands in various ways and an archival cultural/historical background review of the literature (including internet research).

The CIA process was originally started in 2009, but was put on hold until April 2015. Unfortunately two of the ethnographic consultants have died and a tsunami impacted the bay and surrounding lands since 2009. Additional photos were taken (2015) but none of the remaining consultants were contacted since 2009 with the exception of one who was asked about his tapes. [Due to unforeseeable circumstances he has not been able to work on them (8-26-15)].

There are several tangible cultural properties within the Kealakekua Bay State Historical Park (KBSHP) boundaries of Nāpōʻopoʻo, Kaʻawaloa and Pali Kapu O Keōua mentioned by ethnographic consultants and previously recorded by others. Most are considered wahi pana (celebrated, legendary, sacred places) and include burials, heiau, caves, springs, ponds, and habitation hale foundations that are associated with significant gods, deities and aliʻi. Many of these wahi pana are associated with current traditional cultural practices, ceremonies and protocols.

Other traditional cultural practices within KBSHP involve the marine resources - fishing and gathering by generations of ohana from the area. Some of these practices were forced to subside when marine conservation zones were implemented and/or discontinued when laws were established (e.g. long-line fishing and hukilau or surround net fishing). Some of the gathering practices (limu, ʻopihi, pipipi and wana) were obstructed by natural disasters such as earthquakes and/or tsunami that generated rock slides. These natural disasters also covered the sand beach of Nāpōʻopoʻo with the rocks we see today, and negatively altered the beach experience of the area residents.

The ethnographic consultants had numerous concerns about KBSHP, which they consider to be more than "just a historical park." They have lineal as well as cultural ties to these lands and wahi pana and would like to see a Cultural Plan be a major part of the Master Plan. Therefore, a Cultural Advisory Group (Hui) should be established prior to any more effort being put into a Master Plan. There are also significant concerns about several sites and request that all activity on and around Helehelekalani Heiau be stopped immediately; and all access to Kaʻawaloa be stopped as too much desecration of the area is taking place.
Expansions of these requests/concerns are in the Cultural Impact Assessment section of this report.

ACKNOWLEDGEMENTS

Without the ethnographic consultants this Cultural Impact Assessment could not have been done, therefore **Mahalo Nui Loa** goes out to Irene Wainani DeBina, Haleaka "Aka" (Pule) Dooley, Johanna Gaspar, Tommy Hickox, Analu Josephides, Verna Kihe, Wally Lau, Gordon Leslie, Milton Leslie and Derek (Mac) McGuire.

A big mahalo also goes to transcribers Carol Kalahiki and Dot Uchima and to Martha Yent of State Parks for her kōkua nui!

IN MEMORIAM

With great sadness this report is dedicated to ethnographic consultants Kahu Haleaka "Aka" (Pule) Dooley (died January 2014) and Aunty Verna Kihe (died July 2015); and transcriber and friend Carol (Rawlins) Kalahiki (died July 2015)…***Rest In Peace***.

TABLE OF CONTENTS

EXECUTIVE SUMARRY i
ACKNOWLEDGEMENTS i
IN MEMORIAM ii
TABLE OF CONTENTS iii
LIST OF TABLES v
LIST OF PHOTOGRAPHS vii
LIST OF APPENDICES ix

INTRODUCTION 1
SCOPE OF WORK (SOW) 1
PROJECT AREA, LOCATION AND PHYSICAL ENVIRONMENT 2

METHODS 10

CULTURAL AND HISTORICAL BACKGROUND REVIEW 12
Models of Hawaiian Chronology 12
Chronology Periods 13
Colonization Period 13
Developmental Period 14
Expansion Period 15
Proto-Historic Period 18
Early Historic Period 25
Territorial History (AD 1900-1949) 29
Modern History (post AD 1950) 29
Traditional Literature 30
Genealogies 30
Kumuhonua 31
Kumulipo 32
Hawaiian Genealogies 32
Hawai'i Island Royal Line 33
Mo'olelo 35
History of Mo'olelo Collecting 35
Mo'olelo and Sources 38
'Ōlelo No'eau 39
Place Names 39
'Ili Names of Ka'awaloa and Claimants 44
'Ili Names of Kealakekua and Claimants 44
Historic References 44
History of Land Divisions 44
Royal Patent and L.C.A. Claims: Ka'awaloa, Kealakekua and Nāpō'opo'o 45
Moku – South Kona 47
Kealakekua 47
Nāpō'opo'o/Kekua 48
Ka'awaloa 50
'Captain Cook Pilikia 51
Pali Kapu O Keōua 52
Kona Field System 52
Whaling Industry 53
Coffee Industry in Project Area 53
Ranching Industry in Project Area 54
Pineapple Industry in Project Area 55
Previous Studies 55

Previous Oral Histories 102

ETHNOGRAPHIC DATA AND ANALYSIS 104
Research Themes or Categories 104
Ethnographic Demographics 104
Ethnographic Consultants and Backgrounds 105
Irene Wainani (Leslie) DeBina 105
Harriet Iolani Haleaka "Aka" (Pule) Dooley 106
Johanna (Leslia) Gaspar 109
Tommy Hickox 109
Analu Kame'ekamoku Josphides 110
Verna (Navas) Kihe 113
Wally Lau 114
Gordon Leslie 114
Milton Leslie 116
Derek "Mac" McGuire 117
Land Resources and Use 121
Water Resources and Use 131
Marine Resources and Use 135
Cultural Resources and Use 147
Project Concerns 156

CIA SUMMARIES AND ASSESSMENT 163
Summary of Findings 163
Summary of Significant People and Events 163
Summary of Land and Water Resources and Use 168
Summary of Marine Resources and Use 168
Summary of Survey Findings [Cultural Resources (Places or Properties) & Practices] 170
Cultural Resources (Places or Properties) 170
Cultural Properties/Practices 170
General Concerns Regarding the Proposed Project 171
Environmental Council Guidelines Criteria in Relation to Project Lands 172
Cultural Impact Assessment 172
Ka'awaloa 172
Pali Kapu O Keōua 173
Nāpō'opo'o/Kekua – Beach Park 173
Kealakekua Bay 173
Nāpō'opo'o – Pier/Wharf 173

Recommendations 173

REFERENCES CITED 174

LIST OF TABLES

1. Hawai'i Island Royal Line 8

2. Annotated place names of Kealakekua Bay State Historical Park and vicinity 39

3. Interviews for Kealakekua Bay State Historical Park CIA (2009) 104

4. Interviews for Kealakekua Bay State Historical Park CIA (2009) 168

5. Cultural Properties/Practices of Kealakekua Bay State Historical Park 170

6. General Concerns of Ethnographic Consultants 171

LIST OF PHOTOGRAPHS

1. View of Kealakekua Bay from rocky shore of KBSHP Cover
2. Map of KBSHP location 3
3. Map of KBSHP 3
4. Community Meeting with State Parks staff 3
5. Kealakekua Bay and its rocky beach 6
6. Kealakekua Bay and its rocky beach 6
7. The "pond" inland from the bay; (L) northwest section 7
8. The "pond" inland from the bay; (R) southeast section 7
9. KBSHP flora 8
10. View towards Manini 9
11. View towards Ka'awaloa 9
12. Finger Coral (Wiki-Porites) 59
13. Harriet Iolani Haleaka "Aka" (Pule) Dooley 106
14. Analu Kame'ekamoku Josphides 110
15. Verna (Navas) Kihe 113
16. Derek "Mac" McGuire 117
17. Only two of original 7 shacks/lei stands left 124
18. Only two of original 7 shacks/lei stands left 124
19. Big White House 125
20. Milton's Ohana House 125
21. New Pavilion 126
22. Prison and pond (HMCS 1890) 127
23. Heiau Mongoose 127
24. Various plants in Park area 127
25. Various plants in Park area 127
26. Various plants in Park area 127
27. Various archaeological sites 128
28. Various archaeological sites 128
29. Various archaeological sites 128
30. Various archaeological sites 128
31. Various archaeological sites 128
32. Various archaeological sites 128
33. 'Pond' 128
34. 'Pond' 128
35. Ka'awaloa Flats, Lighthouse on Point 130
36. Capt. Cook Monument 130
37. Ponding in back of rocky beach 133
38. Ponding in back of rocky beach 133
39. South side of pond with rock walls 133
40. South side of pond with rock walls 133
41. Road in back section 134
42. 'Pond' much larger this year 134
43. 'Pond' much larger this year 134
44. Pond or wetland 134
45. Gordon's boat 135
46. Boogie-boarding 135
47. Swimming 135
48. Snorkeling 135
49. Kayaking 135
50. Various boatings 135
51. Pole fishing 139
52. Limu 141
53. Crabs 141
54. Pipipi 141
55. Nāpō'opo'o Beach 1800s (HMCS) 142
56. Beach today 142
57. Sun bathing on sand 143
58. Some of the damage from 2011 Tsunami 143
59. Some of the damage from 2011 Tsunami 143
60. Some of the damage from 2011 Tsunami 143
61. Views of Pier from Nāpō'opo'o 144
62. Views of Pier from Manini 144
63. 'Leslie' Beach 144
64. Rock slide area across waters 145
65. Monument area 145
66. Hikiau Heiau: various views 150
67. Hikiau Heiau: various views 150
68. Hikiau Heiau: various views 150
69. Hikiau Heiau: various views 150
70. Hikiau Heiau: various views 150
71. Hikiau Heiau: various views 150
72. Mac's canoe (no longer there) 154
73. Koa canoe 155
74. Shaped coral, shaped/colored rocks 155
75. Shaped coral, shaped/colored rocks 155
76. Shaped coral, shaped/colored rocks 155
77. Shaped coral, shaped/colored rocks 155
78. Shaped coral, shaped/colored rocks 155
79. Shaped coral, shaped/colored rocks 155
80. Shaped coral, shaped/colored rocks 155
81. Cultural practitioner checking out driftwood 162
82. People in tree next to heiau 162

LIST OF APPENDICES

A. Act 50 - SLH2000 186

B. Guidelines for Assessing Cultural Impacts 188

C. Map of Nāpōʻopoʻo ca. 1892 191

D. Agreement to Participate in Ethnographic Survey 191

E. Basic Ethnographic Instrument 194

F. Signed Consent Forms 196

G. Release Forms 208

H. Kaʻawaloa Flat LCA Map 209

I. Henry Robert's 1779 Map of Kealakekua Bay Cook's Voyage 210

J. Nāpōʻopoʻo Mahele Map 211

K. George Jackson Map 212

L. 1890s Photos 213

M. 1936 TMK Map 215

N. Stokes 1906 Survey Map 216

O. Doty Map of Stations 217

INTRODUCTION

At the request of *Belt Collins Hawaii LLC.* and *Hawaii Division of State Parks,* a Cultural Impact Assessment [CIA] was conducted as part of the *Kealakekua Bay State Historical Park Master Plan and EIS* process. The project lands are located in the lands of Kaʻawaloa, Kealakekua and Keōpuka, District of South Kona, Hawaiʻi Island. This CIA was in accordance with the State of Hawaii Environmental Council *Guidelines for Assessing Cultural Impacts* (Adopted on November 19, 1997) and is in compliance with Act 50 SLH 2000 (HB 28 H.D.1) (Appendix A) as it amends the State of Hawaiʻi Environmental Impact Statement law [Chapter 343, HRS] to include "effects on the cultural practices of the community and State. [It] also amends the definition of 'significant effect' to include adverse effects on cultural practices." The purpose of a CIA is to gather information about traditional cultural practices, ethnic cultural practices and pre-historic and historic cultural resources that may be affected by the implementation of a development project or undertaking. The *level of effort* included a broad cultural and historical background review and an ethnographic survey (oral histories) of ten people who are connected to these lands in various ways.

This report is organized into five parts or chapters. Chapter 1 describes the project area in terms of location in the context of ʻili, ahupuaʻa, district and island, as well as a generalized description of the natural environment (geology, flora and fauna). Chapter 2 explains the methods and constraints of this study. Chapter 3 summarizes the review of the traditional (cultural) and historical literature in the context of the general history of Hawaiʻi, the island of Hawaiʻi, the traditional district of South Kona, the local histories of Kaʻawaloa, Kealakekua, Keōpuka and Nāpōʻopoʻo, Chapter 4 presents the analysis of the ethnographic survey based on the supporting raw data (oral history transcripts) as it pertains to land, water, marine and cultural resources and use in the project area and vicinity. It also includes background data of the participating ethnographic consultants. Chapter 5 summarizes the findings of this cultural impact study based on Chapters 1 through 4 and presents a cultural impact assessment and recommendations.

SCOPE OF WORK

The scope-of-work (SOW) was based on the Environmental Council *Guidelines for Assessing Cultural Impacts* (1997) [Appendix B] and focuses on three cultural resource areas (traditional, historical and archaeological), conducted on two levels: archival research (literature/document review) and ethnographic survey (oral histories).

Cultural Impact Assessment [in accordance with Environmental Council *Guidelines* (1997)]

- conduct historical and other culturally related documentary research;
- identify and consult with individuals with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupuaʻa; or with knowledge of the area potentially affected by the proposed action;
- receive information from or conduct ethnographic interviews and oral histories with person(s) having knowledge of the potentially affected area;
- identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
- assess the impact of the proposed action on the cultural resources, practices and beliefs identified.

Research on traditional resources entailed a review of the literature compiled by State Parks staff; review of Hawaiian moʻolelo (stories, legends or oral histories) of late nineteenth and early twentieth century ethnographic works, and interviews with knowledgeable consultants who met the following consultant criteria:

- Had/has Ties to Project Location(s)
- Known Hawaiian Cultural Resource Person
- Known Hawaiian Traditional Practitioner
- Referred By Other Cultural Resource People

Historic research focuses on the literature compiled by State Parks staff. It also includes a chronological history of greater Hawai‘i, Hawai‘i Island and the broader context of the ahupua‘a (traditional land division) and moku (traditional district).

PROJECT AREA, LOCATION AND PHYSICAL ENVIRONMENT

Kealakekua Bay State Historical Park includes the 221 acres that surround Kealakekua Bay, as well as the bay which encompases 315 acres and measures one mile in width and 1.5 miles in length from Palemano Point to Cook Point. The bay is the largest natural sheltered bay on the island of Hawai‘i with many features, an abundance of marine resources and a long Hawaiian cultural history. While the bay and surrounding lands are a part of various ahupua‘a, the general area collectively is referred to as “Kealakekua.” [Yent and Ota (1981/1984) pg 64].

> The cultural, natural, and recreation values of Kealakekua have resulted in various areas of the management area being under different jurisdictions within the Department of Land and Natural Resources. The bay is a Marine Life Conservation District (MLCD) and jurisdiction for the marine resources is under the Division of Aquatic Resources…. The land around the bay [was] designated Kealakekua Bay State Historical Park [in 1967] and is under the jurisdiction of the Division of State Parks. The uplands of the Kealakekua Ahupua‘a are part of the Forest Reserve under the jurisdiction of the Division of Forestry and Wildlife. Overlying these jurisdictions are the State Historic Preservation Division and the Division of Conservation and Resource Enforcement.
>
> The 315-acre bay had been designated a State Underwater Park in 1971, but was transferred to the Division of Boating and Ocean Recreation in 1992. Executive Order (E.O.) 4145 that officially established Kealakekua Bay State Historical Park was not executed until December 2005. This E.O. set aside 217.88 acres under the jurisdiction of DLNR, Division of State Parks for the establishment of a public area for park purposes. [The transfer of Nāpō‘opo‘o Landing in 2012 increased the land area of the park. With the inclusion of the wharf and bay within the park, the total size of Kealakekua Bay State Historical Park is now 536 acres (Yent 2018)]

Project Location

Kealakekua Bay State Historical Park is located in the traditional district (moku) of South Kona, about twelve miles south of Kailua-Kona and situated in portions of Ka‘awaloa, Kealakekua and Keōpuka ahupua‘a. The park is divided into three sections for management and planning purposes: Nāpō‘opo‘o, Pali Kapu O Keōua, and Ka‘awaloa.

> Kealakekua Bay is located on the southwestern shore of the island of Hawaii. This sheltered bay is approximately 1 mile across (north-south). The north end of the bay is marked by Ka‘awaloa Flat and the late prehistoric lava flows of Keōpuka while the southern side is marked by the village of Nāpō‘opo’o and the prehistoric lava flows at Ke‘ei. The central portion of the bay is adjacent to Pali Kapu O Keōua and Pali O Manuahi, two sections of the steep cliff or fault scarp formed by an older quaternary lava flow that separates Ka‘awaloa from Nāpō‘opo‘o (Yent 1993:1).
>
> Kealakekua Bay SHP consists of [221] acres of land surrounding Kealakekua Bay in the district of South Kona on the island of Hawai’i. The park includes the makai portion of the Ka‘awaloa ahupua‘a on the north and Nāpō‘opo‘o in the ahupua‘a of Kealakekua to the south. On the north, the park boundary includes a portion of the Keōpuka ahupua‘a that encompasses Puhina O Lono

> Heiau. The central portion of the bay is backed by the steep cliff known as Pali Kapu O Keōua. The parklands consist of a narrow strip, averaging 300 feet in width, along the top of this pali and including Pali O Manuahi on the Nāpō‘opo‘o end. The Nāpō‘opo‘o Section of Kealakekua Bay SHP encompasses approximately 7.5 acres below the pali along the southern side of Kealakekua Bay. The Nāpō‘opo‘o Section … includes Hikiau Heiau, the beach reserve, [Nāpō‘opo‘o Landing] and the former County park. Immediately adjacent to this portion of the park is Nāpō‘opo‘o Village, a residential community situated along the lower portion of Nāpō‘opo‘o (Government) Road and the Beach Access Road. The former County Park is located at the end of the Beach Access Road and to the south of Hikiau Heiau (Yent 1999:1/2018).

[Photos of the maps below were taken at Community Meeting on November 14, 2009].

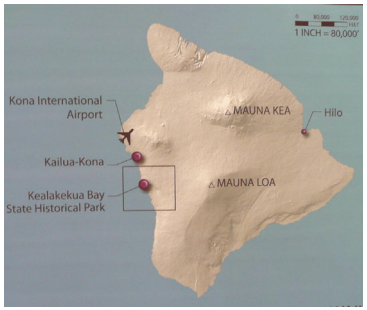

Photo 2. Map of KBSHP location (11/14/09 #59)



Photo 3. Map of KBSHP (11/14/09 #57)



Photo 4. Community Meeting with State Parks staff (11/14/09 #87).

Physical Environment

The environment of Kealakekua Bay State Historical Park includes various marine, geologic, flora and fauna resources. Culturally it was a highly cultivated area according to Handy & Handy 1978:273):

> The most highly developed agricultural area of the island of Hawaii was the '*okana*, or major land division of Kona. It was here, at Kealakekua (The Path-of-the-God) that Lono the rain god is said to have lived anciently, bringing to the people the first cultivated plants. The beautiful development of plantations here, which so impressed the early explorers….

Geology. Hawai'i Island is made up of five volcanoes, an extinct submarine volcano and Lō'ihi Seamount. Mahukona is the first volcano to form part of the island and is submerged (435,000 years ago) off the northwest shore; its summit and some of its rift zones are buried beneath coral deposits and flows from adjacent Kohala and Hualālai volcanoes. Kohala volcano is extinct; its shield lavas date to about 460,000 years ago, the oldest lava on the island. Its post shield lava is as recent as 60,000 years. The thick ash that covers Kohala is probably from Mauna Kea. Mauna Kea is a dormant volcano; its post shield stage erupted 4,500 years ago – short flows and large cinder cones. While most of the thick ash covering its flanks are from its own eruptions, up to three feet may be from eruptions from Kīlauea about 50,000 years ago. Mauna Kea could erupt again, but not likely. Hualālai is an active postshield stage with eruptions from 200 years ago, 700 years ago, 900 years ago and 1,200 years ago. The final summit caldera is buried. Hualālai is likely to erupt in the next 100 years. Mauna Loa is nearing the end of its shield stage and like Kīlauea, Mauna Loa is slipping slowly towards the ocean, often generating earthquakes. Kīlauea is the most active volcano on Earth and has erupted more than 60 times since 1840 (Clague 1998:44-46 In Juvik & Juvik 1998). The areas of Ka'awaloa, Kealakekua and Nāpō'opo'o are Mauna Loa flows - Ka'u Basalt (Juvik & Juvik 1998:43).

The physical and scenic attributes of the park are due largely to the volcanic and geological history of the leeward slopes of Mauna Loa. Lava flows date between 10,000 and 50,000 years; the most recent at Ka'awaloa where barren lava is evident and the shoreline is pāhoehoe. Pali lava tube openings are a visible testament to past lava flows, although some have since been closed by landslides. The center of the lands surrounding the bay is a 600 foot vertical *pali* (cliff), a volcanic scarp created by landslides and wave action. The coastline was also shaped by landslides and wave action including tsunami. In 1877 Kealakekua Bay was the site of a submarine volcanic eruption that was preceded by a severe earthquake; other major earthquakes and landslides occurred in 1950, 1951, 1983 and 2006.

> Major earthquakes occurred along this fault line in 1868, 1877, and 1951 causing landslides along the pali face. Tsunami have also caused extensive damage along the shoreline of Nāpō'opo'o. The 1946 tsunami at Nāpō'opo'o resulted in waves that swept small boats over the pier which is about 8 feet above low tide (Bartholomew 1960: 46). The 1960 earthquake and tsunami caused rock collapse at Hikiau Heiau, destroyed the Hackfeld store at the landing, and destroyed the store/bar in the vicinity of the former County Park. The changes in Nāpo'opo'o beach also reflect impacts from these natural forces. Photographs from the 1890s to the 1930s indicate a white sand beach but by the 1950s, portions of the beach were covered with waterworn basalt boulders. After Hurricane Iniki in 1992, the entire beach was covered with basalt boulders and coral cobbles (Yent 1999:17).
>
> Lava flows moving downslope over the fault scarp have spread out beyond it to form the broad gently-sloping apron that borders the coast between Kealakekua Bay and Honaunau. The Keei Battlefield is located on this flat... The only historic eruption within the area took place beneath the ocean in 1877. At that time (February 24, 1877) steam and fragments of lava rose along a west-northwest-trending fissure in Kealakekua Bay and for a mile or so farther out to sea. A continuation of the crack is said (H. M. Whitney, 1877) to have extended inland nearly 3 miles, and clouds of steam and smoke issued from the fissure either in that area or farther up the mountainside (Westervelt, 1916). The eruption was preceded by a severe earthquake [30].

The following description of the geology of the area is from Hommon (1986b:7):

> The Kealakekua region, which rises from the bay to 6,200 feet at the upper end of the ahupuaa of Kealakekua, is situated on the western flank of Mauna Loa, the shield volcano that forms the southwestern portion of the island of Hawaii. With the exception of lavas exposed at the base of the Pali Kapu O Keōua that are probably of Pleistocene age, the lava beds in the Kealakekua region are of recent geologic age. While none of the historic flows have entered the Kealakekua region, a submarine eruption was witnessed at Kealakekua Bay in 1877.
>
> The 600-foot cliff called the Pali Kapu O Keōua, which borders the northeast side of the bay, is the scarp of one of the faults of the Kealakekua-Kaholo fault system. The Kona earthquake of 1951 was caused by movement in this fault at a point southwest of Ka'awaloa village. Both Ka'awaloa and Kekua settlements are situated on gently sloping ground at the base of the cliff. Beyond the sheer cliff the land slopes upward moderately steeply toward the 13,677-foot summit of Mauna Loa, some 17 miles to the east.
>
> The soil underlying the ancient village of Kekua, the modern one of Nāpō'opo'o and vicinity is classified as Kainaliu very stony silty clay loam. The flat on which the village of Ka'awaloa is situated as well as much of the slope inland and above it consists of a'a and pahoehoe lavas. The Pali Kapu O Keōua and a portion of the land around the village of Kekua is classified "broken land".
>
> Though streams are absent, a considerable amount of ground water enters the bay at numerous brackish seeps along the coast. The seeps along the water line as well as Umi 's well at Ka'awaloa, the pond at Kekua and other shoreline pools and springs, provided drinking and washing water to the people of these and other settlements. The region also includes a number of fresh water springs in the inland zone.

Marine Ecosystems-Rocky and Sandy Beaches

Rocky Beaches (mostly consolidated basalts) are located on shorelines of all islands where sand and other sediments are absent due to constant wave action, currents, steep submarine slopes and lack of offshore sand reserves. Kealakekua is now a "rocky beach" however according to residents of the area this was not always so – it used to be a sandy beach that was altered by landslides and severe storm wave action. Just beyond the shore rocks is a "white" sandy bottom. White sand is produced by the breakdown of coralline algae and corals. Wave action and erosion determine the composition and longevity of beaches (Juvik & Juvik 1998:113-114).

The cultural significance of sandy beaches is that early Hawaiians used them as burial grounds. Other cultural significance for both sandy and rocky beaches is their use as canoe launch sites, recreation, subsistence and ceremonial purposes (Juvik & Juvik 1998:114).

> Kealakekua Bay measures about 1.5 miles long from Cook Point to Palemano Point and about 1 mile in width. The floor of the bay drops off steeply beyond about 10 fathoms and most of the marine life of the bay is concentrated in a narrow band of shallows along the shore. A zone of coral parallels the shore of the bay down to a depth of about 30 meters except in the area of Nāpō'opo'o and Kekua, where the bottom is sand and in inshore rocky bottom areas along the southern side of the bay and portions of the Ka'awaloa and cliff coastlines. The most abundant algal species are those of the genus Ulva, which thrive in the brackish water near the seeps at Ka'awaloa (In Hommon 1986b:8).




Photos 5 & 6. Kealakekua Bay and its rocky beach (6-11-15 #67; #72).

Marine Biota (Fauna). The range of marine biota includes various species of fish (jack fish, parrot fishes, wrasses, damselfishes, surgeon fishes, etc.), spinner dolphins, sharks, turtles, rays, crabs, seabirds, limpets (ʻopihi), periwinkles, littorine snails, gastropods, urchins, various shell species (Juvik & Juvik 1998:114).

Marine Biota (Flora). Marine plants include a variety of algae/seaweed or limu. They provide nutrients as well as added flavor to meals.

Fishponds. Fishponds (loko iʻa) were an ancient Hawaiian invention that first flourished in the 1400-1600s, but continued to be used in historic times. [One of the first mentioned in the oral histories was Lālākea in Waipiʻo during Līloa's reign - A.D. 1580-1600; the fishponds of Kaloko and Honokōhau, Kona were noted in the oral histories during Lonoikamakahiki's reign – A.D. 1640-1660 (Cordy 2000:217)]. Unfortunately, many were left to ruin, modified or re-purposed as land stewardship changed. There were various types of fishponds, primarily due to the environment and conditions.

> There were six major types of Hawaiian fishpond. Loko wai was a freshwater pond. A loko iʻa kalo was a combination of a taro patch and a fishpond. A loko puʻuone was a pond isolated from the sea either by a sand ridge, a lava flow, or a limestone formation. It contained either brackish water or a combination of brackish water and fresh water. A loko kuapa is a shore pond enclosed by a rock wall (kuapa) broken by a ditch (ʻauwai) or one or more sluice gates (makaha). The makaha was used to regulate the flow of water and it also allowed the fingerlings (young fish) to enter the pond. A loko ʻumeiki was a fishtrap and was similar to loko kuapa in construction. The loko ʻumeiki had several lanes that were walled on both sides and either led in or out of the pond. Loko kuapa and loko ʻumeiki were found mostly on Oʻahu and Molokaʻi because their fringing reef had shallow water and wave-protected areas. Natural pools or ponds that are found along the rocky shores were also used and occasionally modified by the Hawaiians. A kaheka gets its water from high waves while a hapunapuna is fed by springs. Fishponds were named after the chiefs who may have had direct or indirect association with the ponds, demigods, the land unit in which the pond is located, a legendary event, or names of the specific fish raised in the pond (SHPD).

Today there is still evidence of what may have been a loko wai or a freshwater fishpond in the park. Some residents want to see it restored. However, there were references that it was a "pond" cited in Yent's (1985) report and "has been silted in by slopewash and flooding since it was first recorded in 1779" (Yent 1985:4).

> We had not been long settled at the observatory before we discovered in our neighborhood the habitations of a society of priests, whose regular attendance at the morai [heiau] had excited our curiosity. Their huts stood round a pond of water and were surrounded by a grove of cocoanut [sic] trees, which separated them from the beach and the rest of the village and gave the place an air of religious retirement" (King, 1784: 394—5). "Our route led to a romantic silent spot west [north] of the moral which was the residence of the priest that conducted the ceremony. It consisted of a circle of large cocoanut and other trees that stood upon the margin of a pond of water in the center of which was a bathing place. Upon the north [east] side of the pond were a row of houses standing among the trees and were most delightfully situated; These houses extended almost to the moral, nearest which was that of the priest who was the lord of this beautiful recess. Between the houses and the pond were a number of grass plots intersected by several square holes with water in them which were private baths. On the east [south] side under the wall of the moral was a thick arbor of low spreading trees, and a number of ill carved images which was hung round with old pieces of their cloths and some viands" (Ledyard, 1963: 110) (In Yent 1985:9).
>
> Map of Nāpōʻopoʻo, circa 1892, showing a structure in Kealakekua Bay Park situated near the present pavilion. Note pond north of heiau labeled as "fish pond" (Hawaii Territory Survey, Map of Nāpōʻopoʻo, traced in 1928 from 1892 map by S. M. Kanakanui) (Smith 1988:9) [Appendix C].




Photos 7 & 8. The "pond" inland from the bay; (L) northwest section and (R) southeast section (6-11-15 #113; #111).

Terrestrial Ecosystem-Native and Today

The native ecosystem of Kealakekua was Lowland dry and mesic forest, woodland and shrubland and Coastal. Today it has been greatly transformed - the result of centuries of human activity (Juvik & Juvik 1998:122-123). The native Lowland dry and mesic forest, woodland and shrubland are found on the lower leeward slopes of high islands. The annual rainfall is between 20-80 inches, the climate is warm to hot with seasonal drought periods. The Coastal or seashores are found on all islands with leeward shores warm and dry with less than 30 inches of annual rainfall. Substrates include basalt cliffs, sandy beaches, basalt and coral boulders and littoral cones or tuff (consolidated ash) (Juvik & Juvik 1998:127-128). Today the sandy beach of Kealakekua Bay has been replaced by basalt and coral boulders.

The cultural significance of the Lowland dry and mesic forest, woodland and shrubland was in great part the vegetation that included sandalwood, Pili grasslands, medicinal plants and other hardwoods. The sandalwood on all islands was exploited to near extinction in the early 1800s. Clearing for traditional agriculture (taro and sweet potato) and traditional habitation and later for other historic industries (coffee and cattle) greatly compromised this ecosystem. The Coastal areas were the most populated in ancient

times (Juvik & Juvik 1998:129) and Kealakekua was no exception. It was highly prized for its sheltered bay and resources by the ruling chiefs of Hawai‘i island who often resided and/or were buried there.

Flora-Terrestrial (Native and Today)

Native Lowland dry and mesic forests included ‘ōhi‘a (*Metrosideros polymorpha*), koa (*Acacia koa*), lama (*Diospyros sandwicensis*), and wiliwili (*Erythrina sandwicensis*). More diverse mesic forests once widespread are now rare. Pili (*Heteropogon contortus*) once thrived on lower slopes, dry ridge tops and cliffs. Native mesic or dry shrublands included ‘a‘ali‘i (*Dondanaea viscosa*), ‘ākia (*Wikstroemia sp*), ko‘oko‘olau (*Bidens sp*) and ‘ūlei (*Osteomeles anthyllidifolia*) (Juvik & Juvik 1998:127). Today there is an extensive range of alien trees, shrubs and grasses throughout the area (e.g. koa haole, ‘opiuma trees and Guinea grass).



Native Coastal areas included a variety of salt-tolerant species such as naupaka-kahakai (*Scaevola sericea*), ‘ilima (*Sida fallax*), naio (*Myoporum sandwicensis*), ‘ākulikuli (*Sesuvium portulacastrum*), and ‘aki‘aki grass (*Sporobolus virginicus*) (Juvik & Juvik 1998:128). Today most of these plants are rarely seen in the Kealakekua Bay area.
Photo 9. KBSHP flora (6-11-15 #127).

Fauna-Terrestrial (Mammals and Avifauna)

In most of the elevation zones, alien animals such as feral cats, pigs, goats, sheep, cattle or horses damaged native vegetation. Terrestrial fauna in pre-colonized Hawai‘i consisted of only one endemic mammal, the hoary bat (*Lasiurus cinereus*), thousands of endemic insects [i.e., damselflies (*Ischnura ramburii* and *Ischnura posita*) found around reservoirs and streams], and about 100 species of endemic birds such as the Hawaiian honeycreeper (*Drepanididae spp*) (Berger, 1972:7, Kirch, 1985:28), ‘ākepa (*Loxops coccineus*), ‘i‘iwi (*Vestiatia coccinea*), and ‘elepaio (*Chasiempis sandwichensis*) and the pueo or Hawaiian owl (*Asio flammeus sandwichensis*). Early Polynesian introduced animals included the Southeast Asian pig (*Sus scrofa*), jungle fowl (*Gallus gallus*), dog (*Canidae spp*), and the Polynesian rat (*Rattus exulans*) (Juvik & Juvik 1998:126-127).

Today most of the native birds have been replaced by alien species with exception of the pueo, still found in the Kealakekua Bay State Historical Park and seabirds that still roost in the cliff caves and rock shelters. The Hoary bat appears to be making a comeback as several have been spotted in the area and vicinity.

Trail Systems of Hawai‘i Island

Cordy (2000) discusses the trail systems of Hawai‘i Island and how they provide access to the resources within an ahupua‘a and connect the people with each other, especially the ali‘i with the maka‘ainana.

> Major trails linked all [the] moku. A trail ran above the cliffs of Hāmākua and Hilo, passing though the housing and field areas and descending in and out of the numerous gulches. This trail then ran along the sand shore of Hilo Bay. One branch led inland to Kea‘au, ‘Ōla‘a, Kīlauea Crater and descended through the upland fields of Ka‘ū. The other branch continued along the shore from Hilo Bay through Puna, and into Ka‘ū. (Another upland branch separated near Kea‘au, ran towards Pāhoa and then through the uplands of Puna to Kīlauea.) These two major trails – coastal and in the upland fields – continued through Ka‘ū and then through Kona. Near Keāhole Point, the upland trail may have descended to the shore Kīholo Bay area. The coastal trail then continued into Kohala, where several branches led up towards Waimea, while the coastal trail continued on through Kohala into Hāmākua and Waipi‘o, where it rose and joined the trail cliffs in Hāmākua. The Waimea branch

continued up into Waimea and then over to the trail above the cliffs of Hāmākua, with several branches reaching that Hāmākua trail at different points. These major trails were the main ala loa or ala aupuni of Kamehameha’s time – linking all the communities of the nation.

Several other major trails linked the moku across the mountains. For example, a general trail corridor extended from Hilo up across the Saddle and down into Waimea. Puna and Ka‘ū had trails linking up with this corridor on the Hilo end, as did Hāmākua and Kohala on the Waimea end. A second corridor ran from Waimea up along the Kona- Hāmākua border to Ahu-a-‘Umi heiau in the Saddle between Mauna Loa and Hualālai, and then down to the shore in central Kona. Numerous caves which served as rest stops and camps for travelers are still found along this corridor. Another trail led from Ka‘ū up along the flanks of Mauna Loa to Ahu-a-‘Umi heiau, providing access from Ka‘ū to Kona, and the corridor beyond to Waimea. Besides these major trails, numerous mauka-makai (mountain to sea) trails ran within ahupua‘a, connecting the coast to upland fields and forests. Rest shelters were also commonly found along these trails in the form of caves or small, walled surface structures called o‘io‘ina (Cordy 2000:47-48).



Photo 10. View towards Manini (6-11-15 #145).



Photo 11. View towards Ka‘awaloa (6-11-15 #68).

METHODS

This Cultural Impact Assessment was conducted between the months of July 2009 to July 2010. The study consisted of three phases: (1) cultural and historical archival research (literature review primarily provided by State Parks staff); (2) ethnographic survey (oral history interviews), transcribing taped interviews, analysis of ethnographic data (oral histories) and (3) report writing.

Personnel. The personnel consisted of the author (ethnographer) who has a master's degree in Anthropology, with a graduate curriculum background in the archaeology track as well as anthropology theory, cultural resource management, ethnographic research methods, and public archaeology; an undergraduate curriculum background that included Hawaiian History, Hawaiian Language, Hawaiian Archaeology, Pacific Islands Religion, Pacific Islands Archaeology, Cultural Anthropology, as well as a core archaeology track, Geology, and Tropical Plant Botany; and ethnographic field experience that includes over 370 interviews to date [425+ 2017].

Level of Effort. The level of effort for this study included a broad archival research literature review and an ethnographic survey [10 interviews].

Theoretical Approach. This study is loosely based on *Grounded Theory,* a qualitative research approach in which "raw data" [transcripts and literature] are analyzed for concepts, categories and propositions. Since this was a semi-focused study, categories were pre-selected as part of the overall research design. However, it is not always the case that these research categories are supported in the data. Categories were generated by forming general groupings such as "Land Resources & Use," "Water Resources and Use," "Marine Resources & Use" and "Cultural Resources & Use." Conceptual labels or codes are generated by topic indicators [i.e., flora, fauna]. In the *Grounded Theory* approach, theories about the social process are developed from the data analysis and interpretation process (Haig 1995; Pandit 1996). This step was not part of this cultural impact assessment as the research sample was too small.

Archival Research. Some of the archival material for the cultural and historical literature review was provided by State Parks staff, the rest was compiled by the author. The primary and secondary source material came from the Hawaiian Collections of the University of Hawai'i Hamilton Library (Manoa Campus); the Bishop Museum Archives; Hawai'i Children's Mission House archives; State Historic Preservation Division library; information from State Bureau of Conveyances; personal library; and Internet searches. Primary source material included genealogies, oral histories and other studies. Secondary source material included translations of 19th century ethnographic works, historical texts, indexes, archaeological reports, and Hawaiian language resources [i.e., proverbs, place names and dictionary].

Ethnographic Survey (10 interviews), Data Analysis and Final Report.

Consultant Selection. The selection of the consultants was based on the following criteria:

- Had/has Ties to Project Location(s)
- Known Hawaiian Cultural Resource Person
- Known Hawaiian Traditional Practitioner
- Referred By Other People

Interview Process. The interview process included a brief verbal overview of the study. Then the consultant was provided with a consent or 'agreement to participate' form to review and sign (Appendix D). An ethnographic research instrument (see Appendix E) was designed to facilitate the interview; a semi-structured and open-ended method of questioning based on the person's response ('talk-story' style). Each interview was conducted at the convenience (date, place and time) of each consultant. The interviews were

conducted using a cassette tape recorder. Each person was allowed to choose were they wanted to have their interview conducted. Two were interviewed at their homes; two were interviewed at Hilo Starbucks; two were interviewed at a park; two were interviewed at their work place; three were interviewed at *Kalama's*, two at Keauhou Shopping Center; three at the Park (pavilion and beach). Notes were also taken, but more attention was given to listening intently to each consultant. A makana or gift was given to each consultant in keeping with traditional reciprocal protocol.

Transcribing-Editing Process. The taped interviews were transcribed by hired transcribers and edited by the ethnographic investigator. Each consultant was emailed/mailed a mahalo letter that explained the transcript review process, along with the interview transcripts, and a 'release of information' form (Appendix F). This process allows for corrections (i.e., spelling of names, places), as well as a chance to delete any part of the information if so desired or to make any stipulations if desired. Each consultant was also informed of the two-week time limit for their review after which it will be assumed that the raw data can be selectively used. Unfortunately no one returned their revised transcript with their Release Forms [Appendix G].

Ethnographic Analysis Process. The analysis process followed a more traditional method, as a qualitative analysis software program was not necessary. The interview was manually coded for research thematic indicators or categories (i.e., personal information; land resources and uses; site information-traditional and/or historical; and anecdotal stories). For the purpose of this study, it was also not necessary to go beyond the first level of content and thematic analysis, as this was a more focused study. However, sub-themes or sub-categories were developed from the content or threads of each interview [e.g., bay recreation; bay fishing; people of Nāpō'opo'o].

Research Problems. Often circumstances happen to cause changes:

- To date no one returned their revised transcripts; or turned in final release forms. However, each Consent Form was signed with a clause that stated if revised transcripts were not returned in two weeks it would presume consent to use information for the CIA report.
- The regular transcribers did not feel comfortable transcribing an interview that was primarily Hawaiian names (genealogy) so they declined;
- The interviewee who had the Hawaiian genealogy agreed to transcribe, but did not have access to a tape recorder or transcribing machine…to date (2018) transcripts or tapes have not been returned;
- With the exception of two interviews done at interviewee's home, the others all had distractions and/or sound conditions (wind, other people, vehicle noise);
- Two interviews were disrupted and had to be continued at another date;
- Due to issues with the wind, and other noises (e,g, people, vehicles), the transcribers could not hear or discern certain words in the interviews and inserted blank lines (___).

CULTURAL & HISTORICAL BACKGROUND REVIEW

The Cultural and Historical Background Review entailed a broad search of primary and secondary source literature. The majority of this research material came from Hawaiian Collections of the University of Hawai‘i Hamilton Library (Mānoa Campus); State Historic Preservation Division library, State Survey Division; Bishop Museum Archives; Maui Historical Society Archives at Bailey House Museum, and the researcher’s private library. Primary source material included Land Court records, Company records, maps, newspaper articles, visitor journals, genealogies, oral histories and other studies. Secondary source material included translations of 19th century ethnographic works, historical texts, indexes, archaeological reports, Hawaiian language resources (i.e., proverbs, place names and Hawaiian language dictionary), Internet searches and reports provided by State Parks staff. A review of the archival material is presented in this section, preceded by an overview of the chronology of the moku (district) and the ahupua‘a within the context of the broader history of the moku ‘āina (island) of Hawai‘i Island and Greater Hawai‘i.

Models of Hawaiian Chronology

Models of Hawaiian Chronology such as Cordy (1974/1996), Hommon (1976/1986a) or Kirch (1985) provide a temporal view of settlement patterns as well as cultural changes through time, from initial settlement through first contact with the western world. Cordy’s (1974) first model of a cultural development sequence looked at Initial Settlement Period, New Adaptation Period and a Complex Chiefdom Period. He has since modified this model (1996). Hommon’s (1976) model of sociopolitical development sequence included four phases: Phase I AD 500-1400; Phase II AD 1400-1550; Phase III AD 1550-1650; and Phase IV AD 1650-1778. This model was later modified (1986) to three phases: Phase I AD 400-1400 Exploration and Settlement; Phase II AD 1400-1600 Expansion; and Phase III AD 1600-1778 Consolidation. Kirch (1985) believed that initial settlement occurred much earlier than AD 600. His cultural-historical sequence model has four phases: Phase I Colonization Period (AD 300-600); Phase II Developmental Period (AD 600-1100); Phase III Expansion Period (AD 1100-1650); and Phase IV Proto-Historic Period (AD 1650-1795) (Kirch, 1985:296-308; Kolb, 1991:205).

For this cultural impact assessment, Kirch’s (1985) model will be used with the following addition: Early Historic Period (AD 1795-1899), Territorial History (AD 1900–1949), and Modern Historic Period (post AD 1950). The reasoning behind Kirch’s model is the belief of many native Hawaiian people that based on oral histories or legends, the migrations of their Polynesian ancestors to Hawai‘i took place prior to AD 700. According to Fornander (1917: IV: II: 406), there are seventy-five generations from Wakea to Kamehameha I who born was around AD 1753. If just eighteen years were allotted to each generation (typically a generation is 20-25 years) that would make the time of Hawaiian progenitors Wakea and Papa Haumea (who settled in Nu‘uanu, O‘ahu) approximately AD 403. [McKinzie (1983:12) gives thirty years per generation.]

It should be noted that a study (Tuggle & Spriggs 2001) refutes the ‘early colonization’ supposition. For decades, the consensus among Hawaiian archaeologists was that evidence from Bellows, O‘ahu and Ka‘u, Hawai‘i Island, supported early Polynesian colonization dates of AD 300 to AD 600 (Tuggle 1979; Kirch 1985). Tuggle and Spriggs (2001) studied new data and re-evaluated past dates and dating methods and have concluded that acceptable early dates fall within AD 700-1100. However, at a relatively recent South-East Asia archaeology conference at Bishop Museum (Jan 2007), Dr. Tianlong Jiao presented a paper summarizing years of collaborative studies that indicate that Hawai‘i was settled 1200-1600 years ago [A.D. 400-800]. The following overview encapsulates cultural changes over time and highlights significant events and people. More corroborating details follow this overview section with traditional mo‘olelo and mele, historic works and various studies.

Chronology Periods

Colonization Period (First Settlement). First voyager dating is scanty at best, however, based on early site dates from Bellows, Oahu and South Point, Hawaii, the estimated that the Colonization Period of the Hawaiian Islands was somewhere between A.D. 300-600 (Kirch 1973, 1974, 1985; Cordy 1974; Hommon 1976; Dicks, Haun & Rosendahl 1987). Others estimate arrival circa A.D. 600s (Pearson, Kirch, Pietrusewsky 1969; Sinoto 1970, 1979; Hunt & Holstein 1991); while others estimated A.D. 700 - A.D.1140 (Libby 1951; Elbert 1953; Emory 1959; Emory, Bonk & Sinoto 1959; Emory & Sinoto 1969). According to Cordy (2000:107-108), archaeological research in the late 1980s to 1990s pushed the first settlement dates back to A.D. 0-300 (Bath, Rosendahl & Rosendahl 1984; Davis, Haun & Rosendahl 1986; Beggerly 1990; Chauvet-Pond & Davis 1991; Dunn, Haun & Goodfellow 1991; Hunt & Holstein 1991). By A.D. 2000 most researchers opt for first settlement to be between A.D. 300-600 (Cordy 2000:109). However, this has recently been refuted with a new estimated settlement period beginning ca 1100AD (SAA 2013).

These first Polynesian voyagers to Hawaii observed and followed the flight patterns of migratory birds. They traveled mainly by stars on migration voyages consisting of sixty to a hundred persons and could exist for weeks on a large canoe, which may have been a hundred feet in length (Day 1992:3). This feat was “remarkable” considering that their tools to carve the canoes would have been made of stone, bone, and coral; their canoes were lashed with handmade fiber; and they navigated without instruments (Teruia 1995: vii). From whence and why they came has been speculated for over a century. Mo‘olelo or oral histories, legends, stories, could provide clues (e.g. about warfare, lack of resources, etc.) and modern mega disasters may also be a clue as to why a group of people would leave their homeland and venture so far away.

Archaeological studies at Pu‘u Ali‘i, South Point turned up thousands of artifacts from the two lowest layers: over 1,700 fishhooks, over 4,000 coral files and over 7,000 sea urchin spine files which were used to make fishhooks. The lower layer also included early types of adze forms (reversed triangular, reversed trapezoidal and quadrangle types), pendants, various types of fishhooks. Unfortunately, the dates of this site are still very controversial to be the first settlement; rather it is thought to be a recurring fishing campsite (Cordy 2000:122-124). The first settlement on Hawai‘i Island occurred on the windward side (Waipi‘o, Waimanu and/or Hilo). Whether directly from Marquesas or another Hawaiian Island is still being explored (Cordy 2000:124) [According to Wichman (2003), Kauai was first settled by descendants of Kumu-honua and Lalo-honua [thirty-six generations before Papa was born (Wichman 2003:2)], during the time of Papa and Wakea (second son of Kahiko and Kū-pūlana-kehau) (Wichman 2004:3) who came well before the descendants of Nana’ulu came to Kauai.] For over 500 years after initial settlement permanent settlement spread out from Waipi‘o and Waimanu into the wet areas of Kohala, eastern Hāmākua to Hilo Bay and into the wet areas of Puna with Waipi‘o and Hilo becoming the dominant polities during this early phase (Cordy 2000:125-126).

Reconstructing the cultural sequence for first settlement in Hawai‘i during the colonization period would comprise the ‘founder effect’ and time necessary to adjust and adapt to a new environment. The colonizers were not able to bring all of the gene pool or cultigens from their homeland, so their new culture consisted of what survived the journey, what was remembered and what could be applied to the new environment (Kirch 1985:285-6; Cordy 2000:117). Although early Hawaiians practiced horticulture and felt spiritually tied to the ‘āina (land) in many ways (Waters, n.d.), when they first arrived they had to modify both their subsistence practices and the land.

Faunal remains analyses indicate that early Hawaiian subsistence depended on fishing, gathering, bird hunting (extinct fossil remains, see Olson and James, 1982), as it took time to clear the dryland forests, plant their crop cultigens, breed their animals, and construct suitable living quarters. It is likely they first took advantage of windward valleys with perennial streams to plant kalo (taro), one of their main staples.

And while the arid leeward areas of Kaʻū, Kona and southern Kohala may not have been the first choice for permanent settlements, they were certainly utilized for their abundant marine resources as evidenced by Puʻu Aliʻi, South Point archaeological finds; as were traditional trails linking the windward and leeward sides of the island (Cordy 2000:127). Creation chants such as the *Kumulipo* depict a very deep philosophical bond with the land and nature and "the respectable person was bound affectionately to the land by which he was sustained" (Charlot 1983: 45, 55). Ancient sites of various koʻa and kuʻula (fishing and bird shrines) also imply a spiritual respect for their sustenance.

As the founding groups grew, they fissioned into subgroups anthropologists refer to as *ramages*, with the senior male of the original ramage as chief of the conical clan, although hierarchical ranking was not just relegated through the patrilineal line of descent (Kirch 1985:31). Bellwood refers to these groups as tribal and related by blood (Bellwood 1978:31). In *Ka Poʻe Kahiko* Kamakau refers to Hawaiian ranking in the following passage:

> For 28 generations from Hulihonua to Wakea, no man was made chief over another, and during the 25 generations from Wakea to Kapawa, various noted deeds are mentioned...Kapawa was the first chief to be set up as a ruling chief...from then on the group of Hawaiian Islands became established as chief-ruled kingdoms - Maui from the time of Heleipawa, son of Kapawa...this was the time that records (oral) began to be kept of the chiefs (Kamakau 1964:3).

Developmental Period (AD 600-1100). According to Fornander (1969) certain practices were universal Polynesian customs which the Hawaiians brought from their homeland; such as the major gods Kāne, Kū and Lono; the kapu system of law and order; puʻuhonua (place of refuge); ʻaumakua (ancestral guardian) concept; and the concept of mana (supernatural or divine power) (Fornander 1969:61, 113,118,127-8). The distinct natural phenomenon of Hawaiʻi Island were most likely obvious to early settlers – the snows of Mauna Kea and Mauna Loa, the lava flows of Mauna Loa, Kīlauea and Hualālai and the probable earthquakes and tsunami. Ceremonies were likely developed to appease the deities connected to these places; oral traditions mention volcano gods prior to the arrival of Pele and her family (Cordy 2000:127).

During the Developmental Period, changes occurred bringing about a uniquely Hawaiian culture, documented by the material culture found in archaeological sites. The adze (ko'i) evolved from the typical Polynesian variations of plano-convex, trapezoidal and reverse-triangular cross section to a very standard Hawaiian quadrangular-tanged adze. A few areas in Hawaii produced quality basalt for adz production. Mauna Kea on the island of Hawaiʻi was a well-known adze quarry. The two-piece fish hook and the octopus lure bread-loaf sinker are Hawaiian inventions of this period, as are the 'ulu maika stones and the lei niho palaoa. The later was a status item worn by those of high rank, indicating a trend toward greater stratification (Kirch 1985:184,204,306). The evidence also indicates that the "ancestral pattern of corporate descent groups" were still in place (Kirch 1985:302-3). The early culture evolved as the population grew, and many of the changes were related to significant socio-economic changes.

According to Cordy (2000:127-131) currently there is limited evidence that the population had increased sufficiently in the windward areas to initiate permanent settlements in the leeward areas by A.D. 800s. However, these areas were certainly explored and utilized as evidenced by the plethora of fishing artifacts found in areas such as South Point, Kona and south Kohala that were rich pelagic and benthic fishing grounds. Early dates from temporary habitation caves along trail corridors linking Waimea and Hāmākua with Kona range from A.D. 800-1000 (Cordy 2000:127). Two radiocarbon dates presented in Landrum et al. (1990) have indicated that initial occupation in the seaward portion of Puapuaʻa ahupuaʻa and probably the general Kailua (Kona) area may have occurred as early as AD 600-890 (Landrum et al 1990 In Walker et al 1991:30).

Certainly between A.D. 900-1100 these areas (southern Kohala, central Kona and Kaʻū) were being settled -- a lava tube shelter in Kahaluʻu produced dates A.D. 1000-1280 (Cordy 2000:133). These pioneers would have faced the challenge of limited rainfall, and less soil depths, although the uplands have rainfalls between 40-80 inches per year. These upland areas (900-1,000 feet asl) occur relatively short distances (2-3 miles inland) on the Kona coast between Kaloko (north) and Hoʻokena, south of the project lands . Dates from the Kona agricultural sites (A.D. 1020-1240; A.D. 1040-1310; and A.D. 1360-1380) indicate that central Kona was most likely first settled in A.D. 900-1100s and the walled field-systems constructed in A.D. 1000-1200s (Cordy 2000:133). These field systems are evidence that the challenges of arid leeward lands were overcome with the new dominance of sweet potatoes and a co-dominance of taro and sweet potatoes in the wet uplands of Kona, Kaʻū, and Waimea/Kohala (Cordy 2000:134). The end of this period and first century of the following period (A.D. 1000-1200s) saw the spread of permanent settlements in Kona and upland fields cleared and separated by kuaīwi – walls that ran mauka-makai (Cordy 2000:248-249; Walker et al 1991:30) and a new leeward resource – fishponds. The sediment of Keanapou fishpond dates to A.D. 1000-1200. Eight temporary habitation caves located adjacent to ʻAnaehoʻomalu fishpond were from this period (Cordy 2000:131).

Expansion Period. The Expansion Period (AD1100-1650) is significant in that most of the "ecologically favorable zones," the windward and coastal areas of all major islands, were now settled, and the more marginal leeward areas were being developed. This was also the period of high population growth, the development of large irrigation field system projects, and dryland farming (Bellwood 1978:98; Kirch 1985:298,303-4). The windward populations kept growing along with their political power; oral histories of A.D. 1200-1300s document the rise of power in windward lands (Cordy 2000:136). Based on a series of radiocarbon and volcanic glass dates, initial occupation of the general Kailua [Kona] Area is hypothesized to have occurred sometime during the period AD 1050-1400 with dryland agricultural development becoming established by AD 1400-1600/1650. Dates recorded in the Kahaluʻu area indicate that cultivation and exploitation of other portions of the Kona Field System were occurring by AD 1420-1660 (Shun and Walker 1984). By AD 1600/1650-1779 the Kona Field System in the Kailua-Keauhou area had undergone extensive development and was under intensive use until cultivation of fields eventually began declining during the historic period AD 1779-1850 (Walker et al 1991:30).

The Expansion Period was also a period where politics and "religion" became more complex. Oral histories of the 1200-1300s document the rise of great political powers in the windward lands with multi-tiered political organization and the first reference to a major political heiau (Pākaʻalana in Waipiʻo). Competing and combined polities were now evident in the oral histories -- two Kohala groups (Niuliʻi and Kukuipahu) united, and a third Kohala group (Waimea-Kawaihae) all competed with the Hāmākua polity which was dominated by Waipiʻo until about early to mid-A.D. 1300s. The Waipiʻo rulers of that period include ʻOlopana, son of Maweke (Oʻahu ruling chief) - ʻOlopana left Waipiʻo after a severe flood and went to Kahiki; Kunaka (he adopted Kila, son of Moʻikeha, ruling chief of Kauai and younger brother of ʻOlopana); and Kapawa who was the first to be born at Kūkaniloko, royal birthplace on Oʻahu. [According to Fornander (1880:20) Kapawa was a descendant of Nanamaoa [line] who's son Nanakaoko and his wife Kahihiokalani built Kūkaniloko; chiefs born there were considered to be "born in the purple" and entitled to all the distinction, privileges and kapu it conferred.] However, the oral histories also illustrate a continued interaction and relationships between the island polities – the granddaughter of Kohala's aliʻi nui married the son of Oʻahu's aliʻi nui; Kunaka of Waipiʻo adopted Kila, the son of Mo'ikeha now aliʻi nui of Kauai. It is in the Kila moʻolelo that the Waipiʻo heiau Pākaʻalana is first mentioned – it is claimed to be both a puʻuhonua (place of refuge) and a luakini (human sacrifice) heiau; Kila is also credited with establishing the koʻele tax (working in the taro fields for the aliʻi one day a week) for his father Kunaka (Cordy 2000:141-143).

This was a period of great long voyages from Hawaiʻi and new migrations from Kahiki (F=foreigner) [1. ʻOlopana, his wife Luʻukia and his brother Moʻikeha; 2. Kaumailiʻula, Kaupeʻa; 3. Hoʻokamaliʻi,

Haulaninui-ai-ākea, Kila (sons of Mo‘ikeha); 4. La‘amaikahiki (F), friend of Mo‘ikeha - he brought the kā‘eke hula drum, a new god and the outrigger; 5. Kaha‘i-a-Ho‘okamali‘i – brought back breadfruit; 6. Pa‘ao (F) – brought new religion and priesthood, Pili (F) – new ruling system; 7. Kaulu-a-Kalana – brought back edible mud to Kawainui; 8. Paumakua (he brought white men); 9. ‘Olopana II, Kahiki‘ula; 10. Keānini (F), Ha‘inakolo; 11. Kamaunu-a-Niho (F), Humu (F), Kalana-nu‘u-nui-kuamaomao (F); 12. Kamapi‘ikai who made four voyages, three were 2-way] (Cordy 2000:149-150).

There appears to be some controversy as to the arrival of the priest Pa‘ao and Pili who displaced the Hawai‘i chiefly line of this period. Fornander (1880) states that due to the bad government of Kapawa he was deposed by Pa‘ao who went back to Kahiki and brought Pili Ka‘aiea to rule. However, others state that Pa‘ao (a white man) arrived much later in the reign of Kahoukapu (Ellis 1823 Byron 1825); up to sixteen rulers after Kapawa in the reign of Lonokawai (Malo 1840; Pogue 1858; *Hoku Pakipika* 1862; Kepelino 1868 (Cordy 2000:151-153). Pa‘ao was the keeper of the god Kū‘ka‘ilimoku who had fought bitterly with his older brother the high priest Lonopele. After much tragedy on both sides, Pa‘ao escaped Lonopele’s wrath by fleeing in a canoe from Kahiki. Kamakau (1991) told the following story in 1866:

> Puna on Hawai‘i Island was the first land reached by Pa‘ao, and here in Puna he built his first heiau for his god Aha‘ula and named it Aha‘ula [Waha‘ula]. It was a luakini. From Puna, Pa‘ao went on to land in Kohala, at Pu‘uepa. He built a heiau there called Mo‘okini, a luakini. It is thought that Pa‘ao came to Hawai‘i in the time of the ali‘i La‘au because Pili ruled as mo‘i after La‘au. Pili was in the line of succession in the mo‘o kū‘auhau or genealogy of Hanala‘anui. It was said that Hawai‘i Island was without a chief, and so a chief was brought from Kahiki; this is according to chiefly genealogies. Hawai‘i Island had been without a ruling chief for a long time, and the chiefs of Hawai‘i were ali‘i maka‘āinana or just commoners (Kamakau 1991:100). There were seventeen generations during which Hawai‘i Island was without chiefs--some eight hundred years (Kamakau 1991:101, 102).

Pa‘ao brought with him the Kū practice which incorporated human sacrifice [which may not have been a new practice (Cordy 2000:160-163)], used in monumental luakini heiau or war temples. Pili started a line of ali’i nui that would continue to the Kamehameha “dynasty.” The evolution of the luakini heiau is difficult to place archaeologically, and although the arrival of Pa‘ao may have been a real event; the uniqueness and complexity of heiau were most likely a local (Hawaiian) development (Kolb 1989:3). The bones of kahuna Pa‘ao are said to be deposited in a burial cave in Kohala in Pu‘uwepa [possibly Pu’uepa] (Kamakau 1987:41).

It was during the A.D. 1400s-1500s of this period that descendants of the Pili line consolidated the Hawai‘i Island polities and unified the island under one kingdom: Pili began (ca. A.D. 1320); Koa (ca A.D. 1340-1360), ‘Ole (ca A.D. 1360-1380), Kūkohau (ca A.D. 1380-1400) [the last three may have been siblings or sons of Pili]; Kaniuhi (ca A.D. 1400-1420); Kanipahu (A.D. 1420-1420) who was usurped by Kama‘iole; Kalapana (A.D. 1440-1460) who brought down Kama‘iole was the son of Kanipahu; Kaha‘imoele‘a (A.D. 1460-1480) son of Kalapana; and Kalaunuiohua (A.D. 1480-1500) grandson of Kalapana. Both Kalapana and his son Kaha‘imoele‘a had their royal residence in Waipi‘o. The following were ruling chiefs ca A.D. 1500-1600: Kūāiwa who appointed his junior son Ehu as chief of Kona and another junior son Hukulani as chief of Kohala and was succeeded by his oldest son Kahoukapu as ruling chief of Hawai‘i Island (A.D. 1520-1540); his son Kauholanuimahu (A.D. 1540-1560) was the next ruler who sometimes resided on Maui on his wife’s lands; his son Kihanuilūlūmoku (A.D. 1560-1580) followed - he lived and reigned in Waipi‘o as did his son Līloa (A.D. 1580-1600) who ruled next; his junior son ‘Umi (A.D. 1600s) usurpedLīloa’s oldest son Hākau (A.D. 1600-16??) (Cordy 2000:185-192).

It was toward the end of this period that the epic sagas of certain rulers are seen in the oral traditions. In one story Kalaunuiohua had the prophet-priestess Wa‘ahia burned at Ke‘eke Heiau in Kahalu‘u, Kona; in

another story he captures the ruling chiefs of Maui and O‘ahu and takes them to Kauai where he is outwitted by the Kauai chief who frees the other chiefs, then uses Kalaunuiohua as barter for a prized foreign weapon (see also Wichman 2003:49-52). There are several mo‘olelo about Kiha, Līloa and ‘Umi in the following section.

During the reign of Hawai‘i Island ruling chief Līloa, the following people were high chiefs of the various districts: Kulukulu‘a (Hilo), Hua‘a (Puna), Imaikalani (Ka‘u), ‘Ehunuikaimalino (Kona). They were not children of Līloa; however, ‘Ehunuikaimalino was a descendant of ‘Ehu the junior son of Kūāiwa of the Pili line, therefore also related to Līloa. Līloa made the sons of this Kona chief his closest aides. Līloa also made regular journeys around the island checking on his people, farmlands and *heiau*-rededicating many of them, but Pāka‘alana in Waipi‘o was the main heiau, ancient even in his time, and under the care of the Pa‘ao line of kahuna pule who looked after Līloa’s major god Kūka‘ilimoku and Lono during Makahiki. His royal residence was called Kahaunokama‘ahala, located just behind the sand dunes along Wailoa Stream and adjacent to his heiau Pāka‘alana.Līloa’s highest ranking wife Pinea was his mother’s youngest sister from the O‘ahu line with whom he had Hākau his successor; another wife Haua was a Maui chiefess; and from his union with Akahiakuleana of Hāmākua, he had ‘Umi-a-Līloa, who inherited Kūka‘ilimoku uponLīloa’s death (Cordy 2000:192-197). Hākau’s reign was short-lived due to his supposed abuse of his priests, and about ‘Umi and others who plotted and executed his death (Cordy 2000:204). There are conflicting stories on what happened next. According to Kamakau in order to re-unify the Island, ‘Umi attacked several district chiefs starting with Hilo; ‘Umi and his warriors marched from Waipi‘o along the mountain trail on Mauna Kea and down into Hilo where Chief Kulukulu‘a was killed. From there he went on to subdue the Puna, Ka‘ū and Kona chiefs. However, according to Fornander the district chiefs were hold-over’s fromLīloa’s reign and the transition was peaceful (Cordy 2000:204-205).

During the reign of ‘Umi-a-Līloa [last of the windward kings (Cody 2000:215)] that the island of Hawai‘i was divided into six moku or districts (Fornander 1973 v II: 100-102). District chiefs during ‘Umi’s reign were: Wanua (Hāmākua), Hua‘a (Puna), Hoe-a-pae (Kona), Kulukuhua‘a (Hilo), Imaikulani (Ka‘ū), and Wahilani (Kohala). ‘Umi moved his court from Wapi‘o to Kona where he first built his heiau Ahu-a-‘Umi on the plateau between Hualalai and Mauna Loa, in the ahupua‘a of Keauhou and resided in Kailua and Kahalu‘u where he built several other heiau. It was said he wanted to be near the fishing grounds of Kona (Cordy 2000:206-207). With ‘Umi’s royal court now in Kona, Kona becomes the power center of Hawai‘i Island and the Pili line of rulers eventually become known as the Kona rulers or Kona chiefs (Cordy 2000:218). The district of Kona was sub-divided into ‘okana or kalana (regions) North and South Kona and extended from Keahualono (Kona/Kohala boundary) to Manukā (Kona/Ka‘u boundary) (Maly 1998:4-5).

‘Umi had several wives including Pi‘ikea, daughter of Maui ruling chief Pi‘ilani. After the death of Pi‘ilani his oldest son Lono-a-Pi‘ilani became the ruling chief, however his rule was marred by fighting and intrigue between Lono and his younger brother Kiha-a-Pi‘ilani. Kiha II went to Kailua to see his sister and her husband ‘Umi to aide him in defeating their brother Lono. They agreed to help and took a year to prepare their forces for the Maui invasion; however, by the time they reached the shores of Hāna, Maui and commenced battle, they discovered that Lono had died. After they defeated the chiefs of Lono, ‘Umi wanted one of his sons to rule Maui, however his son died and Kiha ended up ruling Maui and continuing some of the public works started by his father Pi‘ilani (Kamakau 1992:27-32; Fornander 1880:98). The end of this period ends in the death of ‘Umi followed by the death of his ruling son Keali‘iokāloa. War broke out between the chiefs because one group of chiefs favored ‘Umi’s younger son Keawenui-a-‘Umi and another group of chiefs (Kohala, Hāmākua, Hilo, Puna, Ka‘u, and Kona) favored Kūka‘ilani, the son of Keali‘iokāloa, who was still a child. Keawenui-a-‘Umi defeated the opposing chiefs who either died in battle or where later executed – their bones were bundled and retained by Keawenui-a-‘Umi and his heirs.

Keawenui-a-ʻUmi had many residences; his primary court was in Hilo, but he had a major residence in Nāpōʻopoʻo at Kealakekua Bay where his son Lonoikamakahiki was born to Haokalani (Oʻahu chiefess – Kalona-iki or Ehu line); another residence was in Waipiʻo, Hāmākua District (Cordy 2000:221-222). Upon the death of Keawenui his eldest son Kanaloakuaʻana became regent/king until his younger brother and Keawenui's heir, Lonoikamakahiki had passed certain tests. The primary residence of Lonoikamakahiki was in Kahuluʻu, Kona where large heiau surrounded the royal residence. But at least one heiau in the area, Keʻekū Heiau, was noted during the reign of Kalaunuiohua ca. A.D. 1480-1500, long beforeLīloa's reign (Cordy 2000:238-239). Lonoikamakahiki and his wife Kaikilani-Aliʻi-Wahine-o-Puna (daughter of Kealiʻiokāloa, oldest son of Keawenui) traveled throughout the islands and were subjects of epic moʻolelo (Cordy 2000:225-239).

During the last 200 years of the Expansion Period, the concept of ahupuaʻa was established, and class stratification, territorial groupings, powerful chiefs and "moʻi" or king (Kirch 1985:303-6) were well in place. The ahupuaʻa land unit became the equivalent of a local community, with its own social, economic and political significance. Ahupuaʻa were ruled by aliʻi ʻai ahupuaʻa or lesser chiefs, who for the most part, had complete autonomy over this generally economically self-supporting piece of land, which was managed by a konohiki. Ahupuaʻa were often wedge or pie-shaped, incorporating all of the eco-zones from mountain to the sea and for several hundred yards beyond the shore, assuring a diverse subsistence resource base (Hommon 1976:15,16).

The aliʻi and the makaʻāinana (commoners) were not confined to the boundaries of the ahupuaʻa. Not only did the makai (ocean direction) and mauka (mountain direction) people share seafood and produce by lighting a fire when there was a need, they also shared with their neighbor ahupuaʻa ohana (Hono-ko-hou 1974:14, 15). However, there were certain resources especially noted to be controlled by ahupuaʻa konohiki such as bird feathers and bird meat; local resources provided raw material such as basalt for stone tools, coral and sea urchin spines for files and abraders. High-quality adze basalt, porous basalt and volcanic glass however, came from only a few ahupuaʻa quarries and were likely used as trade commodities (Cordy 2000:42-43).

The ahupuaʻa was further divided into smaller sections such as the ʻili, moʻoʻaina, paukuʻaina, kihapai, koele, hakuone and kuakua (Hommon 1976:15; Pogue 1978:10). The chiefs of these land units gave their allegiance to a territorial chief or moʻi (king). Heiau building flourished during this period as religion became more complex and embedded in a socio-political climate of territorial competition. Monumental architecture such as heiau "played a key role as visual markers of chiefly dominance" (Kirch 1990:206).

First indications of Kona settlement appeared in A.D. 1000s to 1200s with the spread of permanent habitation and cleared upland forests (ca 900-1,000 feet). By the end of this period there was greater expansion of leeward settlement and the Kona field system of the uplands where a large number of field shelters appear. According to Cordy (2000) all experimental models of population growth illustrate a marked increase after A.D. 1400s to 1500s (Cordy 2000:248).

Proto-Historic Period. The Proto-Historic Period, A. D. 1650-1795, appears to be marked with both intensification and stress. Lonoikamakahiki was still the ruling chief of Hawaiʻi Island. And many wars took place during this time between intra-island chiefdoms and inter-island kingdoms. During the early part of this period Maui aliʻi nui Kama-lala-walu ignored the advice of his counsel and sent his half-brother Ka-uhi-o-ka-lani (both sons of Kiha-a-Piʻilani) to spy on Hawaiʻi Island, to see how large the population was. They landed in Kawaihae. The next morning the spies began a circuit of Hawaiʻi; they then returned to Maui and reported to Kama-lala-walu that they saw many houses, but few men (Kamakau 1992:56-57). While most of the prophets and seers supported Kama-lala-walu's war on his cousins of Hawaiʻi Island, children of his father's sister Piʻikea and ʻUmi-a-Līloa, some warned that if he did go, he would die and not return to Maui alive. They landed at Kohala and began the destruction of the people of Kohala. Kanaloa-

kuaʻana, son of Keawe-nui-aʻUmi was captured and treated cruelly. Kama-lala-walu was advised not to battle in Waimea, to go to Kona instead, but he did not listen (Kamakau 1992:58).

The battle of Puʻuʻoaʻoaka commenced just outside the Waimea plains. The light-weighted lava rocks here contributed to the defeat of the Maui warriors who were used to heavier water-worn rocks. The Maui warriors retreated; some to Kawaihae, others to Kohala. And because of the lack of canoes, very few escaped alive. Ka-uhi-a-Kama, son of Kama-lala-walu who was killed on the plain of Puako, escaped to Kekaha, found a canoe and fled to Maui. He was saved by Hinau, the foster son of Lono-i-ka-makahiki. Many of the chiefs of Kona were relatives of Ka-uhi-a-Kama through his mother Kapu-kini-akua (Kamakau 1992:59-60). Kapukini was the daughter ofLīloa and Maui chiefess Haua and a half-sister and wife of ʻUmi (Cordy 2000:206).

After the death of Hawaiʻi Island aliʻi nui Lono-i-ka-makahiki, his children did not succeed him. Instead Hawaiʻi Island was divided into smaller divisions. The descendants of Kanaloa-kuaʻana [Keakealanikane (ca A.D. 1660-1680), Keawekuikekaʻai, Keʻeaumoku, Kalaniʻopuʻu and Keōua] later ruled Kohala, Kona and Kaʻu. The descendants of Keawe-nui-aʻUmi ruled Hilo and Hāmākua. This was not a peaceful period. The chiefs of Kona and Hilo fought each other for the various resources each area had [Hilo's bird feathers, war canoes, fine tapa; Kona's food, drinking water and fish]. These wars lasted for several decades with the Hilo chiefs usually defeating the Kona-Kohala chiefs, especially during the reigns of Kuaʻana, Kuahuʻia, Ka-lani-ku-kau-laʻalaʻa and Moku. Ke-aka-mahana (w) [daughter of Keakealanikane who was raised on Kauai and brought back to reign] was the ruler of Kona (ca A.D. 1680-1700) during the wars with Hilo; her primary residence was Hōlualoa, Kona. The rulers of Kona and Kohala who succeeded Ke-aka-mahana were her daughter Keakealaniwahine (ca A.D. 1700-1720) [it was during her reign that Oʻahu's famous ruling chief Kualiʻi raided the coast of Hilo and Puna districts (Wikipedia/Kualii 2010)] and her son, Keawe [Ke-awe-i-kekahi-aliʻi-o-ka-moku]. The Mahi clan were the war leaders, but the chiefs of Hilo were always victorious over those of Kona and after they won the battle of Huʻehuʻe the secret places and burial caves in Kona were broken open. In the battle of Mahiki, Ka-lani-ku-kau-laʻalaʻa and Moku were the chief war leaders of Hilo. After Moku, the Hilo chiefs ceased to reign (Kamakau 1992:61-63; Cordy 2000:239-245).

During Keawe's reign (ca A.D. 1720-1740), unlike his mother Keakealani, his royal court was in Hōnaunau and his district chiefs were Mokulani of the ʻĪ family -- son of Kuahuʻia and cousin of Keawe's son's wife (Hilo, Hāmākua except for Waipiʻo, and eastern Puna); the Mahi family, Mahiʻololi, then his son Kauaua-a-Mahi (Kohala); Kalaninuiʻiamamao, eldest son of Keawe (Kaʻu and western Puna); and Kalanainuikeʻeaumoku, another son of Keawe (Kona) (Cordy 2000:260). The battles between the Hawaiʻi Island families, factions and district chiefs continued during the later part of the Proto-Historic period. Keawe's oldest son Kalaninuiʻiamamao also of the ʻĪ family was slain supposedly by his half-brother Kalanainuikeʻeaumoku (his mother was Keawe's half-sister Kalani-kau-lele-ia-iwi) and when Keawe died he tried to claim island control, but was thwarted by Mokulani (Cordy 2000:243-245; 260-267).

Kohala's Ka-lani-kau-lele-ia-iwi (half-sister of Keawe) was also the mother of Alapaʻi-nui-a-Ka-uaua, who went to live on Maui with his half sister, Ke-kuʻi-apo-iwa-nui (wife of Ke-kau-like, Maui aliʻi nui) after his father's (Ka-uaua-nui-a-Mahi) death at the hands of the Hilo chiefs in the battle of Mahiki. When Alapaʻi heard of (his uncle) Keawe's death and the unrest between the district chiefs, he went back to Hawaiʻi Island with plans to make war on all the chiefs. He captured the chiefs of Kohala and Kona, and became ruler of those districts. However, when his brother-in-law Ke-kau-like heard about Alapaʻi's victory, Ke-kau-like made war on Alapaʻi in order to return Kohala and Kona to their chiefs. He wasn't successful, however Ke-kau-like's warriors prevented Alapaʻi from conquering the Hilo and Kaʻū chiefs (Kamakau 1992:64-65). During these battles a lot of damage was done on the landscape.

In retribution, Alapaʻi decided to carry the battle to Maui. While Alapaʻi and his warriors were encamped in Kohala, Kamehameha was born to Ke-kuʻi-apo-iwa (II) in Kapakai (ʻIʻi, John Papa 1983:3), in the ahupuaʻa of Kokoiki, in the moku of North Kohala [Kamakau (1992:67) says it was AD 1756; however others say it was between AD 1753 and 1758 with more leaning towards AD 1753 (Cahill 1999:56-57)] near the Moʻokini heiau. He was quickly taken by Kohala chief Nae-ʻole and hidden in Halawa (Kamakau 1992:67-69), his ancestral homeland (Williams 1919:121). Ke-kuʻi-apo-iwa (II) was the daughter of Kekela and Haʻae (both grandchildren of Keawe); because of her weakened condition, Ke-kuʻi-apo-iwa II did not accompany the Alapaʻi expedition to Maui. Kamehameha's father was Keōua, younger brother of Ka-lani-ʻōpuʻu. The infant Kamehameha was placed in the charge of Nae-ʻole and his younger sister Ke-ku-nui-a-lei-moku until he was five. He was then returned to Alapaʻi who placed the child in the care of his wife, Ke-aka (Kamakau 1992:68-69).

However, before Alapaʻi reached Maui, a dying Ke-kau-like [Ka-lani-kuʻi-hono-i-ka-moku] made his son Kamehameha-nui his successor. Kekaulike died enroute to Kula (Kamakau 1992:69). When Alapaʻi heard of his death, he decided not to make war on his sister's son. While visiting them on Maui, Alapaʻi heard that the Oʻahu chiefs attacked his relatives on Molokai, so he went there to help (Kamakau 1992:70). Alapaʻi (ca A.D. 1740-1760) was said to have been a good ruler and loved by the common people, but his rule had come about by the slaying of Keawe's sons Ka-lani-nui-ʻi-a-mamao [father of Kalaniʻōpuʻu and Keōua] and his brother Ka-lani-nui-keʻe-au-moku, rightful aliʻi nui of Hawaiʻi island and Mokulani, chief of Hilo, Hāmākua, and Puna. This would later be the cause of several battles between Alapaʻi and his nephew, Kalaniʻōpuʻu (Kamakau 1992:75-78; Cordy 2000:279).

Alapaʻi resided in several places; Kailua (Kona), Kokoiki (Kohala), Waiolama (Hilo), Waipiʻo, Waimea and Kawaihae where he died (Cordy 2000:278). In 1754 Alapaʻi became ill and moved to Kikiakoʻi in Kawaihae. As his illness progressed while at Kikiakoʻi at the heiau of Mailekini, Kawaihae, Alapaʻi appointed his son Keawe-ʻopala to be ruler over the island (Kamakau 1992:77). However, this was short-lived due in part to shifting allegiances of Keawe-ʻopala's chiefs (e.g., his relative Keʻeaumoku) and kahuna, siding with Kalaniʻōpuʻu. "A canoe arrived from Kekaha and brought word to Keʻeaumoku that Kalaniʻōpuʻu was at Kapalilua (in south Kona) and was coming to make war against Keawe-ʻopala. Keʻeaumoku therefore made up his mind to join forces with Kalaniʻōpuʻu" (Kamakau 1992:78). It was that same year that Kalaniʻōpuʻu, a lover of war, became aliʻi nui of Hawaiʻi Island (Kamakau 1992: 78-79).

Kalaniʻōpuʻu was the son of Ka-lani-nui-i-a-mamao (ruling chief of Kaʻū whom the *Kumulipo* was composed for) however, his biological father was said to be Pele-io-holani, aliʻi nui of Oahu (Kamakau 1992:110; see also ʻIʻi 1983). About 1759 Kalaniʻōpuʻu conquered East Maui from his wife's brother, the Maui king Kamehameha-nui (son of Kekaulike) by using Hāna's prominent Puʻu Kauʻiki as his fortress. He appointed one of his own Hawaiʻi chiefs, Puna, as governor of Hāna and Kipahulu. Many chiefs from Hawaiʻi settled on Maui at this time, some of them grandchildren of Keawe (Kamakau 1992:79-80). Conflict between Hawaiʻi chiefs continued. Keʻeaumoku, son of Keawe-poe-poe and Kūmaʻaikū, rebelled against Kalaniʻōpuʻu and set up a fort at Pololū and Honokane. He was attacked by Kalaniʻōpuʻu so he fled to Maui. In 1766 Maui aliʻi nui Kamehameha-nui became ill in Hāna and ceded his lands to his younger brother Ka-hekili-nui-ʻAhu-manu (Kahekili), a fierce warrior and "manipulator." Following the death of Kamehameha-nui, his sister-widow Namahana, a cousin of Ku-nui-akea Kamehameha (Kamehameha I) married Keʻeaumoku. Their daughter Kaʻahumanu would later become a favorite wife of Kamehameha I (Kamakau 1992:79-84, 309).

Between 1775 and 1779 fighting continued between Kalaniʻōpuʻu and Kahekili. In 1775 Kalaniʻōpuʻu and his Hāna forces raided and severely destroyed the neighboring Kaupo district, before continuing several more raids on Molokaʻi, Lanaʻi, Kahoʻolawe and parts of West Maui. It was at the battle of Kalaeokaʻilio that Kamehameha, nephew and favorite warrior of Kalaniʻōpuʻu, was first recognized as a great warrior

and given the name of Paiʻea (hard-shelled crab) by the Maui chiefs and warriors (Kamakau 1992:84). Kalaniʻōpuʻu returned again to Maui in 1776, but was severely defeated by Kahekili's warriors.

In January 1778 Cook landed in Waimea, Kauai and the culture of old Hawaiʻi began its spiraling change (see Day 1992). Captain Cook left an English sow and boar on Niʻihau and observed chickens on Kauaʻi. (Takeguchi et al.1999:1). Cook left Hawaiʻi for several months, but returned later in the year. Kalaniʻōpuʻu was fighting Kahekili's forces in Wailua, Maui on November 19, 1778 when Cook's ship was sighted on his return trip to the islands. Kalaniʻōpuʻu visited Cook on the *Resolution,* while Kahekili visited Clerke on the *Discovery* (Kuykendall and Day 1976:16). When Cook sailed into Kealakekua Bay on January 17, 1779, Kalaniʻōpuʻu was still fighting Kahekili on Maui. At this time Kahekili's brother Kaʻeo-kulani was ruling chief of Kauaʻi; Ka-hahana was ruling chief of Oʻahu and Molokaʻi; Kahekiliʻahumanu of western Maui, Lanaʻi and Kahoʻolawe; and Kalaniʻōpuʻu was ruling chief of Hawaiʻi and Hāna (Kamakau, 1992:84-86, 92, 97-98).

> The ships HMS Discovery and HMS Resolution sailed into Kealakekua Bay on January 17, 1779 under the command of Captain James Cook. Along with Captain Cook were Captain Charles Clerke (commander of HMS Discovery), Lt. James King, Surgeon David Samwell, John Webber (artist), William Ellis (Second Mate and artist), Corporal John Ledyard (Royal Marines), and Lt Henry Roberts. All of these men kept journals and/or made drawings or maps during their month long visit to Kealakekua (Silverman, 1968 In Yent 1999:7).
>
> Lt. Roberts drafted a map of Kealakekua in 1779 that indicated the features described by Ledyard. Prominent in this map are the pond, hale and coconut trees around the pond, Hikiau Heiau (morai) and the observatory. Cook erected the observatory to the southwest of Hikiau Heiau in an area described as a sweet potato patch. Tents were also placed on top of the heiau platform to observe the Transit of Venus. There is no specific mention of the area to the south of the heiau but it may be that this area was the site for the games held during the Makahiki based on the drawings made during Cook's visit. Roberts' map indicates several hale and coconut trees along the shoreline to the south of Hikiau Heiau. Cook estimated 350 houses and 2,100 residents around the bay in 1779 (Cook and King 1784(3): 128 In Yent 1999:8).

Kalaniʻōpuʻu returned from Maui with his chiefs and warriors on January 24, 1779 to Kaʻawaloa:

> On Ka-lani-ʻōpuʻu's return with his chiefs and warriors from Maui on January24, 1779, he landed at ʻAwili in Kaʻawaloa and stayed in Hanamua at the home of Kewawe-a-heulu, who had been with them on Maui fighting with Ka-hekili and when he saw how many women went aboard ship to prostitute themselves to the strangers, he forbade their going. When the strangers could get no more women on the ship, they came ashore at Nāpōʻopoʻo, at Kahauloa, and on this side of Kaʻawaloa, and numerous were the ʻopala haole (foreign rubbish) born to the women (Kamakau 1992:101).

On January 25th Kalaniʻōpuʻu visited Cook again at Kealakekua Bay, presenting him with several feather cloaks. Cook's officers on board his ship described the plantations of Kaʻawaloa in the intermediate zone and Cook (1784) said the "plantations were divided from each other by thick, low walls of lava and that they bound the breadfruit trees, plantains, taro root, sweet potatoes, ginger root, and sugar canes" (Handy & Handy 1978:525). The surgeon Ellis (1783) with Captain Cook wrote about the lands above Kealakekua:

> After ascending part of the hill, which was covered in every direction with plantations of sugar-cane, sweet potatoes, tarrow, plantains and breadfruit trees they arrived at a spot of land entirely uncultivated and overrun with long grass and ferns…they arrived at a long tract of plantain-trees, which far exceed the cultivated ones in size; they produce fruit like them, but it never arrives at perfection…but they took a different route to their former one, proceeding nearly in a W.N.W. direction, through innumerable plantations of the paper mulberry-tree, breadfruit and plantain trees, which formed an extensive garden " (Handy & Handy 1978:525).

By February Cook's scheme to kidnap Kalani'ōpu'u as a hostage were thwarted and Cook was killed following a skirmish over a stolen cutter (Kuykendall and Day 1976:18).

> Shortly after the arrival of the Cook expedition in Kealakekua Bay, Kalaniopuu, paramount chief of the island of Hawai'i, along with his court, took up residence at Ka'awaloa, the settlement across the bay to the northwest of Kekua [Nāpō'opo'o]. Among the inferences regarding Hawaiian socio-political organization that may be drawn from the eyewitness accounts of the Cook expedition is that there existed a rivalry between the priestly faction and chiefly faction paralleling their spatial separation at Kekua and Ka'awaloa respectively. About three weeks after Kalani'ōpu'u's arrival, Captain Cook was killed at Ka'awaloa during an attempt to hold Kalani'ōpu'u hostage against the return of the stolen British cutter from the *Discovery* (In Hommon 1986b:10).

The off and on warring between the Hawai'i and Maui forces continued, but Kalani'ōpu'u was aging. Kalani'ōpu'u schemed for peace by having his son Kiwala'ō by Kalola, sister of Kahekili - and their twin half-brothers - to go to Kahekili, who in turn had the battles cease (Kamakau 1992:88-89; Desha 2000:49-50). "It was the custom, when blood relatives went to war with each other and both sides suffered reverses, for some expert in genealogies to suggest a conference to end the war; then a meeting of both sides would take place" (Kamakau 1992:72).

Kalani'ōpu'u declared his young son Ka-lani-kaui-ke-a-ouli Kiwala'ō to be his heir; to his nephew Kamehameha he gave the war god, Kū-ka'ili-moku (Kamakau 1992:107). But even before the death of Kalani'ōpu'u, chiefs and kahuna were already taking sides between Kiwala'ō and Kamehameha. Kamehameha and a few other chiefs were concerned about their land claims which Kiwala'ō did not seem to honor, so after usurping Kiwala'ō with a sacrificial ritual, Kamehameha retreated to his district of Kohala. While in Kohala, Kamehameha farmed the land growing taro and sweet potatoes (Handy and Handy 1978:531). After Kalani'ōpu'u died war broke out and the wars between Maui and Hawai'i also continued (Kuykendall and Day 1976:23, 24; Handy and Handy 1978:528; King 1990).

In 1781 after Kahekili heard about the death of Kalani'ōpu'u, Kahekili, split his forces and sent them through Maui's south-eastern Kaupo Gap and the north-eastern Ko'olau Gap into Hāna. After damming and diverting the supply of spring water to Pu'u Kau'iki, the Hawai'i chiefs were finally defeated, and the Maui ali'i nui regained control of Hāna in1782 (Kamakau, 1992:84-86; 115-116; Fornander 1900: Vol II 146-7, 150, 216). Following his Hāna victory, Kahekili went on to gain control of all the islands except Hawai'i, by trickery and warfare (Kamakau 1992:116, 128-141).

The last battle of Kiwala'ō took place at Ke'ei; all the chiefs went to the battle except Kamehameha who was detained at Kealakekua by Holoae [nephew of Kalani'ōpu'u (Desha 2000:123) and great grandfather of Hewahewa (Sahlins 1995:132)] and the prophetess (kaula) Pine [daughter of Holoae (Desha 2000:123)] to perform the ceremony of divination with the sacred calabashes. Holoae said to Kamehameha that it would be a day of misfortune with defeat on both sides, including the death of the ruling chief. It was here that Kiwala'ō was killed by his uncle Ke'eaumoku [his wife Namahana was the sister of Kiwala'ō's mother Kalola]; the name of this battle was Moku'ōhai. Keawe-ma'u-hili was caught alive and imprisoned at Piele in Nāpō'opo'o, but because he was of such high rank - the grandson of Keawe - he was allowed to escape. Keōua went back to rule Ka'ū and Puna, Keawe-ma'u-hili ruled parts of Hilo, Puna and Hāmākua and Kamehameha ruled the rest of the island (Kamakau 1992: 121-122; Cahill 1999:62), but the warring between these chiefs and Hawai'i Island districts continued.

Demographic trends during the Proto-Historic Period indicate a population reduction in some areas, yet show increases in others, with relatively little change in material culture. There was a continuum of craft and status material, intensification of agriculture, ali'i (chief) controlled aquaculture, upland residential sites, and oral records which were rich in information. The Kū tradition, along with its luakini heiau, and the kapu (restriction or regulation) system were at their peak, although western influence was already altering the cultural fabric of the islands (Kirch 1985:308, Kent 1983:13).

In early 1790 the *Eleanora,* lay off the village of Ka'ūpūlehu, North Kona. Before heading to Kealakekua Bay there was an altercation between Capt Metcalfe and high chief Kame'eiamoku. For revenge the next ship, the *Fair American*, was attacked and all on board were killed except for crewmember, Isaac Davis. As the attack was going on, *Eleanora*'s boatswain John Young was on shore trading for supplies. Fearing retaliation by the crew of the *Eleanora*, Kamehameha detained Young and allowed his ship to sail without him. Kamehameha took both Davis and Young under his care (Cahill 1999:11-12).

By 1790 Kamehameha I had gained enough control of the island of Hawai'i that he could leave to join the war parties on Maui. Kamehameha also had at his disposal western weapons, and an armed schooner (n.a. 1967:5). Kamehameha brought the cannon from the *Eleanora* along with the expertise of Isaac Davis and John Young, who were now advisors and aikane punahele (favorites) of Kamehameha I (Kamakau 1992:147-148). "At Kawaihae and Kealakekua, Young and Davis built up an army and navy for Kamehameha along European lines, introduced firearms to Hawaiian warfare, and directed their use in Kamehameha's conquest of Maui, Lanai and Molokai" (n.a. 1967:5). His canoe fleet "beached at Hāna and extended from Hamoa to Kawaipapa" to battle Kalanikūpule, son of Kahekili (who now ruled O'ahu). After several battles along the East Maui coast, Kamehameha's forces reached Wailuku where the "great battle" took place. This would be the beginning of the end of independent ruling chiefs because of the inequity of battle strategy and weaponry (Kamakau 1992:147-148).

Back on Hawai'i Island in 1790, Keōua Kuahu'ula [twin brother of Keōua Pe'e'ale, sons of Kalani'ōpu'u and Kane-kapo-lei (Kamakau 1992:120)] ravaged Kamehameha's birth lands of Kohala. Kamehameha sought the advice of Ka-pou-kahi, a hulihonua kahuna from Kaua'i who was living in Kamoku, Waikīkī (Kamakau 1992:149-150, 154-155, 157, 187; Kelly 1974:6), Kamehameha personally helped to construct the heiau Pu'u Koholā in the summer of 1791, to assure his victory over his cousin, Keōua Kuahu'ula, who was to be sacrificed at the heiau (Day 1984:77; Kamakau 1992:154-157). His counselors Keawe-a-heulu and Ka-manawa were given a special task:

> As soon as the heiau was completed, just before it was declared free, Kamehameha's two counselors, Keawe-a-heulu and Ka-manawa, were sent to fetch Keōua, ruling chief of the eastern end of the island of Hawai'i. These two men were skilled in preparing a dose of slippery hau sap and the uhi root; they knew how well to use cunning and deceitful speech. Keōua was living in Ka'u…. Close to the extreme edge of the tabu enclosure of Keōua's place the two got down and rolled in the dirt and began to weave their nets of speech. Keōua's people nodded at each other and Ka'ie'iea said to Keōua, "It will be good to kill these counselors of Kamehameha." Keōua answered, "They must not be killed for they are younger brothers of my father…I cannot kill my uncles" (Kamakau 1992:155).

They wept and explained that they were to take him to meet his younger cousin Kamehameha so they both could be chiefs and they will be his uncles and "let war cease between you" and Keōua consented to go with them. Those who sailed landed at Honomalino to wait for those who went on foot, then they all sailed to Ka'awaloa to Keawe-a-heulu's place and gathered 'auhuhu to catch fish by poison for the party for Keōua. Again Keōua's counselors suggested they kill the uncles and again Keōua said no. So they sailed on to Kailua, then Luahinewai where Keōua performed 'omu'o, a personal defilement signifying that he knew he was to be killed. At Kawaihae he separated those who would die with him from those he wanted to spare, including his younger cousin Pauli Ka'ōleiokū, the first-born son of Kamehameha I. Before the

cousins had a chance to meet face-to-face, Keʻeaumoku, father of Kaʻahumanu, threw the first spear at Keōua who caught it and threw it back, then shots were fired by John Young and others killing Keōua (Kamakau 1992:155-157). John Young reportedly noted that "Kamehameha offered 11 human sacrifices at the dedication of his heiau*;* the principal offering was the body of his cousin Keōua Ku-ahuʻula" (Llopis & Sharp 1994:1).

On his second voyage to Hawaiʻi in 1793, Vancouver counseled the chiefs to stop making war on each other. He gave Kamehameha some cows and sheep (at Vancouver's advice Kamehameha put a ten-year kapu on them). At this time, Kealakekua was described by Menzies (1920) who accompanied Vancouver:

> The tract which extended along shore, it we might judge from its appearance and our knowledge of that which we had already traveled over, we were ready to pronounce a dreary naked barren waste, it we except a few groves of cocoa palms here and there near the villages. But that which stretched higher up along the verge of the woods from the manner it was industriously laid out in little fields exhibited a more pleasing and fertile appearance…. On leaving this station, we soon lost sight of the vessels and entered their breadfruit plantations, the trees of which were a good distance apart, so as to give room to their boughs to spread out vigorously on all sides…the space between these trees did not lay idle. It was chiefly planted with sweet potatoes and rows of cloth plant. As we advanced beyond the breadfruit plantations, the country became more and more fertile, being in a high state of cultivation. For several miles round us there was not a spot that would admit of it but what was with great labor and industry cleared of loose stones and planted with esculent root or some useful vegetable or other. In clearing the ground, the stones are heaped up in ridges between the little fields and planted on each side, either with a row of sugar cane or the sweet (ti) root of these islands (Handy & Handy 1978:526).

Vancouver went on to visit Kahekili in Lahaina and made the same request; then on to Waikīkī to Kalanikūpule. When Vancouver returned in January 1794 on his third and last visit, he gave Kamehameha three bulls and more cows and sheep [horses came later in1803 from Captain Richard J. Cleveland]. Kahekili had recently died (late 1793) in Waikīkī at the age of eighty-seven and his brother Kaʻeo was now ruling Maui (Kamakau 1992:162-166; Brennan 1995:15-23, 31-34).

By 1794 at least eleven foreigners were living on the island of Hawaiʻi; these included American, English, Irish, Portuguese, Genoese, and Chinese (Day 1992:23-25) most likely involved in the sandalwood trade. In November and December 1794 a great battle was fought in ʻAiea, Oʻahu between Kaʻeo and his nephew Kalanikūpule. Kaʻeo was killed and his young son Ka-umu-aliʻi became ruling chief of Kauaʻi (Kamakau 1992:168-169).

> During the first forty years after the Cook expedition, Kealakekua, as the most important Hawaiian port for the provisioning of European and American ships, was the primary center of contact between Hawaiʻi and the outside world, though the port of Honolulu came to rival, and then to surpass it after about 1810. The explorers and traders of this period who stopped at Kealakekua seeking provisions were often met by the most powerful of Hawaiian chiefs seeking Western goods and alliances. During most of this period, then, Kealakekua continued to be the most thoroughly documented Hawaiian area. Much of our documentary history of Hawaiʻi derives specifically from Kealakekua. The journals of three visits by the Vancouver expedition during the early 1790s in particular include invaluable accounts of early Kealakekua, including extensive descriptions of dealings with the chiefs and people, of Kamehameha's houses at Kekua and of the Kona Field System (Hommon 1986b:10).
>
> Throughout this period (1779-819) which spans the last forty years of the life of Kamehameha I, Kealakekua Bay remained the most important center of chiefly power, trade and acculturation in the Hawaiian Islands and the most thoroughly described area in the eyewitness literature (Hommon 1986b:19) .

Early Historic Period. The Early Historic Period (AD 1795-1900) is marked by very significant events. In February 1795 Kamehameha's war fleet landed in Lahaina and covered the coast from Launiupoko to Mala. All the food patches and cane fields were overrun by Hawaiʻi warriors; and on Molokai the coast from Kawela to Kalamaʻula was also covered by warrior-laden canoes (Kamakau 1992:171). Kamehameha also invaded Oʻahu in 1795, covering the beaches from Waiʻalae to Waikīkī. Several foreigners were living with Kalanikūpule at that time (Kamakau 1992:172, 174). Kamehameha brought the daughter of Kalola, Ke-kuʻi-apo-iwa Liliha and her daughter, Kalanikauiakaʻalaneo to Oʻahu to witness the Battle of Nuʻuanu Pali and the defeat of Oʻahu. It was during this trip that the name Keōpūolani was given to Kalanikauiakaʻalaneo (Kleiger 1998:21). Kamehameha's forces defeated Kalanikūpule's forces. And after several months of hiding, Kalanikūpule was found and sacrificed to Kamehameha's war god (Kamakau 1992:174).

By 1796 Kamehameha had conquered all the island kingdoms (with the help of western advice and technology), except Kauaʻi. In his early reign, Kamehameha traveled periodically to the various royal courts on Hawaiʻi Island – these were the established centers of Waipiʻo in Hāmākua; Hilo Bay in Hilo; Hōnaunau, Kealakekua, Kahaluʻu, Hōlualoa and Kailua in Kona; and Kohala and Puʻuepa-Kokoiki in Kohala. "In each place the ruler's residence was the focal point along with the nearby national heiau (luakini) and usually a puʻuhonua (refuge). The houses of major and lesser chiefs were clustered nearby, with commoners' homes farther away (Cordy 2000:58).

It wasn't until 1810 that Kaumualiʻi ceded his kingdom of Kauaʻi, Niʻihau, Lehua and Kaʻula. Kaumualiʻi gave his allegiance to Kamehameha and the Hawaiian Islands were unified under one rule (Kuykendall and Day 1976:26-29, 32). Hawaiʻi's culture and economy continued to change radically as capitalism and industry established a firm foothold. At this time the sandalwood (*Santalum sp*) trade in Hawaiʻi was flourishing; the Fijian and Marquesan supply of sandalwood was exhausted, so Hawaiʻi became known as the "sandalwood mountains" to entrepreneurs of Southern China. Sandalwood came under the personal control of Kamehameha I, who had become "a fervent consumer of high-priced western goods" (Kent 1983:17-20). The sandalwood industry, discovered by Euro-Americans in 1790, and turned into commerce by 1805 (Oliver 1961:261), was flourishing in Hawaiʻi by 1810 to the point where the subsistence level fell apart, as farmers and fishermen were ordered to spend most of their time logging, causing famine to set in, and resulting in a population decline. However, Kamehameha did manage to keep some control on the trade (Kuykendall and Day 1976:43; Kent 1983: 23, 29; Bushnell 1993:212). In 1813, Don Francisco de Paula y Marin, Spanish advisor to King Kamehameha I introduced coffee and pineapple to Hawaiʻi, but it wasn't until a little later that John Wilkinson brought 30 coffee plants from Brazil, the type that would become known as "Hawaiian coffee" (Takeguchi et al., 1999).

Kamehameha I died on May 8, 1819 in Kailua-Kona *"*and at the close of the purification the kahuna nui Hewahewa said, 'Where shall the ruling chief stay?" The chiefs responded in unison, "Where indeed? Are not you the one to choose the place?" "Since Kona is unclean, there are but two places for him to stay, Kaʻu and Kohala." The chiefs chose Kohala because they believed the people there to be more loyal to Kamehameha (Kamakau 1992:213). "When the people of Kona and of neighboring places heard of the death of the chief the voice of weeping and wailing arose and the sound of lamentation and general mourning, recalling their regret and reciting their love for their chief" (Kamakau 1992:213-214).

Four months later (September) the first whaling ship comes to Hawaiʻi (B Media 2010). Six months after the death of Kamehameha, his son and successor Liholiho met with his mother Keōpūolani, kuhina nui Kaʻahumanu, and a council of chiefs and chiefesses at Kawaihae. His advisors, which included his father's kahuna nui Hewahewa, convinced the new king Kamehameha II to abolish the kapu system. He signified his agreement by sitting down and eating with his mother Keōpūolani, breaking the ʻai kapu (Oliver 1961:260; Kuykendall and Day 1976:41; Kamakau 1992:222-228). Once again the culture of Hawaiʻi was to change radically.

Liholiho's cousin Kekuaokalani [son of younger brother of Kamehameha I], caretaker of the war god Ku-Kailimoku, disagreed and revolted, but it was Keōpūolani the queen mother, who ordered Kalanimoku to prepare for war on Kekuaokalani – she knew that Kekuaokalani would have had her and Hoapili killed to preserve the ʻai kapu (Kamakau 1992:227). Kalanimoku camped at Keauhou awaiting battle. Kekuaokalani was killed in the battle of Kuamoʻo -- his wife Manono took up his arms and fought too. She pleaded to Kalanimoku, her brother, for her life, but he told her that "it would disgrace me in men's minds for you to live" since her husband was now dead. She was killed by a volley of shots (Kamakau 1992:228).

By December of 1819 the revolution was quelled. Kamehameha II sent edicts throughout the kingdom renouncing the ancient state religion, ordering the destruction of the heiau images and the heiau structures to be destroyed or abandoned and left to deteriorate, allowing the personal family religion, the ʻaumakua worship, to continue (Oliver 1961:260; King 1990; Kamakau 1992:222-228), and Kailua-Kona once again became the center of government (Kamakau 1992:228).

Ironically, in October of 1819, seventeen Protestant missionaries had set sail from Boston to Hawaiʻi. They arrived in Kailua-Kona on March 30, 1820 to a markedly changed culture; one with a "religious" void, and a growing appetite for western products. Many of the aliʻi who were already exposed to western material culture welcomed the opportunity to become educated in a western style and adopt their dress and religion. Soon they were rewarding their teachers with land and positions in the Hawaiian government (King 1990). Parts of Kona, including Kealakekua, were densely-populated and cultivated as observed by William Ellis in 1823:

> The northern part, including Kairua, Kearakeʻkua and Honaunau, contains a dense population, and the sides of the mountain are cultivated to a considerable extent; but the south part presents a most inhospitable aspect. Its population is thin, consisting principally of fishermen, who cultivate but little land, and that at the distance of from five to seven miles from the shore (Ellis 1823).

> The missionaries arrived in Hawaiʻi in 1820 and the first Kealakekua missionary settlement was established at Kaʻawaloa Flat by Reverend Ely in 1824. The missionary records indicate that a church and several missionary houses were built at Kaʻawaloa. By 1837, the missionaries along with many of the Hawaiian people left Kaawaloa for Nāpōʻopoʻo and upland Kealakekua. A second church, Kahikolu, was established along Kealakekua Bay at Nāpōʻopoʻo in 1840 (Paris, 1926 34). The present Kahikolu Church was built in 1854 after the first Kahikolu was destroyed by an earthquake (In Yent 1985a:11).

> The missionaries arrived at Kealakekua Bay in 1824 and established the first mission at Kaʼawaloa Flat. Because of the heat, the missionaries moved the mission upslope to Kuapehu in 1827. However, many of the Hawaiians continued to live along the coast and Rev. Forbes decided to move the mission station to Nāpōʻopoʻo in 1838 and constructed the first Kahikolu Church in 1840. During this time, the native population declined as a result of drought, famine, epidemics, and migration. By 1838, there were 320 residents at Kaʼawaloa and 680 residents at Nāpoʼōpoʻo and Keʼei (Forbes 1838 In Yent 1999:8).

> After the arrival of missionaries at Kealakekua Bay in April 1824, native population decline brought about by cycles of drought, famine, epidemic and migration is consistently recorded for the next 25 years. From early estimates of 350 structures and 2,100 residents around the bay in 1779 (Cook and King 1784 (3):128), the 1838 population was recorded as 320 residents at Kaʻawaloa and 680 residents at Nāpōʻopoʻo and Keʻei (Forbes 1838). Population decline accelerated through the 1840's and is reflected in the Kealakekua Mission Station report of 1849; recording 283 deaths and only 36 births, a trend common throughout the islands (Pogue 1849) (In Smith 1988:5).

Whaling was an early (1819), but relatively short-lived industry to have an impact in Hawaiʻi for at least two decades; while not one of the primary ports-of-call, whaling ships also berthed at Kealakekua Bay, trading with residents:

> For Hawaiian ports, especially Honolulu and Lahaina, the whaling fleet was the crux of the economy for 20 years or more. More than 100 ships stopped in Hawaiian ports in 1824. Over the next two decades, the Pacific whaling fleet nearly quadrupled in size and in the record year of 1846, 736 whaling ships arrived in Hawaiʻi (Info Grafik 2010).

> Whalers and other transients too had an impact on life in the Kealakekua region. By the early 1840s Kealakekua had become a minor whaling port, with as many as 32 whaleships a year reported. By the end of this period, some 70 years after contact, the Hawaiian population of the region was significantly reduced in size. The village of Kekua was evidently nearly deserted (In Hommon 1986b:11).

During this period, the sandalwood trade which began in 1805 (EHA 2010) was wreaking havoc on the commoners who were weakening with the heavy production, exposure, and famine just to fill the coffers of the aliʻi who were no longer under any control constraints (Oliver 1961:261; Kuykendall and Day 1976:42; Bushnell 1993:212). On a stopover in the Kohala district in the early 1800s Ellis wrote the following:

> About eleven at night we reached Towaihae [Kawaihae], where we were kindly received by Mr. Young... Before daylight on the 22nd, we were roused by vast multitudes of people passing through the district from Waimea with sandal-wood, which had been cut in the adjacent mountains for Karaimoku, by the people of Waimea, and which the people of Kohala, as far as the north point, had been ordered to bring down to his storehouse on the beach, for the purpose of its being shipped to Oahu. There were between two and three thousand men, carrying each from one to six pieces of sandalwood, according to their size and weight. It was generally tied on their backs by bands of ti leaves, passed over the shoulders and under the arms, and fastened across their breasts.... (Kuykendall and Day 1976:42, 43, Ellis 1984:397)

The lack of control of the sandalwood trade was to soon create the first Hawaiian national debt as promissory notes and levies were initiated by American traders and enforced by American warships (Oliver 1961:261, 262). In 1825, Kuhina-nui Kaʻahumanu [King Kamehameha III was just a child] placed a kapu on cutting sandalwood trees. She saw what it was doing to the people; neglecting their crops and fishing and getting into debt (Brennan 1995:48). During this period the free-ranging cattle were also taking its toll; any chances of re-growth of the forests were squelched by the wild cattle. They even ate the grass-thatched roofs of native houses (Handy and Handy 1972:18).

However, beef soon became a barter item (Brennan 1995:48); and in 1832, Kamehameha III sent a high chief to California to bring some *vaqueros* back to Hawaiʻi to help with the training of horse and cattle handling. Although the cattle were being slaughtered by the thousands for their hides and tallow, their numbers were increasing beyond belief. Over 100,000 wild cattle were roaming the mountains of Waimea alone. Many crops were ruined by the hordes of cattle (Brennan 1995:51-54). The solution was for the *vaqueros* or paniolo as Hawaiians called them, to first train Hawaiian and haole men to be good horsemen or wrangler or cowboy (paniolo). This was the beginning of Hawaiʻi's cattle kingdom (Brannen 1995:70). Paniolo Jack Purdy and John Parker, Kamehameha III's chief cattle killer, partnered to furnish the king with badly needed beef for bartering with foreign ships (Brennan 1995:74).

The Hawaiian culture was well on its way towards Western assimilation as industry in Hawaiʻi went from the sandalwood trade, to a short-lived whaling industry, to cattle ranching, and the more lucrative, but insidious sugar industry. "For the first time Hawaiian masses were drawn to a cash economy as workers and producers." In 1836 the first sugar plantation was established on Kauaʻi (Kent 1983:22, 23, 29). Sugar

cane (*Saccharum officinarum* L.) was originally Polynesian introduced and had served a variety of uses. The ko kea or white cane was the most common, usually planted near Hawaiian homes for medicinal purposes, and to counteract bad taste (Handy and Handy 1978:185). Sugar cane was a snack, a condiment, a famine food, fed to nursing babies, and helped to strengthen children's teeth by chewing on it (Handy and Handy 1978:187). It was used to thatch houses when pili grass (*Heteropogon contortus*) or lauhala (*Pandanus odortissimus*) were not abundant (Malo 1987:121, 124). Sugar cane was also used in relation to taro and sweet potato. Handy and Handy (1978) explain:

> In wet-taro farming, cane was planted along the embankments separating the flooded terraces and flats. In dry-taro and sweet potato fields on the sloping *kula* or in the lower forest zone, cane was planted as hedges along the lines of stone and rubbish thrown up between the fields. Thus it helped the planter to utilize to the maximum his soil and water, and acted as a windbreak against the gusty breezes which blow in most valley bottoms, along the coasts, and on the uplands where taro is grown (Handy and Handy 1978:186).

Sugar cane was grown on all islands and when Cook arrived, he wrote of seeing sugar cane plantations. The Chinese on Lanai are credited with first producing sugar as early as 1802. However, it was not until 1835 that sugar became established commercially, primarily to replace a waning sandalwood industry (Oliver 1961:263; Kuykendall and Day 1976:92). Many of the Hawaiian chiefs became involved in the early days of the sugar industry. Hawai'i's Governor (John Adams) Kuakini, son of Ke'eaumoku and Namahana (Kamakau 1992:149) grew sugar cane and had a mill in South Kohala; he also had a sugar plantation in North Kohala in the 1830s-1840s (Dorrance 2000:17).

By the mid-1800s ranching became a flourishing economic factor in the Kohala and North Kona areas with cattle being shipped out of Kawaihae (Rosendahl 1995:11). In 1815 John Palmer Parker, an ex-seaman, made his home at Kawaihae where he began hunting cattle that roamed the slopes of Mauna Kea. By this time the Vancouver's cattle of 1793 had increased to destructive numbers and Parker was hired to thin the wild herds. Since people had not yet developed a taste for beef, Parker salted the meat with Kawaihae salt and tanned the hides to trade with ships that stopped at Kawaihae. He later built pens to confine the cattle and horses (n.a. 1967:14-15). "During this period (1848-1929) the economy of the Kealakekua region expanded to include ranching, the production of cash crops and the establishment of small scale mercantile enterprises" (Hommon 1986b:19).

In the 1840s a political act of the Hawaiian Kingdom government would change forever, the land tenure system in Hawai'i and have far-reaching effects. The historic land transformation process was an evolution of concepts brought about by fear, growing concerns of takeovers, and western influence regarding land possession. King Kamehameha III, in his mid-thirties, was persuaded by his kuhina nui and other advisors to take a course that would assure personal rights to land. One-third of all lands in the kingdom would be retained by the king; another one-third would go to ali'i as designated by the king; and the last one-third would be set aside for the maka'āinana or the people who looked after the land. In 1846 he appointed a Board of Commissioners, commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10th day of December, AD 1845." Notices were frequently posted in *The Polynesian* (Moffat and Kirkpatrick, 1995). However, the legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Kirkpatrick 1995:48-49), known today as *The Great Māhele*. In 1850, the Kingdom government passed laws allowing foreigners to purchase fee simple lands (Speakman 2001:91).

The 1840s also heralded other changes as well. King Kamehameha III passed a law making all forests, government property in 1846 (Takeguchi et al. 1999). The Hawaiian government, with the aid of the missionaries, encouraged the sugar industry as well as other enterprises such coffee, cotton, rice, potatoes, and silk worms (Speakman 2001: 93). Subsistence crops were ruined by displaced dirt and dust, natives were being asked to grow sugar cane on their lands in exchange for money, only to find themselves

indebted, and forced to surrender homelands; land-use disputes between natives and other cultures ensued; and restrictions on government lands prevented subsistence hunting and gathering. Subsistence-based culture was eventually lost with the escalating dependence on purchased goods and the growing development related to sugar production (Tomonari-Tuggle 1988:50, 51).

Disease also had a devastating effect on the population and the landscape, killing ali'i and maka'āinana alike; measles epidemics in 1848 and 1849, was followed by the horrendous smallpox epidemic in 1853. Ten thousand people are said to have died of this disease in Hawai'i (Kamakau, 1992:411, 418). John Papa 'I'i in *Fragments of Hawaiian* History (1984) talks about the impact of this disease and as guardian of several young ali'i; he had to take several of them off of O'ahu island. They just kept sailing from island to island and usually were not allowed to land as O'ahu was thought to be the source of the smallpox ('I'i 1984:171).

While other places were getting established with growing sugar cane in the 1850s cattle ranching was becoming an industry for the island of Hawai'i, as was livestock such as goats. A law had been passed "requiring livestock owners to register their brands or the animals would be considered government property."

By 1858 at least 2,119 foreigners now lived in Hawai'i. Many were merchants who traded and provided provisions, ranchers and missionaries who lived in various locations throughout the islands. In the 1860s the U. S. Civil War brought about a boost for the sugar industry in Hawai'i as sugar plantations in the South were boycotted or destroyed. The industry brought in tens of thousands of laborers from Asia, Europe, the Americas, Oceania, and Africa to work on the many plantations and mills that were being established on all major islands, which had a profound effect on life in Hawai'i (Oliver 1961:123). This influx not only radically changed the culture, but also drastically altered ethnobotanical agricultural lands, destroying traditional architectural features in the process as lands were cleared for mono-crops, domestic settlements and large-scale ranching. Additional industry for Hawai'i Island included macadamia nuts, introduced in 1881 by William H. Purvis; and John Ackerman and Waldemar Muller began canning pineapple commercially in Kona in 1882 (Takeguchi et al., 1999).

Territorial History (AD 1900-1949). Several events, which took place in the early 1900's eventually created a downward spiral effect on the sugar industry. Mainland labor union leaders went into the fields organizing union membership drives. The military began a major drive to install airfields and encampments. And the Federal government imposed quota restrictions on sugar exports (Oliver 1961:147, 148). This period saw much of the lands being sold in fee simple and Native Hawaiians (kanaka maoli) running for Congress (Daws 1974 297). In 1920 Hawai'i delegate to Congress, Prince Joanah Kuhio Kalanaianaole authored the Hawaiian Homes Act. Lands were set aside on all islands for homesteading by Hawaiians with 50% or more native blood (Takeguchi et. al., 1999).

Changes were also taking place at Kealakekua at this time:

> The years since 1929 have witnessed the decline of the coffee industry, the disappearance of the pineapple industry and of the steamers that once stopped at Kealakekua Bay, as well as the shift of most commercial activity inland to Captain Cook and other towns along the belt highway (Hommon 1986b:11).

Modern History (AD 1950-). Post World War II brought about an influx of people and industries to Hawai'i, allowing the tourism industry and offshoot enterprises to flourish. 1950 also marked the introduction of radiocarbon analysis which shifted the focus of study in archaeology from relative dating excavated material cultural remains to carbon dating; this was followed by a research focus on settlement and subsistence patterns, and land and marine use. In the 1960s, various federal and state environmental

and historic preservation laws and regulations were passed, mandating surveys and impact studies of the landscape, prior to development.

Along with the rise of the tourism industry, and competing sugar markets abroad, the sugar companies saw a sharpening decline in business (the Sugar Acts of 1934 and 1937, and ILWU Strike of 1946 didn't help). The 1950s and 1960s were the bleakest years for the sugar industry and it was becoming apparent that the sugar industry was beyond salvage (Kent 1983:107-108). More changes were soon to take place on the landscapes of Hawai'i as former sugar lands became subdivisions and new jobs were being created in the tourist industry. Technology and mechanization initiated in the 1950s to 1970s helped to bring about the decline of plantation camps and lifestyles, yet in 1959 "one out of twelve people employed in Hawai'i was in the sugar industry" (Vorfeld 2002:1). However, technology could not save the sugar industry, which could not compete with unfavorable sugar markets and higher costs. By the 1990s most of the sugar plantations reluctantly closed down operations. The vacant lands soon gave way to various development projects and the need for more Environmental Impact Studies (EIS).

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) and its implementing regulations (43 CFR Part 10) shifted the focus of studies to include a greater interaction with indigenous peoples, and a lesser focus on invasive methods of study. In 2000 Hawai'i Legislature passed an EIS amendment resolution which the governor signed as Act 50. This legislation has broadened the scope of environmental impact studies to include cultural impact studies in order to assure that traditional Hawaiian and other ethnic cultural practices are not adversely impacted by proposed projects, as vacant sugar fields give way to the ever-growing population, expanding tourist and real-estate industries, and other development projects.

Traditional Literature

The ethnographic works of the late 19th and early 20th century contribute a wealth of information that comprise the traditional literature--the mo'olelo, oli, and mele--as well as glimpses into snippets of time, and a part of the Hawaiian culture relatively forgotten. The genealogies handed down by oral tradition and later recorded for posterity, not only give a glimpse into the depth of the Hawaiian culture of old, they provide a permanent record of the links of notable Hawaiian family lines. The mo'olelo or legends allow ka po'e kahiko, the people of old, the kupuna or ancestor, to come alive, as their personalities, loves, and struggles are revealed. The oli (chants) and the mele (songs) not only give clues about the past, special people and wahi pana or legendary places, they substantiate the magnitude of the language skills of na kupuna kahiko (the people of old).

Genealogies. Po'e ku'auhau or genealogy kahuna (masters) were very important people in the days of old. They not only kept the genealogical histories of chiefs "but of kahunas, seers, land experts, diviners, and the ancestry of commoners and slaves (Kamakau 1992:242). An expert genealogist was a favorite with a chief." During the time of 'Umi-a-Līloa, genealogies became kapu (restricted) to commoners, which is why there "were few who understood the art; but some genealogists survived to the time of Kamehameha and even down to the arrival of the missionaries" (Kamakau 1992:242).

There are several chants from Hawai'i and other Polynesian islands referred to as migration chants that expand on the travels of ancient Polynesians and not only explain why they traveled from place to place, and where the traveled, they also give their genealogy illustrating how families are connected from one Polynesian island-nation to another. Examples are the chants and stories by Kamakau and Kepelino about Hawai'i-loa a famous ancient navigator and discoverer of the islands that were named after him (PVS 1999; Daniel 2003).

Ruling chiefs of the various islands came from combinations of genealogies or branches. Malo (1987) wrote about the connection between the maka'āinana and the chiefs. "Commoners and ali'i were all descended from the same ancestor, Wākea and Papa" (Malo, 1987:52). Surviving genealogies illustrate that the ruling families of each island were interrelated quite extensively. The chiefs of O'ahu, Kaua'i, Hawai'i, Maui and Moloka'i had one common ancestry. Families branched out, but conjoined several times in succeeding generations (Kamakau in McKenzie, 1983: xxv). Not only were the chiefs or ali'i related to each other, they were also related to the commoners. In *Ruling Chiefs,* Kamakau states that "there is no country person who did not have a chiefly ancestor" Kamakau (1992:4).

"It is said that the chiefs of Hawai'i island were from Maui and from O'ahu and Moloka'i between the times of 'Aikanaka and Hanala'anui" (Kamakau, 1991:101). This is evident in the genealogies. Genealogies were very important to the chiefs, because ranking was very important. The genealogies not only indicated rank, they ascertained a link to the gods. The following excerpt explains the idea and importance of rank and the role of genealogies:

Position in old Hawai'i, both social and political, depended in the first instance upon rank, and rank upon blood descent—hence the importance of genealogy as proof of high ancestry. Grades of rank were distinguished and divine honors paid to those chiefs alone who could show such an accumulation of inherited sacredness as to class with the gods among men…a child inherited from both parents…. The stories of usurping chiefs show how a successful inferior might seek inter-marriage with a chiefess of rank in order that his heir might be in a better position to succeed his parent as ruling chief…a virgin wife must be taken in order to be sure of child's paternity—hence the careful guarding of a highborn girl's virginity (Beckwith: 1990:11).

One could defend and/or prove their rank by knowing or having one's genealogist recite one's genealogy. "To the Hawaiians, genealogies were the indispensable proof of personal status. Chiefs traced their genealogies through the main lines of 'Ulu, Nana'ulu, and Pili, which all converged at Wakea and Papa (Barrère, 1969:24). Two well-known genealogy chants are the *Kumuhonua* and the *Kumulipo.*

Kumuhonua. The *Kumuhonua*, first published by Fornander in 1878, in *The Polynesian Race* Vol. I was based on information from Kamakau and Kepelino. Kumuhonua, the man, was of the Nana'ulu line, and the older brother of Olopana and Mo'ikeha (McKenzie 1986:14-15). However, the birth chant *Kumuhonua* has been a subject of controversy as noted in following *Preface* by Kenneth P. Emory:

> We have become painfully aware that the Kumuhonua 'legends' are not ancient Hawaiian legends, nor is the genealogy which accompanies them a totally authentic genealogy…in his second volume (1880) when he relates events from the period of the arrival in Hawai'i of migrant chiefs from Tahiti to the time of Kamehameha, in these writings he is dealing with relatively untampered, authentic Hawaiian traditions and genealogies…we must ever be on guard against the effects of this impact in what was recorded subsequently about the pre-contact period….. The world of the Polynesian began to be transformed overnight by Western influence" (In Barrère, 1969: i).

Barrère (1969) explains that some of the *Kumuhonua* legends were recorded by Kamakau and Kepelino between the years 1865 and 1869, however, the 'genealogy' of the *Kumuhonua*, published by Fornander, was given to him "to provide credibility to the legends…this 'genealogy' (was) constructed from previously existing genealogies--the *Ololo* (*Kumuhonua*) and the *Paliku* (*Hulihonua*) which are found in the *Kumulipo* chant (see Beckwith 1951:230-234) and interpolations of their own invention" (Barrère, 1969:1).

Kumulipo. A better example is the famous Creation Chant *The Kumulipo.* Feher (1969) asks several notable Hawaiian scholars to write passages in his *Kumulipo: Hawaiian Hymn of Creation-Visual Perspectives by Joseph Feher.* In the *Introduction* Momi Naughton states "The Kumulipo belongs to a

category of sacred chants known as pule hoʻolaʻa aliʻi, 'prayer to sanctify the chief,' which was recited to honor a new-born chief (Feher, 1969:1).

In her passage, Edith McKenzie states:

> "The *Kumulipo* is a historical genealogical chant that was composed by the court historians of King Keaweikekahialiʻiokamoku of the island of Hawaiʻi about 1700 AD in honor of his first born son Kalani-nui-ʻI-a-mamao. This important chant honors his birth and shows the genealogical descent of both the aliʻi (chiefs) and the makaʻāinana (commoners) from the gods, in particular Wakea…." (Feher, 1969:1).

In a passage by Roger T. Ames, he corroborates this idea and states that "what is of particular humanistic interest is the way in which the *Kumulipo* as a repository of cultural authority served Hawaiian society in transmitting its cultural legacy and organizing its community. In doing so, it combines both a linear sense of temporal development and the richness of one particular moment in time" (Feher, 1969:3).

Hawaiian Genealogies. Edith McKenzie completed the first volume of *Hawaiian Genealogies* in 1983, based on genealogy articles translated from 19th Century Hawaiian newspapers such as *Ka Nonanona* and *Ka Nupepe Kuokoa* in the late 19th century and early 20th century. These articles were in response to a call to preserve the Hawaiian heritage. Some of the information came from Malo's (1838) *Hawaiian History*, and in Fornander's (1880), *The Polynesian Race* (Book I) (McKenzie, 1983:1).

Youngblood (1992) found that he could draw on both Fornander and Beckwith's translations of *The Kumulipo* to sketch a socio-political history of Hawaiʻi (Youngblood, 1992:34). In his re-creation he found that stemming from Wakea and Papa are two major Hawaiian genealogies: the *Nana'ulu* and the '*Ulu*. The *Nana'ulu* was the wellspring for the aliʻi of Oʻahu and Kauai, while the *'Ulu* line supplied the chiefs of Maui and Hawaiʻi Island.

Using thirty years to account for one generation, McKenzie determined that Wakea was born in AD 190; Umi-a-Līloa in 1450; Keawekehahialiiokamoku in 1650, Kalanihuiikupuapaikalanui Keōua in 1710; and Kamehameha I in 1740" (McKenzie, 1983:12). Volume Two of *Hawaiian Genealogies* was published in 1986 and consists of information extracted from genealogical lists published in thirteen newspapers from 1858 to 1920. It compliments genealogies found in other works, such as Fornander's (1880) *An Account of the Polynesian Race*... and David Malo's *Hawaiian Antiquities* (McKenzie, 1986: v).

The following excerpt is from Kamakau's article in *Ka Nupepa Kuokoa* October 7, 1865, and was translated by McKenzie (1986). It illustrates some of the mid-19th century sentiment regarding genealogies:

> I na makaainana, he mea waiwai ole, no ka mea ua papa ko lakou mau makua o hoohalikelike, a hoohanau keiki o ke kuaaina a pii aku i na liʻi. Nolaila ia ao ole ia ai na keili a na makaainana, ma kahi makuakane a makuahine, a kupuna aku no…. Ia kakou i ka poe o keia wa, aole waiwai o keia mea he mooalii aole a kakou mau kuleana nui iloko. Aka, ma ko kakou noonoo iho he waiwai nui. Ua komo kakaou iloko, ua waiwai naʻlii i na kupuna; a ua waiwai pu kakou i koo kakou ike ana. No ka mea, ua kapu i ka makaainana aole e ike i keai mea. Aka, no ka pii ana i ka naauao a me ke akamai o na keiki a na makaainana; nolali, ua noa na wahi kapu, ua pii waleia. O ke koeana mai o na kupuna oia kahi waiwai.
>
> To the commoners, a genealogy was of no value because their parents forbad (sic) it lest comparisons should occur and country children be born and rise up as chiefs. Therefore, the children of the commoners were not taught beyond father, mother, and perhaps grandparents…. To us, the people of this time, there is no value of this thing of a chiefly lineage; we have no great interest in it. But in our thoughts it is of great value. We have entered into discussion of it; the chiefs valued the chiefs and ancestors; and we also value our knowledge of it. Because it was forbidden to the

> commoners, they were not to know this. However, due to the rise of wisdom and skill of the children of the commoners, therefore, all of the ranking privileges were no longer restricted; it was only lifted. What remains of the ancestors is something of value (McKenzie 1986:18-19).

Hawaiʻi Island Royal Line. In the following list of Hawaiʻi Island aliʻi or chiefs (Table 1) most of the people are in a loose chronological order with multiple unions and is not inclusive as many lesser unions were not listed or recorded in official genealogies. This annotated list illustrates how interconnected the chiefly lines were with unions between island polities and families. [Macrons are not inserted because there were not in the records.]

Table 1. Hawaiʻi Island Royal Line [based on McKenzie (1983, 1986), Kamakau (1992) and ʻIʻi (1959).]

Kane	**Wahine**	**Keiki**
*Hanalaʻanui	Mahuia	Lanakawai [14 generations before the following]
[*twin of Hanalaʻaiki progenitor of the Maui Piʻilani Lines – both born at Mokae, Hāna, Maui]		
Kauholanuimahu	Neula	**Kiha**nuilulumoku [Kiha 1]
Kiha 1	Waoilea [Ewa, Oahu Chfs]	**Līloa**-a-Kiha
Līloa	Pinea 1 [younger sib of Waoilea]	Hākau [later killed by Umi]
"	Haua [Maui Chfs]	Kapukini"
"	Akahiakuleana [←Hāna]	Umi-a-Līloa I
Hākau	KukukalaniaPae	Pinea 2
Umi	Ohenahena/Hehena	Kamolanuiaumi
"	"	Kahekilinuialokapu
"	Kulamea	Kapunahahuanuiaumi
"	Makaalua	Nohowaaumi
"	**Kapukini**/Kapulani	Kealiiokaloa→Kalaniʻōpuʻu/Kamehameha I
"	"	Kapulani
"	"	**Keawenuiaumi**
"	Piikea-a-Piʻilani	Aihakoko
"	"	Kumalae→ Aikanaka/Liliʻu
"	Kuihewamakawalu	Papaikaneau
"	"	Kuimeheua (k)
"	"	Uluehu
"	Mokuahualeiakea	Akahiilikapu→ Liholiho/Kamamalu
Keawenuiaumi	Koihalawai [Kauai Chfs]	Kanaloakuaʻana
"	Hoopiliahae	Umiokalani
"	"	Keawepaikana
"	Hoopilihae	LiLīloa 2
"	"	Hoolaaikaiwi
Keawe [Hawaiʻi king]	Kalanikauleleaiwi [sib of Keawe]	Kalani-Keeaumoku
"	"	**Kekela**kekeaokalani
Kauaunuimahioloii	"	**Alapainui** [Hawaiʻi king]
Lonoikahaupu [Kauai king]	"	Keawepoepoe [Chief-Hawaiʻi/Maui/Oahu/Kauai]
Kaulahea [Maui king]	"	**Kekuiapoiwa Nui**
Kaulaheanuiokamoku	Papaikaniau	Kalaninuikuihonoikamoku **Kekaulike**
Haae	Kalelemauli	Kamakaeheikuli
"	"	Haalou
Haae	**Kekela**okalani [dau/Keawenuiaumi]	**Kekuiapoiwa** 2 [Oahu/Maui Chiefess]
Kekaulike [Maui Rul chf]	Kahawalu	Kauhiaimokuakama
"	Holau	Manuhaaipo
"	"	Kekauhiwamoku
"	"	**Kaeo**kulani [Kauai Rul Ch/father of Kaumualii]
"	**Kekuiapoiwa Nui** [half-sister]	**Kamehameha Nui** [Maui Ruling Chf]
"	"	**Kalola**
"	"	**Kahekili**nuihumanu 2 [Iron king of Maui]
"	"	Kuhooheiheipahu (w)
"	"	Naaiakalani
"	"	Manuailehua
"	Haʻaloʻu [chiefess of Waiheʻe]	**Namahana**ikaleleokalani [→ Kaʻahumau]

“	“	Kekuamanoha (k) [father of Kalanimoku, Boki, Manono]
“	Kaneʻalae (Molokai-also wife of Keawe)	?
Kalaninui-i-mamao [Kaʻu]	Kamakaimoku [Oahu, Waianae cfs]	**Kalaniʻōpuʻu** *[Hawaiʻi king]
“	“	**Keōua**kalanikupuapaikalaninui→K-I

*[Two fathers: also Begotten by Pele-io-holani, ruling chief of Oahu and Kamakaimoku]

Kalaniʻōpuʻu	**Kalola** [Maui High Chfs]	**Kiwalao**
“	Kaneikapolei [Kaupo, Maui line]	Keōua Kuahuʻula [Kaʻu]
“	“	Keōua Peʻeale
“	Muʻolehu	Manoua→ Peter Kaeo of Kauai
“	Halau	Kawelaokalani
Kalaniʻōpuʻu	Manoua [daughter/Kaʻu]	Manono [Died in battle/placed on Mookini altar]
“	Kamakolunuikalani	Pualinui [→a Lahaina line]
“	“	Kukanaloa [moʻopuna of 3 kings]
Keōua	Kahikikalaokalani	Kalokuokamalie
“	Kekuiapoiwa 2 [cousin]	**Kamehameha I**
“	“	Keliimaikai [Kalanimalokuloku-Kepookalani]
“	Kamakaehikuli	Kalaimamahu [grandfather of Lunalilo]
“	**Kalola** [→Keopuolani]	Kekuiapoiwa Liliha II [wife of Kiwalao]
“	Manononui [daughter of Alapaʻinui]	Kiilaweau [wife of Keliimaikai/mother of Kekuaokalani cousin of Liholiho]
“	Akahinui	Kaleiwohi
Keawemauhili [Hilo cf]	Kekikipaʻa [dau of Kameʻeikamoku]	Kapiolani [cfs of Kaʻawaloa/Kealakekua]
[half brother of Kalaniʻōpuʻu; m Ululani; killed by nephew Keōua Kuahuʻula]		[cousin of Kiwalaʻo and Kamehameha I]
Kiwalao [Hawaiʻi Chf] [Sibs]	**Kekuiapoiwa** Liliha	Kalanikauikaʻalaneo **Keopuolani** [Wailuku]
“	Manoua	Kaaimalolo→ Kaeo of Kauai
Kauhiʻaimoku-a-Kama	Kahoʻomaʻeha	Koliʻi [Kailua-Kona cf]
“	“	Kaʻiwi [Hilo/Waipiʻo cf]
“	“	Kaleohano [Kona cf/Navigator for Boki]
“	“	Keahemakani (w)
“	Luʻukia	Kalolowahilani (w) m Keʻeaumoku
Kamehameha Nui [sibs]	**Kalola** [Maui]	Kalaniakuaiokikilo/Kalaniwaiakua [Kapu]
“ [half sibs]	**Namahana**ikaleleonalani	Pele-io-holani 2
“	“	**Kuakini**okalani
Keʻeaumoku	Kalolowahilani	Ke-aka-kilohi (k)
Keeaumoku Papaiahiahi	**Namahana**	**Kaʻahumanu** (w)
“	“	Kaheiheimalie/Hoapiliwahine (w)
“	“	Kahekili III/Keʻeaumoku 2 (k)
“	“	Kekuaipiia/Namahana II (w)
“	“	Kaluaikonahale/Kuakini (k)
Kekumanoha	Kamakahukilani	Kalanimoku (k)
“	“	Wahinepiʻo (w)
“	“	Boki (k)
Kalaimamahu [K1 sib]	Kalakua Kaheiheimalie	Kahahaikaʻaoʻaokapuoka/Kekauluohi
Kamehameha I	**Kalola**-a-Kumukoʻa	?
“	Kanekapolei	Pauli Kaoleioku
“	Kekikipaʻa [dau of Kameʻeikamoku/mother of Chiefess Kapiolani]	?
“	Peleuli Kekela m Kawelolani [K-I brother]	Maheha Kapulikoliko (w)
“	“	Kahoanoku Kinau (k)
“	“	Kaikoʻolani (k)
“	“	Kiliwehi (w)
“	Kauhilanimaka	Kahiwa Kanekapolei [mother of Kepelino]
“ [niece]	Kaʻahumanu	NI
Kamehameha I	Kaheiheimalie Kanui	Kamehameha Iwi
“	“	Kamehamalu (w)
“	“	Kahoʻanoku Kinau (w)
“	Kalanikauikaʻalaneo **Keopuolani** [Kapu chiefess]	Kalani Kua-**Liholiho** [b Hilo]

“	“	Kalani **Kauikeaouli** Kiwalaʻo [b Keauhou]
“	“	Harriet Nahiʻenaʻena
“ [niece]	Kekauluohi [m Kanaina→ Lunalilo]	NI
“	Manono	?Kapauaʻai (w)
Liholiho [cousins]	Kekāuluohi [m Kanaʻina → Lunalilo]	NI
“	**Kamāmalu** [half sister]	NI
“	Kekāuluohi [mom of Lunalilo]	NI
“	Kalanipauahi	NI
“	Kekauʻonohi	NI
“	Kīnaʻu	NI
Kalani**Kauikeaouli** Kiwalaʻo	Kapakuhaili	Keaweʻaʻula II
“	Hakalelponi Kalama [b Kailua-Kona	NI.
Leleiohoku [Wm Pitt I]	Nahiʻenaʻena	(k) stillborn

[son of Kalanimoku, great-grandson of Kekaulike, hanai of Kuakini-son of Keʻeaumoku, husband of Princess Ruth Keʻelikolani]

M. Kekuanaoa	Kinau	Lot Kamehameha [Kamehameha V]
“	“	Alexander Liholiho [Kamehameha IV]
“	“	Victoria Kamamalu
Charles Kanaʻina	Kekāuluohi	Wm Charles **Lunalilo**
Lunalilo	**N**	
Kepoʻokalani [s/Kameʻeiamoku]	Keohohiwa	ʻAikanaka
ʻAikanaka	Kamaeokalan	Analea/Ane Keohokalole
John Adams Kuakini	Analea/Ane Keohokalole	NI
Cesear Kapaʻakea [cousins]	Analea Keohokalole	Moses
“	“	James
“	“	David **Kalākaua**
“	“	Lydia/**Liliʻuokalani**
“	“	Anna
“	“	Kaiminaʻauao
“	“	Kinini
“	“	Miriam Likelike [mother of Princess Kaʻiulani]
“	“	Leleiohoku
“	“	
Alexander **Liholiho**	**Emma** Kaleleonalani	Albert Edward Kauikeaouli
Charles Kanaina	Kekāuluohi	William Charles Lunalilo
Kalākaua	Kapiolani [grd dau of Kaumualii]	NI
Kaeokalani	Kamakahelei [queen of Kauai]	**Kaumuʻaliʻi**
John Owen Dominus	**Liliuokalani**	NI
Archibald Cleghorn	Miriam Likelike	Victoria Kawekiu Kaʻiulani Lunalilo….

Mo‘olelo. Legends, stories, oral histories or mo‘olelo are a great cultural resource as well as entertaining. Leib and Day (1979) state in their annotated bibliography of Hawaiian legends, that legends “are a kind of rough history.” They noted Luomala’s idea of the value of legend and myth in the serious study of a culture and her following quote. “To a specialist in mythology, a myth incident or episode is as objective a unit as an axe, and the differences and similarities of these units can be observed equally clearly and scientifically.” Leib and Day also expressed concern about authenticity, and sometimes found it difficult to determine if a legend was a primary or secondary source. The following definitions of terminology, including the Hawaiian classification of prose tales--mo‘olelo or ka‘ao, come from their work (Leib and Day 1979: xii, 1):

Tradition	used to refer to that which is handed down orally in the way of folklore
Folklore	a rather inclusive term, covering the beliefs, proverbs, customs, and literature (both prose and poetry) of a people
Myth	a story of the doings of godlike beings
Legend	deals with human beings and used interchangeably with ‘myth’… because the collectors and translators of the tales often failed to make the strict distinction
Ka‘ao	“pure fiction”
Mo‘olelo	deals with historical matters and somewhat didactic in purpose… included tales of the gods, as well as tales of historical personages… many have recurring patterns, plots, and types of characters

History of Mo‘olelo Collecting. According to Leib and Day (1979) a substantial number of legends were collected and written in Hawaiian, during the century following Cook’s arrival in Hawai‘i. A few accounts of the mythology were printed in the journals of missionaries and travelers, and a few of the Hawaiian lore were printed in languages other than English. The following synopses are excerpts from the works of Leib and Day’s (1979), and gives an overview of the first collectors and compilers of Hawaiian myths and legends.

The first printed narrative legend of any importance is the epic “Song of Lono” in Byron’s *Voyage of H.M.S. Blonde to the Sandwich Islands* (1826), credited by Byron to the American missionaries. Byron had hoped that the missionaries ‘will obtain a correct knowledge of the creed and traditions of the Islanders.’ Unfortunately, the missionaries were at first more anxious to supplant the native beliefs with new ones than to perpetuate the old ones, with the result that a good many of the legends became altered or were lost. However, the missionaries did a more thorough job of writing down the legends than did the explorers and voyagers (Leib and Day 1979:5). William Ellis, who toured Hawai‘i in 1823, is credited as “chronologically the first important source of Hawaiian mythology. Although (Ellis) deplored the content of the legends, they showed that the Hawaiians had mental powers which might later be ‘employed on subjects more consistent with truth’ (Leib and Day 1979:6).

> About 1836 a movement was started under the influence of Reverend Sheldon Dibble, to write down in Hawaiian some of the material dealing with the native legendary history, customs, and other lore. Results of the research were published at the Lahainaluna press in 1838. A partial translation made by Rev. Reuben Tinker was issued serially in 1839 and 1840---the first four installments appearing in ***The Hawaiian Spectator*** and the last four in ***The Polynesian***. In 1841 the Royal Hawaiian Historical Society was formed at Lahainaluna. Some of their research and the earlier *Ka Mo‘olelo Hawai‘i* were incorporated into Dibble’s *History of the Sandwich Islands* (1843). After his death in 1843 his work was carried on principally by two of his outstanding native pupils, David Malo and Samuel M. Kamakau. Malo wrote his own *Mo‘olelo Hawai‘i* about 1840 at the request of Rev. Lorrin Andrews, which was later translated by Emerson as *Hawaiian Antiquities.* In 1858 the Rev. John F. Pogue of Lahainaluna printed a third *Mo‘olelo Hawai‘i,* based on the 1838 history, but included additional material. Kamakau did not print any of his material for thirty years (Leib and Day 1979:7, 8, 9).

The increase in the amount of Hawaiian lore appearing in the native press in the 1860’s and thereafter was at least in part the result of an organized effort to collect and preserve such material. At Kamakau’s instigation a Hawaiian society was formed in 1863 to collect material for publication in the native press at the time, and also to aid Fornander’s research. Fornander was the greatest collector of Hawaiian lore. He credits as sources, several natives whom he sent on tours of the Hawaiian Islands to collect all available Hawaiian lore, as well as Kalākaua, Lorrin Andrews, Malo, Dibble, Dr. John Rae, Kamakau, Naihe, S.N. Hakuole, Kepelino, and Remy. The culmination of this effort was Fornander’s (1880) *An Account of the Polynesian Race: Its Origin and Migrations and the Ancient History of the Hawaiian People to the Times of Kamehameha I*. Fornander’s collection remains the most important single source of Hawaiian legends (Leib and Day 1979:9, 12, 13).

In June 1865 Kamakau began publishing in *Ka Nupepa Kuokoa,* articles on traditions and legends. His series of articles dealing with Hawaiian history, particularly from the late eighteenth century on, and especially of Kamehameha, appeared weekly in the same publication in October 1866. When the newspaper ceased in 1869, this series continued in *Ke Au Okoa* for nine months. Kamakau then wrote a series on ancient Hawaiian religion, customs, and legendary history in *Ke Au Okoa* until February 1871. All of his writings were in Hawaiian (Leib and Day 1979:8, 9). Very little work was done in translating Hawaiian mythology into English until late in the nineteenth century. It wasn’t until 1888, over a hundred years after the discovery of the Hawaiian Islands, that the first book in English dealing exclusively with Hawaiian mythology was printed; *The Legends and Myths of Hawai‘i* by King Kalākaua. However, it was more likely authored by former United States Minister to the Hawaiian Islands, R.M. Daggett (Leib and Day 1979:5, 7).

Thrum is one of the most frequently cited authorities on Hawaiian lore. He was born in Australia in 1842 and arrived in Honolulu in 1853. In 1875 he began publication of the *Hawaiian Almanac and Annual*, later known as *The Hawaiian Annual* or *Thrum’s Annual*, which appeared yearly under his editorship until his death in 1932. Thrum’s contribution is as editor, compiler, and publisher of translations, not translator. By providing in his *Annual* a place for the publication of such material, and perhaps by persuading authors to provide him with translations, he was instrumental in much legendary matter appearing in printed form. Thrum wrote or rewrote a large portion of his own material (Leib and Day 1979: 17).

Thrum’s first book *Hawaiian Folk Tales* was published in 1907 and consisted largely of tales that had previously been published in *Thrum’s Annual*. Only 35 of the 260 pages were translated by Thrum, the rest were credited to Rev. A.O. Forbes, Rev. C.M. Hyde, William Ellis, J.S. Emerson, Mrs. E.N. Haley, N.B. Emerson, Mrs. E.M. Nakuina, Walter M. Gibson, Joseph M. Poepoe, and M.K. Nakuina. His second book *More Hawaiian Folk Tales,* published in 1923 was similar. A number were translations from Hawaiian language newspapers of half a century earlier, often with no translator cited. Translators credited were A. F. Knudsen, Henry M. Lyman, W. D. Westervelt, J. H. Boyd, and Lahilahi Webb. Some of the chapters were reprinted or abridged from the Bishop Museum translations of the *Fornander Collection*, of which Thrum was editor. His greatest work, *Fornander’s Collection of Hawaiian Antiquities and Folklore,* was published by Bishop Museum in 1916 and 1920 in three volumes. The original editor was W. D. Alexander and most of the work completed under his supervision. However, he died in 1913 and Thrum was appointed to complete the production. Beckwith credits John Wise with the original translation of that work. In 1920 or 1921 Thrum completed another work “Ancient Hawaiian Mythology” which was never published (Leib and Day 1979: 18-19).

A great resurgence of interest in Hawaiian folklore began in the early twentieth century, in part caused by the annexation to the United States. People on the mainland wanted to know more about ‘their new island possessions.’ The funds of the Bureau of American Ethnology were made available for Hawaiian studies i.e., Emerson’s *Unwritten Literature* and Beckwith’s *Laiekawai*. The most important twentieth-century translators of Hawaiian legends have been N. B. Emerson, Thomas G. Thrum, William D. Westervelt,

William Hyde Rice, Laura C. S. Green, Martha Warren Beckwith, and Mary Wiggins Kawena Pukui. Emerson's extensive notes were a major contribution to Hawaiian scholarship. Most of them explain the meanings of Hawaiian words. In many, Emerson alludes to legends, giving a number of them briefly and relating a few in some detail. Some of these probably do not exist anywhere else in print (Leib and Day 1979:14).

Handy & Handy (1978) discuss a moʻolelo of Lono and a connection to Kealakekua:

> The most interesting mythological and legendary materials relating to Kona have to do directly or indirectly with Lono. The stories are in many instances, however, conflicting. The story of the origin of the *Makahiki* rain and harvest festival, which we have reported under that heading, bring Lono from Kahiki, whither he returns. This places him within the era of human habitation of Kona. He is said to have landed at Ke-ala-ke-kua (The-path-of-the-god), and here was his most important temple, in the midst of sweet potato plantations, the place where Captain Cook was welcomed and entertained as Lono. Again, the story of the coming to Hawaiʻi of Paao, the priest who came from ʻUlupo in Kahiki, Lono is a migrant from the southern island in protohistoric times (Handy & Handy 1978:522).

Moʻolelo and Sources. The following list of moʻolelo sources in the *Hawaiian Legends Index* Vol II & III by the Hawaiʻi State Public Library System (1989) that mention Kaʻawaloa, Kealakekua, or Nāpōʻopoʻo; no moʻolelo of Pali Kapu o Keōua were found in these sources.

Story of Lonoikamakahiki	In Fornander Collection of Hawaiian Antiquities and Folklore v.1 pp 256-363
Legend of Kuapakaa	In Fornander Collection of Hawaiian Antiquities and Folklore v.2 pp 78-135
Legend of Pupukea	In Fornander Collection of Hawaiian Antiquities and Folklore v.2 pp 436-451
Brief sketch of Kamehameha I	In Fornander Collection of Hawaiian Antiquities and Folklore v.2 pp 464-485.
Famous men of early days	In Fornander Collection of Hawaiian Antiquities and Folklore v.2 pp 486-503.
An account of the breadfruit	In Fornander Collection of Hawaiian Antiquities and Folklore v.2 pp 676-679.
Legend of Pupukea	In Fornander's Hawaiian Antiquities and Folklore v.2 pp 178-195.
Lono's last martyr	In Gowen, Hawaiian Idylls of Love and Death pp 89-100
The destruction of the temples	In Kalakaua, Legends and Myths of Hawaiʻi pp 431-446
Captain Cook	In Westervelt, Hawaiian Historical Legends pp100-113
The wonderful shell	In Westervelt, Legends of Old Honolulu pp 105-111
The adventures of Iwikauikaua	In Kalakaua, Legends and Myths of Hawaiʻi pp 335-349
Lono and Kaikilani	In Thrum, More Hawaiian Folk Tales pp108-116
Kaiana, The Last of the Hawaiian Knights	In Kalakaua, Legends and Myths of Hawaiʻi pp 383-408
Kealakekua Bay: Capt Cook	In Nakuina, Hawaiʻi its People, their Legends pp 63
Lonoikamakahiki	In The Hawaiian Romance of Laiekawai pp368-369

ʻŌlelo Noʻeau. ʻŌlelo noʻeau or proverbial/traditional sayings usually had several layers of meanings. They reflected the wisdom, observations, poetry and humor of old Hawaiʻi. Some of them referenced people, events or places. ʻŌlelo Noʻeau was compiled by Pukui between 1910 and 1960 with both translations and an explanation of their meaning (Williamson, et al. in Pukui, 1983: vii), which are often more kaona (hidden or double meaning) than obvious. The only place name reference found was to Nāpōʻopoʻo.

ʻŌlelo noʻeau:	He Nāpōʻopoʻo i ʻikea ke poʻo, he Nāpōʻopoʻo no iʻikea ka pepeiao.
Translation:	A (person of) Nāpōʻopoʻo whose head is seen; a Nāpōʻopoʻo whose ears are seen.
Meaning	A play on napoʻo (to sink), as the sun sinks in the west. No matter what your claim to rank may be, we can see that your head is low and that your mindfulness of etiquette is equally low (Pukui 1983:91 #839).
ʻŌlelo noʻeau:	Naʻaupō wale o Kāneiahuea.
Translation:	Ignorant indeed is Kāneiahuea.
Meaning	A Nāpōʻopoʻo, Hawaiʻi, saying for one who blunders on without using his head (Pukui 1983:241 #2205).

Place Names. Hawaiians of old generally named everything; from winds and mountains, to rocks, springs, canoes, taro patches, fishing stations, and "the tiniest spots where miraculous or interesting events are believed to have taken place" (Elbert in Pukui et al., 1974: x). They all represented a story, some known only locally, while others became legendary. [Kaʻawaloa LCA Map Appendix H.]

Table 2. Annotated place names of Kealakekua Bay State Historical Park and vicinity.

Apana	Kaʻawaloa. LCA 9443. John Paris Jr. bought this parcel from Kapakea in 1895 who sold to Peter Whitmarsh who sold much of his lands to James Castle who sold to West Hawaiʻi Railroad Company (WHRC) in 1909 who mortgaged to a Japan Company who sold to local Japanese investors who sold it to Mrs. Maud Greenwell in 1930; her sons used it for cattle loading. The parcel was acquired by the State in 1971 (Alvarez 1990:5.42).
Awahua	Kaʻawaloa. LCA 6750.1 and 6750.2 apana of Awahua, konohiki of Kaʻawaloa; his wife was Makue, adopted daughter of Kapiʻolani, aliʻi nui of Kaʻawaloa. His son Samuel Alapai conveyed these apana to Miriam Likelike, wife of A. Cleghorn (parents of Princess Kaʻiulani). The Cleghorns deeded a small portion to British Consul (Alvarez 1990: 5.3-5.4).
ʻĀwili	Kaʻawaloa. *Lit.* swirl. Residence of Kalaniʻōpuʻu at the time Cook arrived; Kapiʻolani had a dwelling built here for the first missionaries there; site of old Barrett Hotel where Lanui ʻohana lived (Alvarez 1990:5.12-5.13); Kaʻawaloa LCA 8452 apana awarded to Keohokalole (Alvarez 1990:5.1); later owned by Rev. John Paris, then Peter Whitmarsh, then Hannah Spencer Whitmarsh (Alvarez 990:3.35) to James Ako who sold to Conant, manager of West Hawaiʻi Railroad Company who sold it back to Whitmarsh who gave it to her daughter Lucy M. L. Ako who later sold it to rancher Frank Henriques; it was condemned by State in 1972 (Alvarez 1990:5.1-5.15).
Cook Point	Kaʻawaloa. Point; The northern point of Kealakekua Bay, vicinity of Kaawaloa village (Ulukau).
Halapeu	Kaʻawaloa. ʻili ʻāina; Claim no. 9772:1 by Naihe in the "Ili o Halapeu Kaawaloa ahupuaa" was not awarded. Claims no. 221C:1 by Keaweaheulu and no. 9451:1 by Nanea were not awarded. Claim no. 9449 by Naahu is for his "Apana Ili o Halepeu [sic] ma Kaawaloa." TMK 8111:12 (Ulukau).

Haleape Kaʻawaloa. ʻili ʻāina; LCA #9446 Claimant: Ioba, later owned by Cleghorn, then C. Bishop and Bishop Estate (Waihona ʻĀina 2010); Alvarez (1990:3.35, 4.13, 5.2)

Halehuki Kaʻawaloa. Site of stone building likely rum warehouse of Kamehameha I, Chief Naihe was the kahu; location of mission station in 1820s (Alvarez 1990:5.18-5.19); LCA #8452.3 apana awarded to Keohokalole; later owned by Rev. John Paris from 1859-1975 when he sold to Moses Barrett; Moses wife Julia deeded to daughter's Julia Kupehea and Martha K. Dowsett, Moses' daughter Sarah Barrett Youell sold her interest to John Paris Jr. as did Julia Kupehea; Martha Dowsett sold her interest to James Castle for West Hawai'i Railroad Company (Alvarez 1990:5.18-5.20); WHRC eventually sold to Japan investment company who sold to local Japanese investors who sold to Maud Greenwell in 1930 after the Greenwell's tracked them down in Japan. The lands went to her sons Jack, Norman and Henry who sold to Kealakekua Land Development. The lands were condemned in 1971 for the Park (Alvarez 1990: 3.35, 5.1; 5.20-5.25).

Hali'ilua Pool Kaʻawaloa. located east of Ioba's parcel (Alvarez 1990:A-8.1 & A-8.2).

Hanamua Kaʻawaloa. Location of residence of High Chief Keaweaheulu, cousin of Keōua, father of Kamehameha I; location of home of Kapiolani and husband Chief Naihe son of Keaweaheulu; after their death the land went to his sister's son Aikanaka who married Kamaeokalani and had Ane Keohokalole who was given the land in 1841. She and her husband Kapaakea [parents of Kalākaua, Lili'uokalani and Miriam Likelike] built a home there in 1853. In the Great Māhele she was awarded the ahupuaʻa of Kaʻawaloa which included this LCA 8452.4 apana (Alvarez 1990:2.2, 5.26); at shore is where Cook was killed (Alvarez 1990: 4.4); in 1859 purchased by Rev John Paris; later sold to Moses Barrett in 1975 [same land history as Halehuki], then Maud Greenwell (Alvarez 1990: 3.35, 5.1; 5.26-5.28); Claim no. 9772:1 by Naihe in the "Ili o Halapeu Kaawaloa ahupuaa" was not awarded. Claims no. 221C:1 by Keaweaheulu and no. 9451:1 by Nanea were not awarded. Claim no. 9449 by Naahu is for his "Apana Ili o Halepeu [sic] ma Kaawaloa." TMK 8111:12 (Ulukau).

Helehelekalani Kealakekua**.** Heiau, part of complex mauka of Hikiau Heiau (Yent 1985a:4).

Hikiau Kealakekua. A luakini heiau of Kamehameha I (where human sacrifices were made); Captain Cook was received here as the god Lono; now a State monument (RC 256; UL 36). Lit *moving current* (surfing was famous here) (Pukui et al. 1976:45). (See also Yent 1985a:4); A major temple on the shore of Kealakekua Bay "noted as the temple where Captain Cook participated in its ceremonies..." in 1779 (Thrum). Many sources re: Capt. Cook, incl. Ellis 1917:51-52; Ii 1959:115,123,129,160 (Ulukau).

Ioba Kaʻawaloa. LCA #9446 Claimant Ioba; after Māhele went to konohiki Awahua and wife Makue; deeded to son Alapai by Makue in 1869, then deeded by Alapai and wife Kapiemoku to Likelike; later Cleghorn conveyed lot to James Castle/WHRC, then Greenwells. The Hatcher Lot, originally part of Ioba, the location of the canoe landing, sold to Hatcher by Awahua and Makue; there were several transactions to follow from Hatcher to Cummings to Kaai, Lazarus, Kaluahine, Papahemahema to C. Bishop and Bishop Estate to Caroline Robinson and divided between Paris and Shipman nieces and nephews in 1937; Mae Paris Smith's husband Raymond acquired title in 1963 with Vashti Thomas who owned east Ioba, the last owner before the State condemned it in 1971 (Alvarez 1990:3.35, 4.13, 5.2, 5.46-5.51).

Kaahaloa Kealakekua. ʻili ʻāina; LCA Claimant: Keohokalole (Waihona ʻĀina 2010); Claim no. 9728:3 by Kualaikia for his "kihapai uala ma Kaahaloa ili ma Kealakekua" was not awarded. Claim no. 9724 by Hiwa in Kaahaloaiki was not awarded. Claim no. 9731:1 by

Lono in Kaahaloanui was not awarded. Claim no. 9453F by Papaula is for "2 pahale ili o Kaahaloa ma Kealakekua ahup. & ILīloa ili ma Waipunaula." Claim no. 8452 by Keohokalole is "bounded on Kona Hema by a lot [RPG 867] belonging to P. Cummings, mauka by the lot of Nakoko, N. Kona by an old heiau [Hikiau], makai by the road". (FT) TMK 8204:9 (Ulukau).

Kaʻawaloa Village**,** land section, point, lighthouse and site of the monument to Captain Cook; Hōnaunau and Kailua gds, Hawaiʻi. Lit. *the distant kava* (runner went to Puna or Waipiʻo to get *kava* [*kawa*] for chiefs (Pukui et al. 1976:61); residence of Kapiʻolani and her Konohiki Awahua. Ahupuaʻa conveyed to Ane Keokalole by Kapiʻolani, but turned over to Hawaiian Kingdom in the Māhele; later awarded to Keohokalole with the exception of the flat lands (Kingdom lands) and kuleana land; however Rev. Paris sold it to his son who sold it to Whitmarsh; in 1928 Territory repossessed the flat lands; two acres then sold to Samuel Davis who built the Christ Church [platform still there], and Chinese Boarding and day School in 1879; in 1907 he leased it to Paris Jr. for 10 years; he sold his portion to Wm Kelii in 1921who lost the land in the Court Decision 736 as did several others e.g. J. Kele, Kele Kaneao, Marie Paa, Kaiama Keka, local Japanese investors (Alvarez 1990:5.56-5.62); heiau SW (Alvarez 1990:A-8.1 & A-8.2).

Kaholao Kaʻawaloa. ʻili ʻāina; LCA #9446 Claimant Apana, later owned by Kapaakea (Waihona ʻĀina 2010); Alvarez (1990:4.13, 5.2)

Kalaemano Kaʻawaloa. Residence of Keliimaikai; Heiau once located here; name of Kona slave lands; LCA #8452.1 Apana of Keohokaloe; purchased by Rev. John Paris in 1859 (Alvarez 1990:5.6); later owned by Peter, then Hannah Spencer Whitmarsh (Alvarez 1990:3.35) and her daughter Lucy M. L. Ako and later condemned by State of Hawaiʻi (Alvarez 1990:5.6-5.9) two burials noted; heiau located SE (Alvarez 1990:A-8.1 & A-8.2).

Kalepeamoa Kaʻawaloa. Rock; "...the dividing rock of Ka-lepe-a-moa that extends into the sea near Kaʻawaloa, separating from the rest of the great cliff that portion...on the Nāpōʻopoʻo side...known as...Ka Pali Kapu o Keōua" (Ulukau).

Kaluaopae Kealakekua. ʻili ʻāina; LCA Claimant: Ialua (Waihona ʻĀina 2010)

Ka-pahu-kapu Nāpōʻopoʻo. Lit. *the taboo drum* (Pukui et al. 1976:87); ancient surfing area (Finney & Houston 26); Waipunaula. Surf at Nāpōʻopoʻo (Ulukau).

Kapukapu Waipunaula. Surf at Nāpōʻopoʻo (Ulukau).

Kauhiaahu Kaʻawaloa. Heiau*;* On northern edge of Kaʻawaloa village; platforms not having the appearance of a heiau (Ulukau).

Kealakekua Land section, Hōnaunau and Kailua qds; village, Kailua quad; bay (where Captain Cook was killed), trail and underwater State park (315 acres) extending from Kaʻawaloa lighthouse to Manini Point, Hōnaunau qd., Hawaiʻi. Lit. *pathway* (*of*) *the god.* There were many heiau on the road from Ke-ala-ke-kua to Kai-lua; Thrum listed 40 (Restarick). It was believed that a god slid down a cliff here leaving an imprint and the gods often slid here in order to cross the bay quickly (Wilkes 90, 184) (Pukui et al. 1976:101).

Keekeene Kaʻawaloa. ʻili ʻāina; LCA 6750.1 Claimant Awahua (Waihona ʻĀina 2010); 5 taro kihapai from Naihe in 1841 (Kalima 1991:B-8); Alvarez (1990:5.2); later owned by Cleghorn (Alvarez 1990:4.13).

Kealaehu Kaʻawaloa. ʻili ʻāina; Claim no. 6750:1 by Awahua is for "5 kihapai kalo...ili o Kealaehu, Kaawaloa" (Ulukau).

Kekua Nāpōʻopoʻo. North end of sandy beach of Nāpōʻopoʻo (drawings of John Webber ca 1779 In Yent 1985a:8). The area of the Hikiau Complex at Nāpōʻopoʻo has been referred to as Kekua on Robert's 1779 map (Yent 1985a:9).

Kuloe Kealakekua. ʻili ʻāina; LCA 8452 Claimant: Keohokalole (Waihona ʻĀina 2010)

Loko Aliʻi Fishpond in Kekua/Nāpōʻopoʻo (In Hommon 1986b:10); see also Wailokoalii below.

Maka Kaʻawaloa. LCA 9441.1 Claimant. In 1862 lot conveyed to Daniel Barrett – he provided wood to weekly steamer; upon his death in 1893 it went to his son Stephen who sold it to Conrad who sold it to Dr. Lindley from Kealakekua who got a mortgage from Mrs. Henry Greenwell and later took possession of the lot in 1901. In 1968 her grandsons sold it to Kealakekua Land Development; it was condemned by State in 1971 (Alvarez 1990:5.36-5.37).

Manini Beach near south end of Kealakekua Bay, Hawaiʻi, said to be a new name; the old names were Ka-pahu-kapu (the sacred drum) and Waiʻamaʻu. Lit. *surgeonfish* (Pukui et al. 1976:145).

Manohihi Kaʻawaloa. ʻili ʻāina; LCA Claimant: Palahu (Waihona ʻĀina 2010); Alvarez (1990:5.2); later owned by George Hao (Alvarez 1990:4.35).

Maualii Kaʻawaloa. ʻili ʻāina; LCA 9447 Claimant Palau (Waihona ʻĀina 2010); Alvarez (1990:5.2)

Manuapii Kaʻawaloa. ʻʻili ʻāina; LCA 9447 Claimant Palau (Waihona ʻĀina 2010); Alvarez (1990:5.2)

Naahu Kaʻawaloa. LCA 9449 Claimant (Waihona ʻĀina 2010); Alvarez (1990:4.4); later purchased from tax collector by William Kamau, Sr. in 1940 and condemned by State in 1972 (Alvarez 1990:4.35, 5.54-5.55).

Nahaku or Napohaku; Kaʻawaloa. LCA 9444 (Waihona ʻĀina 2010); Alvarez (1990:4.4); later owned by Miriam Likelike Cleghorn and later leased by Archibald Cleghorn to John Paris Jr. in 1899 for 15 years; then leased to Castle and mortgaged by Japan company and purchased by Maud Greenwell then condemned by State (Alvarez 1990:4.13, 5.44).

Naieha Kaʻawaloa. ʻili ʻāina; LCA 6750.2 Claimant: Awahua (Waihona ʻĀina 2010); house lot from Keohokalole in 1841 (Kalima 1991:B-8); later owned by Cleghorn (Alvarez 1990:4.13); at shore where Cook Monument was later erected, owned by British Consul (Alvaez 1990:3.28, 4.13, 5.2).

Nāpōʻopoʻo Lighthouse, village, school and beach park, Hōnaunau quad. Lit. *the holes.* (The Hōnaunau place is said to have been so named because persons in canoes in the bay looking ashore saw people peering out of holes that served as doors in the grass houses.) (Pukui et al. 1976:163). The beach area and the section of Nāpōʻopoʻo south of Hikiau appear to have been the major occupational area for the Hawaiian population circa 1779 on the south side of Kealakekua Bay (Yent 1985a:9); Kahauloa ahupuaʻa; Nāpōʻopoʻo Park, Landing, Village (Ulukau).

Nuikukahi Keopuka. ʻili ʻāina; LCA Claimants: Awahua and Makuka (Waihona ʻĀina 2010); house lot from Naihe in 1820 to Awahua (Kalima 1991:B-8).

Palapala Holoku School House 1850-1860 located between ʻĀwili #8452.2 and Halehuki 8452.3 or Hanamua #8452.4 (Alvarez 1990:3.28)

Palahu Kaʻawaloa. LCA 9447 became part of Awahua's property, which wife Makue conveyed to Alapai in 1869; then part of estate of George Hao, Jr. in 1971 and his heirs; condemned by State in 1973 (Alvarez 1990:5.52-5.53).

Palau Kaʻawaloa. LCA 9447 Claimant (Waihona ʻĀina 2010); Alvarez (1990:5.2); later owned by Maluwaikoo a farmer in Nāpōʻopoʻo (Alvarez 1990:4.13), then Chu Ching Akui who ran a restaurant in Nāpōʻopoʻo that later became the Machado Store; Shu Ching Akiu became owner in 1920 (Alvarez 1990:4.22, 5.39); later her heir Mae Enfoon Aona and husband Francis Aona of Honolulu were owners, then their daughter Eleanor Judd and husband Clement who were owners when State condemned lot in 1971 (Alvarez 1990:5.40).

Pali Kapu o Keōua A cliff near Kealakekua, Hawaiʻi. Lit. *sacred cliff of Keōua* (Kamehameha's foe slain by Keʻeaumoku) (Pukui et al. 1976:177).

Pali-O-Manuahi Kealakekua. Pali; The portion of the pali above Nāpōʻopoʻo. Formerly, the entire pali, but after Keōua-ka-lani-kupua was buried there, that section of pali north of Ka-lepe-a-moa was called Pali-kapu-o-Keōua (KK) (Ulukau).

Paohia Kaʻawaloa. ʻili ʻāina; LCA 9441.1 Claimant: Maka (Waihona ʻĀina 2010); Alvaez (1990:5.2); later owned by Daniel Barrett-location of Barrett Hotel (Alvarez 1990:3.35); Claim no. 9441:1 by Maka is for "12 kihapai kalo & uala & kope ili o Paohia ma Kaawaloa" (Ulukau).

Papa Kaʻawaloa. ʻili ʻāina; Claim no. 9723 by Mahuna for the "*ili o Papa ma Kaawaloa*" was not awarded. Claim no. 9445 by Kui for "7 *kihapai kalo & uala Papa ili ma Kaawaloa*" was not awarded (Ulukau).

Piele Waipunaula. Canoe landing; After the battle of Mokuʻōhai, "Keawemauhili was...imprisoned...at Piele in Nāpōʻopoʻo" (Kamakau). Also called Waipiele (Ulukau).

Umi's Well Kaʻawaloa. located east of Apana LCA 9443 (Alvarez 1990:A-8.1 & A-8.2).

Wailokoalii Kealakekua. ʻili ʻāina; LCA Claimant: Keohokalole (Waihona ʻĀina 2010); Pond/fishpond (Yent 1985:4, Ledyard, 1963: 110 In Yent 1985:9, 1892 map by S. M. Kanakanui In Smith 1988:9) [see Appendix C].

Waipio Kaʼawaloa. ʻili ʻāina; LCA Claimant: Awahua (Waihona ʻĀina 2010); house lot of Awahua from Keohokalole in 1841; lot from Kapiʻolani in 1834 (Kalima 1991:B-8).

Waipunaula Ahupuaʻa; Returned by Ii & Kalaimoku, retained by aupuni at the Māhele. One of several villages on shore of Kealakekua Bay. See Kiloa, Kalama, Nāpōʻopoʻo. Named as School Land in 1850 and sold as part of RPG 867 (IDLL) (Ulukau).

ʻIli Names of Kaʻawaloa and Claimants (not necessarily in project location or awarded)

Haleolono (Makaku, Awahua) 18 taro and potato kihapai from Naihe in 1826 to Awahua
Haleomanu (Keawe)
Halepau (Noolu)
Halapeu (Nanea, Nanaihe, Keaweaheulu)
Kaahaloaiki (Mahuna)
Kohelao (Makaku)
Maunapipi (Kapua)
Onouli (Mahuna)
Pahoa (Kaaiohuli, Kahoowala)
Papuaa (Ioba, Maka, Palau, Apana, Kui, Nahina)
Punahoa 2 (ABCFM)

ʻIli Names of Kealakekua and Claimants (not necessarily in project location or awarded)

Hinakukui (Laiolii)
Hooui (Kaioku)
Kaahaloa (Kualaikia, Lono)
Kahakoaiki (Hiwa)
Kaluaopai (Ialua)
Kamakaliilii (Waiakekekea)
Kauluai (Koko)
Punahoa 1 (ABCFM)

Historic References.

By and large "Historic References" pertain to notable historic events and overviews of important places and land tenure within the project area and district. One of the most significant practices in the history of the Hawaiian people was their concept of the stewardship of the land. However, over time, these practices were replaced by more western methods of land tenure and use, as the lands of Kealakekua Bay SHP went from the domain of the aliʻi nui to the monarchy, to various individuals and industry entities. The history of land use in this area went from traditional ahupuaʻa land management and use to hunting and ranching (cattle) activities in the early 1800s to tourism and recreation.

> By the 1830s, the entire island of Hawaiʻi participated in the cattle industry. The districts of Kohala, Hāmākua, Kona, Kaʻū, and Puna provided fertile grounds for hunting wild cattle. Today only the forests of Hualālai lack wild cattle in the form of established herds (Bergin 2004:28)….

History of Land Divisions

It was during the time of Kahaukapu of Hawaiʻi and Kakaʻalaneo of Maui [also said to be the time the Spanish first came with Ku-kanaloa (Kamakau 1991:324] that the division of lands is said to have taken place under a kahuna named Kalaihaohiʻa. He portioned out the lands into districts, sub-districts, and smaller divisions, each ruled over by an agent appointed by the landlord of the next larger division, and the whole under control of the ruling chief over the whole island or whatever part of it was his to govern (Handy & Handy 1978:491; Beckwith 1970:383). Each island was divided into moku or districts that were controlled by an aliʻi ʻai moku. Within each of the moku on each island, the land was further divided into ahupuaʻa and controlled by land managers or konohiki. The boundaries of the ahupuaʻa were delineated by natural features such as shoreline, ridges, streams and peaks, usually from the mountain to the sea, and ranged in size from less than ten acres to 180,000 acres (Moffat and Kirkpatrick 1995:24-29, see also Chinen 1958:3).

Each ahupuaʻa was often divided and sub-divided several times over (i.e., ʻili, kuleana, moʻo, pauka, koele, kiha pai), answerable to aliʻi where the lesser division was located. However the ʻili kupono or the ili ku was "completely independent of the ahupuaʻa in which it was situated…tributes were paid directly to the king himself" (Chinen 1958:4). Rights to lands were mutable or revocable; a ruling chief or any "distributor" of lands could change these rights if displeased, or as favors--usually after a victorious battle, and after the death of the aliʻi nui (Chinen 1958:5). During the period 1839 to 1855, several legislative acts transformed the centuries-old Hawaiian traditions of aliʻi nui land stewardship to the western practice of private land ownership. In the first stage, King Kamehameha III (Kauikeaouli) divided up his lands among the highest-ranking aliʻi (chiefs), konohiki (land managers), and favored haole (foreigners) (Chinen 1958:7-14; Moffat and Fitzpatrick, 1995:11, 17). This historic land transformation process was an evolution of concepts brought about by fear, growing concerns of takeovers, and western influence regarding land possession. Kamehameha III, in his mid-thirties, was persuaded by his kuhina nui and other advisors to take a course that would assure individual personal rights to land.

One-third of all lands in the kingdom would be retained by the king; another one-third would go to aliʻi or chiefs as designated by the king. In 1846 he appointed a Board of Commissioners, commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10th day of December, AD 1845." Notices were frequently posted in *The Polynesian* (Moffat and Kirkpatrick, 1995). However, the legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Kirkpatrick, 1995:48-49), known today as *The Great Māhele*. "The Māhele did not actually convey title to the various aliʻi and konohiki; it essentially gave them the right to claim the lands assigned to them--these lands became known as the konohiki lands. The konohiki chiefs were required to present formal claims to the Land Commission and pay a commutation fee, which could be accomplished by surrendering a portion of their land to the government." The government could later sell these lands to the public in the form of Grants. Upon payment of the commutation fee, the Minister of Interior issued a Royal Patent to the chief or konohiki. The last one-third was originally designated to the makaʻāinana, but not acted on--instead it was set aside to the government, "subject always to the rights of the tenants" (Moffat and Kirkpatrick, 1995:41-43; see also Chinen 1958:15-21).

ʻIli kupono were the only ʻili (parcel) recognized in this process, all the ʻili and lesser divisions were absorbed into the ahupuaʻa claim (Chinen 1958:20). In 1892 the legislature authorized the Minister of Interior to issue Royal Patents to all konohiki or to their heirs or assignees where the konohiki had failed to receive awards for their lands from the Land Commission. The Act further stipulated "that these Royal Patents were to be issued on surveys approved by the Surveyor General of the kingdom" (Chinen 1958:24; Moffat and Fitzpatrick 1995:41-43). Kamehameha III formalized the division of lands among himself (one-third) and 245 of the highest-ranking aliʻi and konohiki (one-third) between January 27 to March 7, 1948. He acknowledged the rights of these individuals to various land divisions in what came to be known as the *Buke Māhele* (ʻsharing book') or *The Great Māhele.*

Royal Patent and L.C.A. Claims: Kaʻawaloa, Kealakekua and Nāpōʻopoʻo

> In the Great Māhele, **Kaʻawaloa** ahupuaʻa was listed as government land. Later, several parcels there were awarded to various people. The konohiki of the area was Awahua, and the land within which the project area lies, was granted to Keohokalole, mother of King David Kalakaua…LCA 8452, and it consisted of 2,100 acres (Board of Commissioners 1929) (In Kalima 1991:B-8).
>
> In the following foreign testimony the surveyor spoke to Awahua, the konohiki, and he explains what he was told:
>
> **L.C.A. 8452**. Foreign Testimony - Awahua says he knows the house lots claimed by Keohokalole at Kaʻawaloa. The first one is fences all round with a stone wall. It is founded (sic) [bounded] makai by the sea shore, on Kailua side by the government lands, mauka by the land of –haku [sic] [Makaku]

and Awahua, and on the other side by the road. Claimant derived this lot from her ancestors, who held it from very ancient times. There is a stone house and several grass houses in it belonging to claimant, besides a tomb. The second lot is called Awili, and is fenced all round. It is founded (sic) [bounded] makai by government land.

Witness knows the three house lots in Kealakekua claimed by Keohokalole. The first lot is called "Kulou" and is fenced in. It is bounded makai by the sea beach, Kaʻawaloa side by Government land, mauka by the road, S. Kona side by a lot belonging to T. Cummings. The second lot is called Kaahaloa. It is enclosed all round and bounded on the kona hema by a lot belonging to T. Cummings. The third lot is called Wailokoalii and is bounded on the South Kona side by an old Heiau, mauka by a govt. lot and the lot of Ialua, makai by the sea beach on the other side of the pall (Board of Commissioners 1929) (In Kalima 1991:B-8) [see Appendix C].

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The subject parcel (TMK: 8-2-04:9) corresponds to the lands called Kaʻawaloa which were included in a claim filed by A. Keohokalole and Kapaakea in 1854 as part of The Māhele. This parcel was awarded as **Royal Patent 3607, L.C.A. 8452**, Apana 2 in 1858. Testimony describes the parcel as a houselot enclosed all around with a stone wall. The following year, Keohokalole sold the ahupuaʻa of Kealakekua, including her awards at Napoʻopoʻo to S. Atkins (Yent 1999:8).

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Awahua also received a parcel of 0.633 acres in LCA 6750 (Board of Commissioners 1929). In the native register he asked for this plot of land and gave the names of these lots:

No.6750 Awahua, 1/25/1848
Greetings to the Land Commissioner:
I hereby state to you my claims for a lot and kihapais. The names of my lot claims, makai, at Kaʻawaloa, are Naieha and Niukukahi [Keōpuka]. My lot mauka, at Kaʻawaloa., ʻili of Waipiʻo, is named Keekeue [Keekeene] (Kalima B-8).

In native testimony given by Ioba and Manoauwaa for LCA 9846 (Ibid.), residents of Kaʻawaloa, they swore that they had seen:

5 taro kihapais in section I of Keekeene ili of Kialaehu Kaʻawaloa from Naihe in 1819.

18 taro and potato kihapais in section 2 of Haleolono Keopuka ahupuaa from Naihe in 1826.

A lot in Waipio ili in section 3 of Kaʻawaloa from Kapiolani In 1834.

A house lot in Naieha in section 4 of Kaʻawaloa from Keohokalole in 1841.

A house lot in section 5 of Niukukahi Kaʻawaloa ahupuaʻa from Naihe in 1820.

The project area [Walker et al 1991] is the property of the Paris Estate at this writing. A portion of the Paris Estate was sold to Mr. Chris Norrie, who resides in the area. He purchased his property four years ago and lives at about the 1000 ft elevation. In an interview, he noted that the area was cattle pasture and had never been used for anything else by foreign owners. He was surprised that the area had once been a highly productive agricultural area. In his opinon the absence of rain and the extreme heat would make agriculture very difficult. He speculated, however, that at one time the area may well have been highly productive, before the koa and sandalwood forests were stripped, because the forests may have captured the clouds at the higher elevations, producing more rainfall than is received today (pers. comm.) (In Kalima 1991:B-8&-9).

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Moku – South Kona

The various land sections of Kealakekua Bay State Historical Park are located within the moku or district of South Kona. The following excerpts from various sources give a glimpse of these places through time.

Kealakekua

According to Yent (1985a) "the interaction of Cook's men and the Hawaiian population at Kealakekua was quite extensive and it gave the Europeans the opportunity to record the people and their settlements through narratives, drawings, and maps" (Yent 1985a:11).

> Regarding the population of Kealakekua at the time of contact, Lt. King with the Cook voyage stated that: "The bay of Karakakooa, in Owhyhee, is three miles in extent and contains four villages of about eighty houses each, upon an average, in all three hundred and twenty; besides a number of straggling houses; which may make the whole amount to three hundred and fifty. From the frequent opportunities I had of informing myself on this head, I am convinced that six persons to a house is a very moderate allowance; so that, on this calculation, the country about the bay contains two thousand one hundred souls. To these may be added fifty families, or three hundred persons, which I conceive to be nearly the number employed in the interior parts of the country amongst their plantations; making in all two thousand four hundred" (King, 1784: 128 In Yent 1985a:9).
>
> Vancouver's journal is another valuable reference for Hawaiian culture and settlement at Kealakekua during this time period. Traders visiting Hawaiʻi were traversing the Pacific Ocean as part of the trade network between America and Asia. Hawaiʻi became important not only for provisions, but for whaling and sandalwood trading. As many as 32 whaling ships were reported to have anchored in Kealakekua in one year, circa 1840—1850 (In Yent 1985a:11).
>
> The first historical accounts of Kealakekua Bay (see Ledyard 1963, Menzies 1920, Vancouver 1967), describe the product of centuries of occupation and utilization of land surrounding Kealakekua Bay. Settlement was concentrated along the shoreline, with cultivated gardens of sweet potato and wauke beginning immediately behind the residences (Ledyard 1963:118, Menzies 1920:75). Mixed fields of breadfruit, sweet potato, dryland taro, ti and sugar cane extended upslope to approximately 3,000 feet elevation, where crops of plantain and banana merged with the native forest (In Smith 1988:4).
>
> In the 1850s, the government leased land behind the pond and restored the stone prison originally built by Kapiʻolani in the 1830s. Deputy Sheriff Preston Cummings leased the pond and the adjacent land to support the prison population in the late 1850s (Smith 1892: 67). In the mid 1860s, Mr. Logan purchased the ahupuaʻa and developed a sugar plantation while the makai lands and 5 coconut trees were leased by S. Kekumano, the jailer (Kekumano 1892: 70). Pineapple and sugarcane were planted and cultivated by the prisoners. The prison was used until around 1875 (Yent 1999:8).
>
> In the mid 1860s, a Mr. Logan purchased the ahupuaʻa and developed a sugar plantation. The plantation lands must have been mauka, as makai lands near the prison and pond were leased by S. Kekumano who was then jailer. Pineapple and sugarcane were planted and cultivated by the prisoners. Also five coconut trees were leased by Kekumano from konohiki Nunole (Kekumano 1892:70) (In Smith 1988:6).
>
> By 1875, the ahupuaʻa had been bought and sold a number of times. J.D. Paris, Jr. was the owner of the ahupuaʻa, leasing the flat around the bay, the pali, and coconut trees to H. Haili, grandson of konohiki Nunole (Haili 1892:69). Jailer Kekumano still held the pond lease, even though the prison was seldom used by this time (Paris 1892:68 In Yent 1999:8).

In 1881, H.N. Greenwell purchased the land from Paris and began cattle ranching in the area (Kaschko and Rosendahi 1987: 6). H. Haii retained the lease on the flat land around the bay, the pali, and the pond. Evidently, Greenwell had an interest in the pond as "they had kept it stocked with fish and used it" (Smith 1892: 68). However, as a result of cattle overrunning the pond and spoiling it for raising fish, Haili paid a reduced rent for the pond (Haii 1892: 69). In 1892, the lawyer for the Greenwells wrote that the pond was valued as a watering hole (Hatch 1892: 73). Cattle were kept in pens around the pond and loaded onto boats in Kealakekua Bay from Nāpō'opo'o Beach. In the early 1900s, the area just southwest of Hikiau Heiau was used as a lumberyard for stockpiling lumber that was unloaded from boats anchored in the bay (Yent 1999:11).

Nāpō'opo'o/Kekua

Nāpō'opo'o includes what was once a white sandy beach - also referred to as Kekua on maps - the Hikiau Heiau Complex, a village/town, a pond - which is sometimes referred to as a fishpond and a "sacred pool."

Kekua. The Kekua area is evidently subject to flooding under certain conditions, such as unusually heavy rainfall. One flood witnessed by long-time residents of the area passed through the site of Kekua and deposited substantial quantities of mud and rocks in its pond. The beach and seaward portion of Kekua have also been damaged by the tsunami, the most destructive of which was that of 1960 (In Hommon 1986b:7).

Kekua/Hikiau Complex, Pond and Vicinity. Between Hikiau and the cliff to the north was the settlement of Kekua, consisting of houses arranged around the pond that is called, in the 19th century land records, Loko Ali'i. Occupying this village was a community of priests, including the high priest of the island of Hawai'i (In Hommon 1986b:10).

It is said that Hikiau Heiau was built circa 1754 to consecrate the god Kaili (Kūka'ilimoku) after the death of Keōua, the brother of Kalaniopuu, half brother of Kaleiopuu, and father of Kamehameha I. At this time, it was decided to have the sons of Kaleiopuu and Keōua make offerings upon the altar at Hikiau. The offerings were a pig and a soldier who had been killed. Kiwalao, son of Kaleiopuu, saw the open eyes of the dead soldier and chose the pig. Kamehameha, son of Keōua, without hesitation took the dead man. The kahuna watching this immediately knew that Kamehameha would be the high chief, not Kiwalao (Henriques, 1917:62-63 In Yent 1993:1).

This area of the Hikiau Complex at Nāpō'opo'o has been referred to as Kekua on Bligh's 1779 map. Beyond the borders of the religious complex, the explorers make mention of the extensive sweet potato fields in the area of Nāpō'opo'o…. The beach area and the section of Nāpō'opo'o south of Hikiau appear to have been the major occupational area for the Hawaiian population circa 1779 on the south side of Kealakekua Bay (In Yent 1985a:9).

Vancouver arrived at Kealakekua in 1793 and also noted the priest's settlement around Hikiau Heiau and the pond. He recorded 200 houses along the 0.5-mile of beach at Nāpō'opo'o, as well as, the residence of Kamehameha I located behind the pond (Manby 1929:45). Kamehameha's residence consisted of a number of structures, including a small heiau. But by 1814, Kamehameha's residence was reported as empty and "uncommonly filthy" (Lisiansky 1914: 105 In Yent 1999:8).

Map attached to Māhele claim filed by Ana Keohokalole and Kapaakea in 1854. Houselot labeled as Kaahaloa (no. 2), corresponds to current boundary of Kealakekua Bay Park. The pond is within the parcel called Wailokoalii, north of the heiau (In Smith 1988:8) [Appendix J].

The site area at Nāpō'opo'o was next recorded in maps and photographs in the time period 1880—1910. John Stokes, an archaeologist with Bishop Museum, mapped the Hikiau Complex circa 1900—1910. Within this complex, Stokes identified Hikiau, the sacred pool with a stone retaining wall 25 feet in height, priest's house platform on the northeast side of the pool (labeled Hewahewa), the location for other priest's houses without physical evidence, and the boundary wall of the sacred complex with a platform built adjacent to the wall. Stokes labeled this platform a hale pea (menstrual house) (In Yent 1985a:14).

Map of Nāpō'opo'o, circa 1892 [see Appendix C], showing a structure in Kealakekua Bay Park situated near the present pavilion. Note pond north of heiau labeled as "fish pond" (Hawai'i Territory Survey, Map of Nāpō'opo'o, traced in 1928 from 1892 map by S. M. Kanakanui) (Smith 1988:9).

The best description of the priestly compound at Nāpō'opo'o (Kekua) comes from the journal of John Ledyard. The text in parentheses is added to correct and clarify (Yent 1999:7):

"West (north) of the morai (heiau) was the residence of the priest that conducted the ceremony. It consisted of a circle of large cocoanut and other trees that stood upon the margin of a pond of water in the center of which was a bathing place. Upon the north (east) side of the pond were a row of houses standing among the trees and were most delightfully situated. These houses extended almost to the morai, nearest which was that of the priest who was the lord of this beautiful recess. Between the houses and the pond were a number of grass plots intersected by several square holes with water in them which were private baths. On the east (south) side under the wall of the morai was a thick arbour of low spreading trees, and a number of ill carved images which was hung round with old pieces of their cloths and some viands" (Ledyard, 1963: 110 In Yent 1999:7).

The priestly compound at Nāpō'opo'o consists of Hikiau Heiau, Helehelekalani Heiau, the Great Wall, the brackish pond to the north of Hikiau, and the housesites of the priests, including Hewahewa, high priest to Kamehameha I. Hikiau Heiau was the state-level religious center for this chiefly complex at Kealakekua Bay. The Great Wall marks the mauka (eastern) boundary of this priestly compound. The annual tour of the island associated with the Makahiki season began and ended at Hikiau Heiau. During this 4 month period, the god Lono returned, bringing rain and fertility to the land. A complex of religious ceremonies was conducted at Hikiau Heiau in conjunction with the Makahiki. At the end of the Makahiki, Lono would leave and the god Kū would return (Yent 1999:7).

The Kealakekua Bay area, both land features and ocean depths, was mapped by George Jackson in 1883. The section of Nāpō'opo'o which was mapped, included Hikiau, the pond, a wall along the beach, and three housesites. Two of the housesites are northwest of the pond and the third is southeast of the pond (In Yent 1985a:14)

Another small heiau, whose exact location is uncertain, is the Hale O Lono at Kekua (Hommon 1986b:23-24).

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A photograph from 1890 shows the beach area west of the pond where there is a road that impacts the northwest corner of Hikiau and the stacked boulder wall that paralleled the beach line. Another photo details the northern half of Hikiau and the road that cut into the north face of the heiau in the 1890. These photographs show the white sand beach (Yent 1985a:20) [Appendix L].

The pond is said to have been stone-lined along the edges and on the bottom (Henry Leslie, Jr.). Lucy Perkins stated that this was a fishpond with a ditch and sluice for seawater to enter the pond. However, the other informants stated that there was no outlet and none is recorded in the maps or the explorer's descriptions. Many informants refer to the 'opae in the pond with some fish, mostly talapia. These opae were caught and sold by the Masuhara's, a Japanese family that lived on the

north side of the pond. Several families lived in the pond area from the 1920s. William Paris stated that the only house at the pond in the 1920s was a little rest cottage mauka of the pond used by Mr. McFarlen, manager of Captain Cook Coffee Company. Maertens had a little house by the pali where he lived for many years and the house was broken down after he left. The Masuhara family also had a house on the pali side of the pond. However, the Masuhara house is separate and much later than Maertens. Farming was also carried out on the mountain side of the pond during this time. Flooding and high surf has filled in much of the pond with sand and silt. This filling in may have begun as early as the 1868 tidal wave but the informants refer to the tidal wave in 1960 and Hurricane Nina in 1962 (In Yent 1985a:27).

Prison. Land records indicate that a prison was built by Captain Cummings in the area just mauka of the pond, circa 1850. The land records state that the prison was built by prison labor but was never occupied by a large number of prisoners. These prisoners planted gardens in the area, growing cane and pineapples. It appears that by 1875, the prison was seldom used. There is presently no evidence of the stone masonry building or foundation on the ground (In Yent 1985a:14).

Nāpōʻopoʻo Town. Nāpōʻopoʻo town in the oral histories incorporates the area from Hikiau to Kahikolu Church….There were at least two stores in the area. One store was located on the southeast corner of the intersection of the Lower Government Road and Nāpōʻopoʻo Beach Road. The store was first owned and run by a Japanese family named Arima; it was then bought by Machado who hired Perkins to run the store. The other store was in the vicinity of the County park. This store was converted to a bar owned by a Korean man in the 1950s. The 1960 tidal wave destroyed this store site. There were also two churches in the town, one Catholic and one Protestant. The Catholic Church and cemetery, called St. Joseph's, was located to the east of the Amfac Coffee Mill. The church was torn down sometime after 1970. Two houses were mentioned by the informants between the church and the Amfac Coffee Mill, but these houses have also been removed. However, the cemetery is still being used and visited. The Protestant church is Kahikolu which is located on the south side of the Lower Government Road. Kahikolu was first built in 1840 by the Reverends Forbes and Ives who moved the church from Kaʻawaloa to Nāpōʻopoʻo. Kahikolu was built again in 1854 by Reverend Paris when the original structure was destroyed by an earthquake. The Nāpōʻopoʻo schoolhouse is also located on the south side of the Lower Government Road and makai of Kahikolu. The foundation of the one-room stone masonry structure still remains. This school was replaced early in the 1900s by Konawaena in Kealakekua town (In Yent 1985a:27 &30).

Kaʻawaloa

The ancient villages of Ka'awaloa and Kekua and the other archaeological remains along the shores of Kealakekua Bay constitute the most significant unexplored historic resources known in Hawai'i today (In Hommon 1986b:1).

The name given to this ahupuaʻa meaning 'the distant kava' is thought to be derived by the fact that many runners were sent from this area across the island to Puna to fetch kava (awa) for chiefs. Kalima recounts a traditional legend that refers to Kaʻawaloa; the legend concerns a male visitor to Kaʻawaloa named Akalele, and the canoe race between he and a king with a fully crewed canoe. In this tale, the men race to Awili, a harbor on the flat coast of Kaʻawaloa, and Akalele wins singlehandedly (Walker et al 1991:8).

Kaʻawaloa was the home of many important chiefs including Kalanliʻōpuʻu, king of the Island and uncle of Kamehameha I; Kekuaokalani and Manono, a chief and chiefess who were killed in the famous battle of Kuamoʻo, Chief Naihe and his wife, chiefess Kapiʻolani, known for her defiance of Pele in the days of the missionaries (Kuykendall 1968:142) [In Kalima 1991:B-1].

Kaʻawaloa was also where a group of chiefs were residing at the time of the persecution of Catholics in Hawai'i, and it was there, in 1831 that a formal order of banishment was issued to all Catholic priests (Kuykendall 1968:142) [In Kalima 1991:B-1].

Kapiʻolani, a chiefess residing at Kaʻawaloa descended from chiefs of great sacred and secular power, was an early convert not only to Christianity but also to Western ways in general. James and Louisa Ely established the Kaʻawaloa mission station. These people represent the old and the new, the Polynesian and the Western (Hommon 1986b:37-38).

The ahupuaʻa of Kaʻawaloa was listed as government land in the Great Māhele of 1848. Several parcels were then given to various people. The land on which the [Walker et al. 1991] project area lies closest to was once the property of Keohokalole, mother of King David Kalakaua (L.C.A. 8452), a parcel with an area of 2,100 acres. Renowned in ancient days as the home of several chiefs, Kaʻawaloa housed Hawaiian aliʻi and served as their meeting place. Thrum. Soehren, and Stokes all list many previously located historical and cultural sites in Kaʻawaloa (Walker et al 1991:8).

Kaʻawaloa and Kekua are the only two early Hawaiian administrative centers known to exist today as archaeological complexes. They are also by far the most thoroughly documented settlements in the visitors' accounts of the first forty years of Hawai'i's post-contact history (Hommon 1986b:21).

The coastal portion of Kaʻawaloa flat is covered by a relatively dense forest of kiawe (*Prosopis pallida*) trees in which are scattered coconut (*Cocos nucifera*) and kou (Cordia subcordata) trees. The sparse to moderately dense vegetation cover of a portion of the interior of the flat behind the forest and the lava slopes to the north consists predominantly of shrubs such as lantana (*Lantana camara*), rattlepod (*Crotalaria* sp), Christmas berry (*Schinus terebinthifolius*), hialoa (*Waltheria indica*) and klu (*Acacia farnesiana*). Portions of the Ka'awaloa flat include, in addition to this scrub vegetation, koa haole (*Leucaena leucocephal*a) and opiurna (*Pithecelobium dulce*) shrubs up to 12 feet high (In Hommon 1986b:8).

Other indigenous religious structures noted in the eyewitness literature and known to exist today in the form of archaeological sites include *Puhina O Lono* (the small enclosure above Ka'awaloa village where Cook's body was taken after his death), a platform in Ka'awaloa said to have been a fishing heiau and a portion of a structure that was apparently a household heiau or a hale mua (men's house) of Keliʻimaikaʻi, Kamehameha's brother (Hommon 1986b:23).

'Captain Cook Pilikia' Nothing of special note happened until the afternoon of the thirteenth when a watering party on shore from one of the ship had some kind of altercation with the natives. At nearly the same time, a native on board the Discovery daringly seized a pair of tongs and a chisel from the blacksmith's forge and made his escape in a canoe that lay alongside the ship. Shots were fired after him and he was pursued by one of the ship's boats. The stolen goods were restored, but the thief escaped and the officer in charge of the ship's boat attempted-unwisely, it would seem-to seize the canoe. This led to a scuffle on the beach in which a chief named Palea was struck on the head with an oar and the boat's crew was rather roughly handled by the natives. As it happened, the canoe belonged to Palea, but it appears also that it was he who caused the tongs and chisel to be restored.

On the following morning it was found that the Discovery's large cutter had been stolen during the night. Afterwards it was reported, on good authority, [B-1] that the cutter was taken by some of Palea's people as a reprisal for the indignity he had suffered; but it is uncertain .whether Palea himself was the instigator of the deed. Captain Clerke being unwell, Captain Cook assumed direction of the effort to recover the stolen cutter. He first placed a cordon of boats to guard the entrance of the bay and then went in a pinnace with Lieutenant Phillips and a squad of nine marines to the village of Kaʻawaloa where King Kalaniʻōpuʻu was residing; he was accompanied by a launch and a small cutter, both under command of Lieutenant Williamson. Cook's plan was to get the king on board the Resolution and keep him there until the stolen boat was returned-a plan that had been effective under similar circumstances in the south Pacific.

Cook landed with Lieutenant Phillips and the marines and marched to the house where the king was staying. The latter came out and after an abort conversation with him Cook became satisfied that he was entirely innocent of what had happened. Kalani‘ōpu‘u readily consented to go with Captain Cook and they started to walk down toward the shore. The king’s youngest son, a boy of perhaps twelve years. ran on ahead and climbed into the pinnace. Before the king reached the shore, his wife Kanekapolei and several chiefs surrounded him and begged him not to go farther; he stopped and sat down. The suspicions of the Hawaiians had evidently been aroused, as well they might be. Lono, if indeed this was Lono, had never before come to visit the king in this fashion-armed, supported by an escort of soldiers, and with a concerted and apparently hostile movement of armed boats from the two ships. In the meanwhile, a great crowd had gathered about, many of the natives being armed with daggers, clubs, spears and stones. While the king was hesitating, news came that a chief crossing the bay in a canoe had been killed by a shot from one of the foreign boats. This caused an angry reaction among the people and some of the bolder ones began to make threatening motions toward Cook and the squad of marines.

Captain Cook gave up the attempt to take the king on board, and directed his efforts to getting the marines and himself safely into the boats. The marines withdrew to the waterside and formed in line cit she rocks. One of the natives made a pass at Cook with a dagger and Cook replied by firing one barrel of his gun, either a blank or a charge of small shot, which apparently did no damage and ominous change in the situation and was allowed to return on shore. Cook fired the other barrel of his gun, loaded with ball, and killed a man. Lieutenant Phillips also fired and the marines on shore and the sailors in the boats began firing. Cook turned, ordered the boats to cease firing and come in close, and then started toward the water. By this time a general melee was in progress; Cook was knocked down with a club and as he tried to getup was struck in the back with a dagger and fell into the water; it is uncertain whether he drowned or died of his wounds. Four of the marines were killed; the others managed to swim off to the pinnace. The Hawaiians carried away the bodies of Cook and the four marines; Cook’s body was treated like that of a high chief (Kuykendall 1968: 18-19) [Kalima 1991:B-1&3].

Pali Kapu O Keōua

Among the best known of Kealakekua Bay’s archaeological sites are the burial caves in the Pali Kapu O Keōua. For more than a century vandals and curiosity-seekers have been stripping these caves of skeletal remains and grave furnishings. Presumably, most of the damage has been sustained by those caves that are most easily accessible from the base of the cliff (Hommon 1986b:24). Other impacts are from natural events such as earthquakes and rock slides [Yent 2018].

The major agricultural features have been recorded above Pali Kapu O Keōua (Newman and Soehren, 1968) (In Yent 1985a:9).

The strip of land along the top of the Pali Kapu O Keōua to be included in the park is characterized by grassland dominated by guinea grass (*Panicum maximum*). The cliff itself supports patches of koa haole, lantana and ‘opiuma (In Hommon 1986b:8).

Kona Field System

Behind the coastal settlement at Nāpō’opo’o and atop the pali were the extensive agricultural fields that have been designated the Kona Field System (Site No. 50-1047-6601). This field system, consisting of walls and mounds, was planted with sweet potato (‘uala), sugarcane (kō), mulberry (wauke), and dryland taro (kalo). Upslope of these crops were the groves of banana (mai‘a) and breadfruit (ulu) trees. It was this field system that supported the chiefly compound at Ka‘awaloa and the priestly compound at Nāpō‘opo‘o (Yent 1999:7).

Evidence of this extensive field system, known as the Kona Field System (site 50-10-37-6601), remains on higher slopes in the form of abundant agricultural features including stone walls, terraces, platforms and mounds. These features can be viewed as products of clearing rocky soils for planting (Soehren and Newman 1968), and/or intentionally constructed planting surfaces. The piled stones would serve as mulch during frequent drought conditions on the Kona coast (Yen 1978:13). At lower elevations fewer stone agricultural features are present, suggesting different agricultural strategies in a changing environment. Menzies (1920:75) recorded that at lower elevations in less rocky soils, earth mounded around sweet potato stems served as mulch. This offers one explanation for the relative paucity of stone agricultural features at lower elevations (In Smith 1988:4).

The Kona Field System has been listed on the Hawai‘i Register of Historic Places (HRHP No. 10-37-6601) and has been declared eligible for the National Register of Historic Places. The project area also lies within the limits of the Kealakekua Bay Historic District (HRHP site No. 50-10-47-7000), which was placed on the National Register of Historic Places in December 1974 (ibid:5). A summary of the Kealakekua Bay Historic District states that it is one of the most important historical and archaeological areas in Hawai‘i and that “the bay offers a cultural continuity not found in other areas of the Hawaiian chain (SIHP records, 10-47-7000 Kealakekua Bay Historic District) (In Kalima B-9).

Whaling Industry. The first whaling ship arrived in Hawai‘i in September 1819 (BMedia 2010), but it wasn’t until 1824 that it was noted in Kealakekua Bay. [See Moore (1934) below]

Coffee Industry in Project Area

Don Francisco de Paula Y Marin, one of Kamehameha’s advisors planted the first coffee plant on the island of Oahu in 1813. In 1825 John Wilkinson on the British warship HMS Blonde brought more coffee seedlings to O‘ahu. Reverend Samuel Ruggles brought the first coffee cuttings from Brazil to Captain Cook, Kona in 1828 (MacGowan 2009; Keopu 2003). The Kona or western slopes of Mauna Loa has ideal climatic conditions at elevations between 700 and 2500 feet (Keopu 2003).

Henry Nicholas Greenwell was born (1826) in Lanchester, County Durham, England, the fourth son of William Thomas and Dorothy Smales Greenwell. He expected to have a military career and purchased a commission in the British Army in 1844 and was stationed in Ireland during the Famine. He became dissatisfied and sold his commission and went in California for the Gold Rush in 1849, but soon ended up in Hawai‘i in 1850 where after a brief stay in Honolulu, went to Kailua-Kona and purchased a store in Kona. He grew oranges for a while, but in 1866 a blight destroyed his crop. He eventually got into coffee.

His Kona coffee was honored at the 1873 World's Fair in Vienna and in 1876 he provided coffee as part of the Centennial Exposition in Philadelphia, Pennsylvania. The Greenwell’s traded in sheep skins and dairy products, eventually using the profits to buy more land in the Kona area. Coffee only grows in a narrow elevation band, so drier areas were used as pasture land for cattle, sheep, and horses. In 1879, the physician Georges Trousseau sold all of his holdings in Kona to Greenwell.

Henry Greenwell also served as Collector of Customs at the port at Kealakekua Bay, and as Postmaster and area School Superintendent. He and wife Elizabeth Caroline Hall had six sons and four daughters and 23 grandchildren. Henry died in 1891; Elizabeth continued to run the store, but the lands were divided into three main ranches (see below). Thomas Frederick Greenwell (b 1958) (great-grandson of Henry Nicholas, grandson of William Henry and son of Norman Leonard) still grows and sells coffee on a farm adjacent to the original homestead (Nowicki 2010).

The following excerpts are about the coffee industry in the project area:

> Hackfeld established a coffee mill along the present day Lower Government Road. The foundation of this coffee mill still exists within the park boundaries (TMK: 8-2-04:01). A second coffee mill, the Hawaii Coffee Mill, was built along the Nāpōʻopoʻo Beach Road in the vicinity of the present day Nāpōʻopoʻo village. The present day Captain Cook Coffee Mill and Museum is located mauka of the Amfac Coffee Mill along the Lower Government Road. This coffee mill is said to have started as a pineapple cannery (Henry Leslie). Mr. McFarlen who was a manager for the Captain Cook Coffee Company, built a house on the east side of the pond, in about the same location as the prison. This house was probably built circa 1920 but there is no evidence of this structure on the ground today (In Yent 1985a:20).

> The Hackfeld Company which became Amfac in 1918, started in Kealakekua in the late 1890s. Hackfeld established a market basis for Hawaiian coffee and the Amfac Coffee Mill was built on TMK: 8-2-04:01. The mill was run by John Gaspar. Many of the women of Nāpōʻopoʻo worked in the mill, drying and sorting the beans which were then shipped out for processing. Hackfeld also had a warehouse next to the wharf for the storage of lumber and gasoline. This warehouse was destroyed in the 1960 tidal wave but the concrete foundation still remains. The present wharf was built in 1912 and was used for the loading and unloading of cattle and goods for the Kealakekua area. The Gaspars had a six wheel wagon pulled by horses that was used to haul cargo to and from Kona that supplied additional goods to the Kealakekua Bay area (In Yent 1985a:20).

Ranching Industry in Project Area. The following excerpts are about ranching in the project area:

> In 1881, H.N. Greenwell purchased the land [ahupuaʻa of Kealakekua] from Paris and began cattle ranching in the area (Kaschko and Rosendahi 1987: 6). H. Haii retained the lease on the flat land around the bay, the pali, and the pond. Evidently, Greenwell had an interest in the pond as "they had kept it stocked with fish and used it" (Smith 1892: 68). However, as a result of cattle overrunning the pond and spoiling it for raising fish, Haili paid a reduced rent for the pond (Haii 1892: 69). In 1892, the lawyer for the Greenwells wrote that the pond was valued as a watering hole (Hatch 1892: 73). Cattle were kept in pens around the pond and loaded onto boats in Kealakekua Bay from Nāpōʻopoʻo Beach (Yent 1999:11).

After Henry Nicholas Greenwell died in 1891, his lands were divided into three ranches. Palani Ranch was first managed by son Francis Radcliffe (Frank or "Palani") Greenwell (b1876); it is currently run by great-grandson Jimmy Greenwell. Arthur Leonard Greenwell (b 1871) managed Kealakekua Ranch until he died in 1951 - his son Sherwood Robert H. Greenwell took over until 1989. Kealakekua Ranch was about 11,490 acres (4,650 ha) and located south of Hōkūkano Ranch with access via Greenwell Mountain Road. It was sold to Sekin International of Japan in 1990 who proposed to build a golf course and 500 estates – they sold it in 2002. Norman Leonard Greenwell (1926-1992), son of William H. Greenwell, oldest son of Henry Nicholas Greenwell, inherited the Hōkūkano Ranch (11,000 acres/4,500 ha) located just uphill from the Kalukalu Store. John Pace bought Hōkūkano Ranch in 1984 and Kealakekua Ranch lands in 2004, but both ranches were put up for sale in 2009 (Nowicki 2010).

> Stokes also recorded several historic structures at this time. These historic features include a cattle pen built contiguous to the north side of Hikiau, a wall along the beach, the site of the grass house on the north end of the beach, and the prison site on the southeast side of the pond. The historic features are no longer evident on the surface due to both later historic modifications and natural slopewash (In Yent 1985a:14) [Appendix L].

> As ranching began in the Nāpōʻopoʻo area, a market economy developed. Hackfeld, a shipping company based in Honolulu, set up a store and lumberyard at Nāpōʻopoʻo wharf to facilitate the shipping business at Kealakekua Bay in the late 1800s (In Yent 1985a:20).

> The informants mention the loading of cattle onto boats from Nāpōʻopoʻo beach and later from the Nāpōʻopoʻo wharf. Much of the vegetation reflects the cattle grazing in the area. The pumphouse is shown in a 1936 map and was built to pump water from the well adjacent to the pumphouse, up the hill on the north of the pond, to the upland areas to supply water for the cattle. The remains of this system include the pumphouse and wells, the water pipeline running up the hill, and the power poles that supplied electricity to the pumphouse. The use of the pumphouse was discontinued when the County installed waterlines (In Yent 1985a:27) [Appendix M].

Pineapple Industry in Project Area. According to a resident, a pineapple cannery was constructed along the Lower Government Road, but later repurposed into Amfac's Coffee Mill (In Yent 1985a:20).

Previous Studies. The following studies are listed chronologically with selected summaries that have descriptions of features and/or significant activities within the project area.

Forbes, Cochran (1838) Report of Kaʻawaloa Station for the Year Ending April 31, 1838

Pogue, John F. (1849) "The Report of the Churches at Kealakekua and Kealia for 1848-1849"

Stokes, John (1900-1910) Mapped the Hikiau Complex for Bishop Museum (In Yent 1985:14).

> (Stokes 1991: 99) Shown on this map [Appendix N] are Hikiau Heiau, Helehelekalani Heiau, the Great Wall, the pond, the prison, Hewahewa's house platform, a modern cattle pen, a sea wall, and the government road which cut through the makai portion of Hikiau Heiau. The area to the south of Hikiau Heiau is labeled rocky ground and no features are indicated except for Helehelekalani Heiau to the southeast. However, in his narrative description, Stokes quotes Brigham who notes that a lumberyard occupied the location of Cook's observatory off the southwest corner of the heiau (Yent 1999:18).

Menzies, Archibald (1920) *Hawaii Nei 128 Years.*

Morison, Samuel Eliot (1920) "Boston Traders in the Hawaiian Islands 1789-1823"

Thrum, Thos (1924) "Hawaiian Annual for 1924."

Restarick, Rt Rev Henry Boyd (1924) *Hawaii 1778-1920 from the Viewpoint of a Bishop: Being the Story of English and American Churchmen in Hawaii with Historical Sidelights* Paradise of the Pacific, Honolulu.

> At Kealakekua, Hawaii, Bishop Staley found an opening for a mission station. Henry N. Greenwell and others were ready to welcome the Anglican Church. Mr. Greenwell had been an officer in the British Army in India, but had resigned, and come to Hawaii by way of Australia. At first he engaged in business in Honolulu, and then went to Kona where he tried the copra industry, and from that, early in the fifties, so turned his attention the growing of oranges, there being many trees of this fruit in the district. He hoped to develop a market for oranges in California, where certain Hawaiian products then had a market. A blight attacking the trees, he went to the West Indies to observe the method of raising citrus fruit and to find, a remedy for the blight. On the Island of Montserrat, famous for its lime juice, he met Miss Elizabeth C. Hall and returned with this lady as his wife. She has indeed been a mother in Israel in the Kona Church and district. Mr. Greenwell went into the cattle and sheep business and acquired by purchase and lease large tracts of land for his ranch [366]….

Mr. Williamson opened a school, but in 1808 severe earthquakes occurred in the district, of which the clergyman [367] counted 300 shocks. At this time there as an eruption of Mauna Loa a tidal wave which swept the coast of Kaʻu, where the sea came in as high as the tops of coconut trees, causing considerable loss of life. Queen Emma collected food and clothing and Kamehameha V went in person to relieve those who had suffered loss….[368]

Restarick, Henry (1928) *"Historic Kealakekua Bay"*

There is no locality in the Hawaiian Islands which has so many associations with its early history as Kealakekua Bay and its surroundings. The two villages on its shore, Kaʻawaloa, and Kekua, now called Nāpōʻopoʻo, are mentioned in nearly all the books and journals written by explorers and traders, from the death of Captain Cook in 1779 onward, but as far as I know there has been no collection of historic data relating to this district.

The first circumstance, which I believe to be authentic, is connected with the landing of seven men at Kealakekua Bay at a period less remote in point of time, than the reputed landing of other foreigners. The Rev. William Ellis, who came to Hawaiʻi in 1822, and remained here over two years, was soon proficient in the Hawaiian language, as he had lived in Tahiti for six years, where a variation of the Polynesian dialect is spoken.

He heard as he journeyed about the Hawaiian group, several stories of the landing of foreigners, but they varied greatly as to the place and details. One story he heard from different men, on many occasions, and all who told it agreed as to the number of men, the description of the boat in which they came, the clothes they wore, etc. Shortly before Liholiho left for England he gave Mr. Ellis a detailed account of the occurrence, which is as follows:

"In the days of Kahoukapu, King of Kaʻawaloa, seven foreigners arrived at Kealakekua Bay. They came in a painted boat, with an awning over the stern, but without mast or sails. They were all dressed, the color of their clothes was white or yellow, and one of them had a pahi (that is a long knife, or sword) by his side, and had a feather in his hat.

The natives treated them kindly. They married native women, were made chiefs, and ultimately became very powerful in the island of Hawaiʻi". Liholiho had no idea whence they came. I am inclined to believe that they may have been deserters from the Dutch ship *Hope*. This vessel in company with the *Charity* sailed from Chile taking a north-west course until they reached 27 degrees north. When about 16 degrees north they passed an island, and seven men took the ship's pinnace and made for the land, and were not seen again. The course of the *Hope* would have taken her near Hawaiʻi, and according to the log of the pilot Will Adams, they would have been here in February, 1600. I am aware that this is only a theory, but I have seen no refutation of it which has been satisfactory to me. From the description, the men would seem to have been Europeans. In any event this is the first chronicled event connected with Kealakekua Bay…. [5-6]

In December, 1788, the *Iphigenia*, Captain Douglas, anchored in the Bay. Douglas was the first white man to land at Kealakekua since Cook's death, although several ships had been off Hawaiʻi. Douglas had brought from Canton the chief Kaiana, this Hawaiian chief having been taken there by a ship which had called at Kauai. The Captain of the *Iphigenia* thought a good deal of Kaiana, though later navigators had reason to mistrust him. The consort of the *Iphigcnia* was a schooner, named the *North West America*, which had been built at Nootka, and when Kamehameha came on board and was told this, he was anxious to have a similar ship built at Kealakekua. On December 12, the captains of the *Iphigenia* and her consort went on shore and were met by three priests, who went before them chanting, and after a ceremony lasting some ten minutes, Douglas was seated and presented with a pig and coconuts. Later there was more chanting and two baked hogs were presented to him. As a matter of fact, Douglas had about as much respect and adoration paid to him as had been rendered to Cook, but like him this party did not understand it to be worship as to a god.

Moreover, Douglas had been feather clothed in a cape just as Cook had been. He was very careful while in the Bay, for he was fearful that the natives might try to seize his ship [9-10].

Manby, Thomas (1929) *Journal of Vancouver's Voyage to the Pacific*

Reinecke, John (1930) "Survey of Coast from Honaunau to Kaʻawaloa" Ms. Bishop Museum Library, Honolulu.

Stokes, John F. (1930a) "Burial of' King Keawe" Paper presented to Hawaiian Historical Society.

(1) In 1830, the remains of the twenty-three kings and chiefs at Hale O Keawe were encased in two large wooden coffins and concealed in the burial cave of Hoaiku at Kaʻawaloa, together with the remains (in native wrappings) previously deposited in Hale O Līloa. The latter included those of Līloa and Lono.

(2) In 1858, all were removed by the *Vixen* to Honolulu and placed in the old tomb. Of the kings mentioned or listed, the most distinguished by tradition were Līloa and Lono, and the remains being identifiable perhaps by external marks on the packages, the two were encased in a modern coffin and their names engraved. They were then comparable to the members of modern royalty in similar coffins, and were given a place in the torch-light procession to the new mausoleum in 1865 [71].

Stokes, John F. (1930b) "Origin of the Condemnation of Captain Cook in Hawaiʻi: A Study in Cause and Effect."

Moore, Golda Pauline (1934) *Hawaii During the Whaling Era; 1820-1880*

The first record of a whaleship visiting the islands is found in a letter written by Captain Edmund Gardner of Now Bedford, Connecticut. In this letter Captain Gardner states that he arrived in the Hawaiian Islands on his first cruise in 1818 or 1819, says that his ship was one of the first whalers to visit this group [2].

He tells of his stay in Kealakekua Bay, his experiences with the natives and the capture of a sperm whale first seen just outside the bay.

At this time conditions in the islands were of the most primitive. Lahaina on Maui, and. Honolulu on Oahu, were the largest settlements. Honolulu is described as a village of thatched huts scattered irregularly about, and having some three or four thousand inhabitants. No mention is made of the number of foreigners at that time, but there were some, including one or two hundred run-away sailors, on each of the more populous islands [3].

Government was moved to take steps to encourage even more vessels to make use of Hawaiian ports. Accordingly, a resolution was passed by the Nobles and Representatives of the islands granting the following special favors to whaleships: Whaling vessels were to be exempt from all anchorage fees and. tonnage dues imposed upon other vessels trading in island ports Such vessels might barter, free of duty, foreign goods to the amount of $200 ad valorem. No intoxicating liquors were permitted, however. Kealakekua, Hawaiʻi was recognized as a port of entry for whaling vessels, and the government agreed to pay pilotage fees for whaleships entering and leaving Honolulu, Lahaina, Hanalei and Hilo [44].

Forbes, Eureka Barnum (1938) "The Life and Work of Cochran Forbes, Missionary to the Hawaiian Islands from 1832 To 1847."

Lind, Andrew W. (1949) "Kona, Haven of Peoples."

Healy, John Raymond (1959) "The Mapping of the Hawaiian Island From 1778 TO 1848"

Ledyard, John (1963) John Ledyard's Journal of Captain Cook's Last Voyage.

Apple, Russell A. (1964) "Hawaiian Archaeology: Trails: From Stepping-stones to Kerbstones"

Vancouver, George (1967) "Voyage of Discovery to the North Pacific Ocean and Round the World"

Daws, Gavan (1968) "Kealakekua Bay revisited: a note on the death of Captain Cook" pp21-23

Doty, Maxwell S. (1968) "Biological and Physical Features of Kealakekua Bay, Hawai'i." Hawai'i Botanic Science Paper No. 8, University of Hawai'i

As a start toward accumulation of knowledge critical to the assessment of the long-term and multiple use values of the State's shore areas, the State of Hawai'i engendered a study of Kealakekua Bay, an undeveloped and apparently rather undisturbed marine site. The resulting data as compiled to December 1968, are presented in the following text along with a summary of the major scientific results and conclusions. This information is essential to the State's planning for the development and use of Kealakekua Bay to the optimal benefit of the people of Hawai'i [i].

This report has been prepared for the Office of the Lieutenant Governor of the State of Hawai'i, pursuant to Purchase Order LG67-311, and agreement of June 1, 1968. The work was coordinated in the Botany Department of the University of Hawai'i through the Research Corporation of the University of Hawai'I [1].

Currents. Local fishermen indicated that during most of the year the current outside the bay remains southerly…. During a falling tide the current through the bay remains generally southerly. The movement along the shore is from Ka'awaloa Cove toward Nāpō'opo'o. Manini Beach Point acts to fork the water mass into westerly and easterly directions. Directly off the point movement is nil, but water approaching along the bay side of the point is directed eastward toward Nāpō'opo'o. The current meters then beach along the strip of land from Manini Beach to the State dock. The current meters directed west around Manini Beach Point are either carried around Palemano Point anywhere from Ashihara's cottage to south of Manago's cottage (² Palemano Point is known as Keei Point by local residents and its north face as Keei Beach) [31-33].

Spring-Brackish Water. A total of 29 discrete brackish stations were located and plotted, and 22 of these stations are concentrated within the confines of Kealakekua Bay. The majority of stations were sampled on several occasions, at various tide heights, and with results often dissimilar due to the tide height. Samples were taken for salinity, temperature, total phosphate content, total nitrate content, dissolved organic matter, coliform count and fecal coliform count. The samples were of both surface and depth, usually taken from a variety of points at the station…[36 and 45].

The areas of maximum percolation are four in number and are taken up below in serial order. They are by Umi's Well in Ka'awaloa Cove (Sta. 4) the gravelly beach area fronted by private homes facing the State dock (Stas. 12-17), Kahauloa Cove (Sta. 21) and an inlet by T. Ashihara's cottage (Sta. 22) Station 7 The old mullet pond at Nāpō'opo'o Beach. The area is swampy and polluted, and it is recommended that it be eliminated or renovated [45-46] [Appendix O].

Coral. 4) At Nāpō'opo'o Light the boulders were very large, and their surfaces were generally barren with very little coral growing on them. (See Jones, 1967, one rife with Ctenochaetus striosus) [52].

Photo 12. Finger Coral (Wiki-Porites)



5) Moving from Cook Point and the Nāpō'opo'o Light toward Cook's Monument, the bottom became covered 100 per cent by Porites and finger corals. As area 6 was approached at a distance of 50 to 100 feet from shore, many of the finger corals were broken and lying on their sides without having been displaced much from where they must have grown.

6) In much of area 6, 50 to 100 per cent of the finger corals had been broken, and often there was a certain amount of displacement. Sometimes the corals were destroyed in a relatively narrow line, perhaps damaged by the anchoring of vessels. Water so deep the bottom cannot be seen comes very close to shore here. There was a lot of detritus in the water which seemed to be of irregular form and size, as though from the disintegration of jellyfishes or perhaps an aggregation of ecdysis crustacean exoskeletons. Except for this one instance, the water throughout the Kealakekua Bay area was exceptionally clear.

7) In moving from 6 toward 7, the broken finger coral decreased with an increasingly larger percentage of the damage seemingly that which we feel may have been caused by the anchoring of vessels. Toward area 8 appeared the most intensive coral head development seen. However, here and there three-to-five-meter areas were seen where one large coral had died, and near such areas slate pencil urchins (probably Heterocentrotus manimillatus) were more abundant.

8) Perhaps this area is best characterized as one covered over 90 per cent by very large (3 to 4 meter) Porites heads, having between them narrow crevices. Here and there were dead Porites heads densely covered with slate pencil urchins. In some cases, coral head substratum was deeply eroded with sharp-edged concavities, many of which were occupied by pencil urchins. (This relationship of urchins and holes reminds one very much of similar erosion features seen on the inshore edges of very large reef-edged algal ridges in the Tuamotus [53]).

9) Near this steepest cliff face area of the bay and continuing on around toward Nāpō'opo'o, the bottom is completely covered with sand except for a Porites reef very near shore in a narrow band where the water was perhaps two meters or less deep. As far as could be told, in water any deeper than this, and we circled around to check the point, there was nothing but sand on the bottom. This sand bottom had small circular areas about 2 or 3 inches in diameter on it such as are made by various worms.

10) From the boulder point at the southeast end of the pali area to Hikiau Heiau, the grey sand has major ripple marks parallel to the shore. This major pattern is covered with a reticulate, irregular finer pattern.

11) Beginning at the northern end of the beach and increasing southward, here and there coral mounds appeared in the sand flat until opposite the Heiau they covered about 50 per cent of the bottom. No physical damage was seen to any of these. There was considerable fresh water distinctly colder than the sea, especially just off the Heiau, as sensed by the swimmers being towed behind the boat.

12) The bottom of Nāpō'opo'o Bay, itself, is about 100 per cent covered with coelenterate corals. (However, the aerial photographs show a sharp difference in bottom type not noted during this boat run.) The coral bottom cover consists of three to five foot Porites heads with some finger coral between, and as one progresses seaward Pocillopora heads appear [54].

13) The north shore of this point, Manini Beach Point, is very shallow and as one progresses further westward the Pocillopora heads increase until they may cover as much as 25 per cent of the surface. On the shallowest of the volcanic rock surfaces along with the *Pocillopora* there are many dense cone-like *Turbinaria thalli*. This situation was seen off almost each of the ridges of rock running into the sea between Manini Beach Point and Palemano Point.

14) The situation in area 13 concerning Turbinaria is more strongly emphasized to the west of Manini Beach Point where the igneous rock knobs of the seaward extensions of each point have unusual amounts of Turbinaria on them, but are rather barren otherwise or are sometimes covered with an abundance of quite small coral heads [55].

Porites pukoensis (everywhere)*, Porites compressa, Psammocora stellata* (common)*, Pavona explanata* (everywhere), *Pavona* sp., *Pavona clava, Pavona minuta, Pavona varians* (common), *Cyphastrea ocellina* (common), *Leptastrea purpurea* (common), *Montipora verrucosa, Montipora* sp. cf. *studeri, Montipora colei* (or *granulosa*) (common), *Leptoseris hawaiiensis* (common) [90].

Coral, Sea Urchins, Algae. (No. 15): 31° to ruins on the point, due north to the point. Moving around the point) large volcanic boulders at 30 ft depth. Three or four Echinothrix in any one view; no other sea urchins; melobesioid algae encrusting some of the boulders. Large Porites castles about 10 ft in diameter are quite numerous. Now 100% cover by coral; 50%, finger Porites and 50%, castle Porites no Pocillopora around this point yet. Now about 70%, castle and 30%, finger Porites. More Echinothrix, some bare rock, some dead castle Porites. Under the castles are numerous Echinothrix. Now 100%, cover by about 50% finger and 50%, castle Porites. Now we have dead castle colonies in the center and Living on the outer margins. Several were seen. Now moving into 100% cover by finger Porites here and there are scattered castle Porites. Castle Porites more numerous, 100%, cover by coral, about 50%, finger and 50%, castle Porites. Now l00% finger Porites [72]; shallow depths are almost l00% covered by castle Porites between is a changing picture of the two. Dead finger Porites is intermittent. Now 80% cover by Pocillopora.

No. 16: Zone 5, 32° on Cook's Monument and 24° on the point seaward of the monument; about 25 yards offshore, depth is 20 ft. The finger corals are broken and dead; these corals are all strewn on their sides. Castle coral are dead with only patches of living material. Scattered Heterocentrotus in among the coral, with several logs, steel bars and so forth left in the water. A rubble of rock is present off a ledge of dead coral. *Heterocentrotus* and *Echinothrix* are quite abundant in the cracks around the dead coral. Onto a ledge 30 to 40 meters from the monument is living castle Porites. Just off Cook's Monument the coral is all dead, but does not appear as broken up.

Now is an area of broken coral; deeper, many parts broken away from the large colonial masses lie on their sides in the crevices. The coral is mostly dead; the finger variety broken up the most. Moving to zone 7; still dead cora1s. Castle Porites and finger Porites present, but the dead is mostly finger. Associated with the dead coral are Echinothrix [sea urchin] and Heterocentrotus [slate pencil urchin] the latter is more abundant; some sand pockets present. In among the broken and dead coral are living fingers coming up. The bottom is at least 90% covered with coral. Castle Porites is dominant at the end of this transect; 23° on the monument [73].

(No. 17): 6° to the fallen rock and 27° to Cook's Monument. Visibility is quite blurred by fresh water. We are in an area of l00% sand; almost entirely volcanic except in wave-cuts there are calcareous particles. Spotty cover by Castle Porites. Now about 50%, finger Porites cover, 40% black sand and l0% Castle Porites abundant Heterocentrotus mammillatus in the finger Porites channel of black sand; then a mixture of 80% finger and 20% Castle Porites. Echinothrix [sea urchin] does not appear present here; ridges one after another of castle Porites mounds with finger Porites along its margin; between are black sand channels; depth 30 ft. 26° on Cook's Monument and due north on bottom end of fallen rock [73-74].

Algae. There are no conspicuous seaweed beds anywhere in Kealakekua Bay, and the passing observer might conclude that benthic algae are not present. The list of species collected is brief.

There was, however, only a single survey directly concerned with algae for, since they are not conspicuous, the present project did not require more. However, it was felt that were more extensive investigations carried out, the majority of Hawaiian species could be found here, but growing only in minimal numbers. It would appear the normal benthic algal role is replaced by zooxanthellae (dinoflagellates) in the extensive coelenterate coral beds. The only conspicuous alga in Kealakekua Bay at depths over three meters is *Turbinaria ornata*. Generally, it grows singly amongst castle coral (*Porites pukoensis*) colonies and in the superficially impoverished southern reaches of the bay. Algal encrustments occurs abundantly on boulders and dead coral; and on the bluffs and exposed points of land meeting the sea, a one-meter band of melobesioid algae capped with Ahnfeltia is widely apparent. Cowries feed nocturnally in this Ahnfeltia [90].
List of Alga in Kealakekua Bay (1968): *Chlorophyta* (green) sp; *Cyanophyta* (blue-green) sp; *Phaeophyta* (brown) sp; *Rhodophyta* (red) sp [91].

Marine Molluscs. The marine molluscs of Kealakekua Bay may well be unparalleled in any other similarly circumscribed area in the Hawaiian Islands in a number of important respects. These include species diversity, densities, peculiarities in faunal composition and habitat differences. A total of approximately 170 species were identified from the bay. Examples of peculiarities in faunal composition would include the snails, *Gibbula rnarmorea* and *Leptothyra verruca*, which are… virtually absent in Kealakekua Bay. Although not considered particularly abundant, tiger cowries (*Cypraea tigris*) and triton's trumpet (*Charonis tritonis*) were collected at depths of 10 feet…. Opihi (*Cellana sandwichensis*) and auger shells (*Terebra*) were very abundant, their densities estimated at 68/rn2 and 30 to 40/rn2, respectively [107].

Shoreline: Spray Zone. From Nāpō'opo'o Light to Palemano Point, the substrate is comprised of black pahoehoe (smooth) basalt sand patches (Zone 3) and loose rock and rubble (Zones 7 & 9). Despite its apparently barren and dry surface, populations of some of the zoologically most interesting, also the most colorful, marine molluscs are found here, including the piilrnonates, Melampus and Pedipes, and the minute prosobranch, Assiminea. These molluscs are not uniformly distributed, but rather are found in colonies among loose rocks and rubble. Often their densities exceed 100/rn2. The snails remain concealed under rubble and rocks and in crevices during the day, but at night and on cloudy days swarm over the rocks apparently feeding on decaying vegetation and fungi 108].

Shoreline: Splash Zone. Four genera of snails are consistently found in the splash zone, and all are more closely tied to the ocean than are the snails of the spray zone because of the occurrence of pelagic veliger larvae during their life histories. The genera are Littorina, Peasiella, Nerita and Siphonaria…. Two littorines (*Littorina picta* and *L. pintado*) are found on the of the substrate, and the shoreward fringes of their populations may encroach on those of Melampus and Pedipes in the spray zone [111].

Exposed Cliffs. Only one mollusc was seen on the cliff face, the 'opihi*, Cellana sandwichensis*. Its density was 68/rn2. Associated with it is the shingle urchin, *Colobocentrotus*, in even greater densities [112].

Sea-level shoreline. 'Opihi is again the dominant mollusc in this habitat, but is present in far fewer numbers than on the cliff face. Other snails in this area include the carnivorous muricids, *Nucella harpa, Thais intermedia, Morula granulata* and *Drupa ricina* the pulmonates, *Siphonaria normalis*, and *Onchidium* and the opisthobranch, *Smaraghinella calyculata*. At night the crevices and overhanging edges of this shoreline abound with three cowries: the humpback (*Cypraea mauritiana*), the retitulate cowry (*C. maculifera*) and the snakehead (*C. caputserpentis*) [112].

Tidepools. The shoreward pools are diluted by fresh water, especially those near Cook's Monument which encroach on the strand. These pools are inhabited by a characteristic molluscan fauna: the nerite (or pipipi), *Theodoxus neglectus*, the clusterwink (also pipipi), *Planaxis labiosa*, and the bivalves, *Pinctada margaritifera* and *Isognomon californicum*. Shoreward saline pools are inhabited principally by nerites and hermit crabs…[and a] diversity of algae and micromolluscs in addition to

larger snails such as *Cypraea caputserpentis, Morula ochrostorna* and *M. granulate*. Sessile snails are also a component of the pools. For example, the bivalve, Chama iostoma, is easily recognized by its massive white shell, the left valve of which is cemented to the substratum [112 and 115].

Sand. The sand pockets described above also support a community of sand-dwelling organisms. In the pocket analyzed above were three species of Terebra (*T. affinis, T. argus* and *T. guttata*), *Conus pulicarius, Cerithium granifera* and the bivalve, *Pinguitellina*. These molluscs occur at densities from 0.1 to 0.5/rn2 and a variety of other [116]

An even more diverse sand community with greater densities was found in the surf zone at Nāpō'opo'o Beach. Here the community consists of four species of Terebra (*T. inconstans, T. striilata, I. penicillata* and *T. hectica*), the polychaetes on which the terebrids feed and a variety of other invertebrates and vertebrates, including crabs (*Emerita* and *Ocypode*), a portunid (*Gammarus*) and a flounder.

Marine Fauna. The most noteworthy feature of the marine molluscan fauna of Kealakekua Bay from the standpoint of general interest is its diversity, the densities exhibited by some species, and the occurrence of some of the more spectacular molluscs in relatively shallow water. These features are, of course, enhanced by the sparkling, clear waters and exceptional visibility in the bay. The diversity of marine molluscs is probably associated with both diversities in habitats and conditions of the bay, and with the unsilted waters [118].

Sea Urchin. Some sea urchins are taken for food but not in great numbers. Tourist activities involving the animals [- they] are collecting slate-pencil urchins, *Heterocentrotus maminillatus*, for their spines and removing snails and small coral heads. Tourists are concentrated in Kealakekua Bay at Captain Cook Monument…. Edmondson (1946) lists 14 regular urchins as members of shallow water benthic assemblages of Hawai'i. Eleven of these were found in Kealakekua and Hōnaunau Bays [131 and 134].

Shrimp. The only larger crustacean seen in numbers was the "cleaning shrimp," *Stenopus hispidus*. Although it seems likely that many smaller decapods live among the deep interstices of the coral, it seems equally likely that such crustaceans would occur among the coral rubble bordering the deep sand. Several coral fragments were overturned without noting such crustacean [171].

Lobster. The number of lobsters (*Panulirus japonicus*) observed in Kealakekua Bay was thought disproportionately few considering the abundant cover. It was concluded they are scant here [171].

Kona crabs (*Ranina serrata*) were also rarely seen, but are thought by some to be abundant in Kealakekua Bay. They were noted in the sandy bottom on two Fish and Game transects in the bay, and local residents engage in crab trapping. The red pebble crab (*Etisus spleen didus*) was also infrequently reported. Kona crabs live in sandy areas not frequented by fish. They are dawn feeders, remaining burrowed in the sand during daylight hours, and hence would be easily missed by the surveying SCUBA divers working, as they did during this survey, only by day [171].

Fish. This is a summary of the Division of Fish and Game's fish survey activities at Kealakekua Bay and Hōnaunau Bay, Kona, Hawai'i. During the period from June through December, 1968, three fish surveys were made to the area in June, August and October [172].

One hundred and twenty-one different species of fishes were observed in Kealakekua Bay and Hōnaunau Bay on the three surveys. Of this, 110 species were found in Kealakekua Bay… Of the fishes in Kealakekua Bay, 32 species were found on all five stations…. The number of species observed at each station ranged from 37 to 58 with an average of 48 species per station [174].

Fish species observed at all stations on every survey in Kealakekua Bay and Honaunau Bay.

Scientific Name	**Common Name**
1. *Centropyge potteri*	Potter's angel
2. Chaetodon ornatissimus	Orange stripe butterfly
3. C. multicinctus	
4. Chromis leucurus	White-tail damsel
5. Ctenochaetus strigosus	Kole
6. Forcipiger longirostris	Long-nose butterfly
7. Naso lituratus	Kala
8. Parupeneus multifasciatus	Moano (Pacific goatfish)
9. Pomocentrus jenkinsi	Yellow eye damsel
10. Scarus dubius	Uhu
11. Zanclus canescens	Kihikihi
12. Zebrasoma flavescens	Yellow tang
13. *Thalassorna duperreyi*	Hinalea [174]

Kealakekua Stations Mean: (1) 49 (2) 51 (3) 51 (4) 42 (5) 37 [175]
Of the 34 species involved in this comparison, the yellow tang (*Zebrasorna flavescens*) and kole (*Ctenochaetus strigosus*) occurred in all seven stations and were the commonest and most numerous species in both bays [176].

Silverman, Jane (1968). "The Historical Significance of Kealakekua Bay: A Brief Resume of the Sites and Events Relating to the Visit of the Discovery and Resolution to the Bay in 1779."

Soehren, L. J. (1968) "An Evaluation of the Archaeological Features Between Hōnaunau and Ka'awaloa, South Kona, Hawai'i"

Soehren, Lloyd and T. Stell Newman (1968) " Archaeology of Kealakekua Bay"

The work requested includes: (a) an inventory and evaluation of the archaeological and historic features in the lands of Kealakekua and Ka'awaloa, South Kona, Hawai'i, lying immediately above the Pali-kapu-o-Keōua; (b) specific recommendations as to sites or areas suited for preservation and possible restoration in a proposed historic park at Kealakekua Bay. The project is a joint undertaking of Bishop Museum and the University of Hawai'i, with the Museum taking primary responsibility for the ground survey, identification and description of features, and the University for aerial reconnaissance, preparation of maps and discussion of the Hawaiian agricultural system as found in the area involved. The recommendations concerning preservation and restoration of sites in an historical park context are essentially those made previously by the Museum in an earlier report (Soehren 1968) [2].

The authors gratefully acknowledge the kindness of Miss Ethel V. Paris and of Kealakekua Ranch, Ltd., both of Captain Cook, Hawai'i, for permission to enter their lands for the purposes of this survey. The personal interest of Miss Paris, Mr. Sherwood Greenwell and Mr. Gregory Henriques, who gave freely of their great knowledge of the area, is deeply appreciated. Mr. Greenwell also most generously loaned the field party a jeep, which greatly facilitated the field work [2].

This [Kona] field system of garden plots bordered with stone walls is still in existence although long since abandoned. I have made several hundred low altitude flights along the Kona coast in the course of over two years of part— time employment as a captain with Sky Tours Hawai'i, an aerial sightseeing company based in Honolulu. During the flights over the Kona coast I have been able to detect extensive aboriginal field systems from the vicinity of Kealakekua Bay to about Kailua. These field systems are virtually continuous along the coast and extend three or four miles inland. We determined, therefore to map a portion of the field system inland of Kealakekua Bay in the course of our general site survey. We dealt with only the most seaward portion of the field systems traditionally supporting the old villages at Ka'awaloa and Kealakekua [3].

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The area mapped extends inland from the steep cliff or pali on the northern rim of Kealakekua Bay to about one half mile inland. The area includes the lands directly inland of the old villages of Kealakekua and Ka'awaloa in their native land divisions or ahupuaa [4].

The field system discussed and mapped in this site survey undoubtedly provided the agricultural support for the coastal villages of Ka'awaloa and Kealakekua. The fields are marked by stone or earth boundary walls and are generally long strips of tillable land oriented on both a sea-mountain and north east-southwest axis. The most probable crop was sweet potatoes although one may not rule out the possibility of taro [10].

[Recommendations for preservation and/or restoration] [20-25]

Hommon, Robert J. (1969) "An Intensive Survey of the Northern Portion of Ka'awaloa, Kona, Hawai'i"

Hommon, Robert J. and Neal Crozier (1970) "An Intensive Survey of the Southern Portion of Ka'awaloa, Kona, Hawai'i"

Most of section 2 is covered with a thick forest consisting of kiawe, opiuma, klu, Lantana and, particularly in the northwest corner of the section koa haole. The swamp supports several types of grass as well as noni and fern [2].

Newman, T. Stell (1971) "Hawai'i Island Agricultural Zones, Circa A.D. 1823: An Ethnohistorical Study"

This paper delineates the environmental characteristics of aboriginal agricultural lands on Hawai'i Island, Hawai'i for approximately A.D. 1823 to provide a basis for better understanding Hawaiian land exploitation patterns. Little is known about the ecological variables of early Hawaiian agricultural lands, although general data exist on Hawaiian agriculture, per se (such as Handy 1940).

It was decided to rely upon the observations of the Reverend William Ellis (1963), recorded during a two month journey around Hawai'i Island in 1823. His account is the first description of an entire island and includes many observations on Hawaiian agricultural areas, practices, crops and demography. References made by Ellis were used to define the perimeters of the agricultural zones on Hawai'i Island during the period of his tour [335].

It was necessary to bring another set of information into the study-information gleaned from a study of aerial photos covering the potential agricultural areas of Hawai'i Island. It proved possible to establish geographical boundaries for native agricultural areas of West Kohala, East Kohala valleys, and the Kona coast from Kailua to Honaunau [336].

One additional problem, however, presented a formidable obstacle to the logical validity of this study. This major problem is that of applying modern environmental data to observations made almost a century and a half ago. It is a standard assumption of paleoecologists that conditions of the past were substantially the same as conditions in the present; or if different, would be predictable on the basis of what is now known. In the case of Hawai'i, however. such an assumption of this hypothesis is immediately compromised by a record of certain major environmental changes ensuing after European contact in A.D. 1778. Herbivores such as cattle, horses, goats, sheep, and deer were introduced and have caused large scale floristic changes, and this in turn has affected soil erosion patterns; exotic flora has achieved a virtual climax in many areas, causing the displacement of species prevalent at the time of Ellis; modern cultural demands have changed the water table and the direction of surface streams; and Hawai'i Island volcanoes have continued to spew forth streams of lava which have since covered some agricultural areas described by Ellis. There is apparently no way out of this problem short of having the type of information needed dating from the time of the observations by Ellis, which is patently not possible [538].

Types of Hawaiian Agricultural Zones: Irrigation, Dryland, Scattered Farms, and Field Systems [540].

Sato, Harry, W. Ikeda, R. Paeth, R. Smythe, and M. Takehiro (1973). "Soil Survey of the Island of Hawai'i."

Hommon, Robert (1977) "Fieldnotes for Kealakekua."

Morgenstein, Maurice E. (1977) "Preliminary Survey of Kealakekua Bat, Including Two Test Trenches, Soils Analysis and Basaltic and Bottle Glass Studies"

Gibbs, Jim (1977) *An Informal Marine History of the Hawaiian Islands Shipwrecks in Paradise*

Credit must go to early missionary, The Reverend William Ellis who first put into print several of the traditions handed down by the Hawaiians concerning the early visits of Europeans to the islands before Cook's arrival, none of which had ever before been put into reading material. Ellis came to Hawai'i in 1822, following a short term of service in Tahiti, and was thus able to communicate with the natives whose dialect did not greatly differ. The missionary's findings revealed three accounts of foreigners coming to the islands prior to Cook, and ship wreck may have been involved in each case.

The initial story told of the priest Paao, who was alleged to have landed at Kohala, on the north coast of the Big Island, and to whom the priests of that district traced their genealogies right up until the coming of the missionaries.

A second account took place during the life of Opiri [Pili], when the natives believed the son of Paao came ashore in the southwest sector of Hawai'i either as a castaway or by purpose, and established a colony on the *mauka* side. The natives of the district prostrated themselves before him and his party, befuddled as to whether to regard them as men or gods. The king of the local district presented the strangers with specially prepared provisions, and after a short period of time the visitors allegedly departed. Tradition gives no indication as to the type of vessel on which they arrived or departed but the name applied to the leader among them was Manahini, from which it is believed the Hawaiian word *malihini* (stranger) originated. Manahini was a word used in the Society and Marquesas islands to describe a stranger or foreigner.

A third account relates the arrival of either five or seven foreigners at Kealakekua Bay, near the place where Cook later met his untimely death. The incident took place more than a century before the English came, in the reign of Kahoukapu, king of Ka'awaloa. Tradition claims they arrived in a painted boat with a canopy draped over the stern. Garbed in white or yellow apparel, one carried a knife or sword, and additionally wore a feather in his headgear. The castaways, or discoverers, as the case may have been, were properly received with awe and respect and remained among the natives, ultimately being made chiefs, intermarrying and becoming respected warriors. In time, all had places of authority among the people [24].

Each of these accounts probably involved maritime mishap and though the whole truth will never be known, the pieces fit together somewhat like an incomplete jigsaw puzzle. The last of the three accounts received additional merit from a story handed down by Captain Otto von Kotzebue, an officer in the Russian Navy and skipper of the *Predpriate*. He visited Honolulu early in 1825, his second call as commander of one of the Czar's ships. Von Kotzebue drew on the wisdom on Hawaiian prime minister Kalanimoku, a key official under Kamehameha [II] the man who had received the initial missionaries to Hawai'i in 1820. Kalanimoku's account agreed with the one told by Don Francisco de Paula Mann (Don Francisco Paula y Marini), perhaps the first Spaniard to officially make Hawai'i his home. Born in Jerez, Spain in 1774, Marin was a Spanish expatriate and a controversial figure who served as Kamehameha's royal physician and distiller. He further was an interpreter, horticulturist and land owner. Marin came to Hawai'i in 1793 or 1794 and died in 1837.

Kalanimoku's version told of a craft with five Caucasians that put in at Kealakekua Bay near the heiau where Opuna was buried. The natives regarded them as superior beings and therefore, did not prevent them from taking possession of the sacred enclosure, in which sanctuary they were not only safe from pursuit, but were also supplied with food, which traditionally was brought daily to the temple for sacrifice to the idols. They became regarded as ecclesiastical envoys of Lono, who, according to traditions, governed Hawai'i in the fabled ages and was looked upon as a god. Mixing freely with the priest, they performed the holy ceremonies in the temple along with the other members of the priestly rank. They inter married with maidens of noble birth and some later became landowners and rulers.

While von Kotzebue was in the islands he noted that a large proportion of the nobility was distinguished by their lighter skin……

If indeed Gaetano did discover the Hawaiian Islands in 1542 or 1555, it must have been kept a deep, dark secret by Spain. There is however, much consideration given to the fact that two vanishing ships under Alvaro de Saavedra may have been shipwrecked in the islands as early as 1528, though no positive proof exists. If true, this may involve one of the incidents alluded to in Hawaiian legend…[25].

On the basis of available information Fornander, from native genealogies and the fact that happened during the reign of King Kealiikahoa, deduced that the castaways arrived in Hawai'i sometime between 1521 and 1530 which would have undoubtedly made them among the first, if not the first Caucasians to reach the islands. They were believed to have been from a Spanish or Portuguese ship and of the Roman Catholic faith. Fornander further speculated that the stranded ship may have belonged to Alvaro de Saavedra's squadron...[29].

From somewhere, the early Polynesians, who had no contact with the outside world had to derive the design for their ceremonial cloaks and helmets, so indicative of Spanish influence. They were made from the feathers of birds, placed on a background of tree and plant fiber, woven together like strands of rope, in design, like those worn by early Spanish warriors. The cloaks also bore a similarity to those used by the ancient Greeks and Phoenicians, although the head gear was definitely Spanish….

The arrival of the legendary strangers was apparently in the reign of Umi, known as the "mountain King", whose kingdom was all of the island of Hawai'i in the 16th century, and where existed a mosaic pavement in the form of a cross which traversed the enclosure in the entire length and width. The symbol, strongly resembling outside religious influence was not found in monuments preceding Umi, nor in those built after his demise. All indications would point to the fact that there was no attempt by the strangers to spread their religion to other island locales, for the finding of the cross was peculiar only in Umi's domain [29].

Hawaiian chants, poetical legends and traditions form the frail evidence of many of those early happenings, but it is an accepted version that 'Urni was father of the king who reigned when Gaetano is alleged to have sighted the islands. The castaways supposedly were wrecked near Kealakekua while 'Umi was still living. They must have found favor with the king, if indeed he and his priests adopted the cross as a symbol in a division of their (heiau) temple…. There exists little doubt, however, that the victims of the above mentioned calamities were of Spanish descent...[29].

It might also be mentioned here that historians have suggested the Hawaiian legend telling of strangers arriving in an open boat with an awning over the stern and a leader wearing a feather in his headgear, were actually deserters from a Dutch ship which missed that number of men while traversing the Pacific in the 1500's [29].

Kennedy, Gavin (1978) *The Death of Captain Cook.*

Roy, David Kahelemauna, Jr. (1979) "A Report of Emergency Repair Work on Hikiau Heiau."

Yent, Martha and Jason Ota (1981/1984) "Archaeological Reconnaissance Survey of the Nāpō'opo'o and Ka'awaloa Portions of Kealakekua Bay, South Kona, Hawai'i."

An archaeological reconnaissance survey was carried out in portions of Nāpō'opo'o and Ka'awaloa at Kealakekua Bay, South Kona, Hawai'i Island on April 4-5, 1981. The areas surveyed will be part of a state park with lands having been purchased or in the final process of acquisition at the time of this survey. This reconnaissance was an initial walk-through of the State Parks lands to facilitate archaeological input into park planning and to evaluate the need for future archaeological work prior to development.

Kealakekua Bay State Park

Kealakekua is a large, sheltered bay, approximately one square mile in area. The Ka'awaloa Flat on the northern end of the bay is a flat, coastal plain of a'a lava. The southern end of the bay is marked by Palemano Point but the park boundary at Nāpō'opo'o is a central location on the bay. The Nāpō'opo'o area is part of a thin strip of coastal flat and a'a lava. These two flat areas of the bay are connected by a sheer, 500-foot cliff known as the Pali Kapu O Keōua. The area just south of the pali and behind the coast at Nāpō'opo'o is a low-lying area where water ponds during high tide and heavy rains. This low-lying area is the mouth of a large, broad gully originating mauka of the pali.

The vegetation in the Kealakekua vicinity is largely grasses, koa haole, and kiawe. Much of this is a result of cattle grazing and the relatively recent age of the lava flows at Ka'awaloa and Keei. At present, there is a swampy area on the southeastern side of Ka'awaloa flat where the vegetation consists of other grasses and reeds [4].

The Great Māhele (1848—1855) resulted in major changes in land organization and settlement. The construction of the kuleana walls destroyed earlier sites as well as defined property boundaries. By the late 1800's, much of the land was used to graze and pen cattle. Ka'awaloa was occupied up to 1930 but there is still a small community at Nāpō'opo'o.

The Kealakekua Bay State Park is part of the larger Kealakekua Bay Historical District and Marine Life Conservation District. The Historical District is under State site number 50-10-47-7000 which has been determined to be valuable and is listed on the Federal Register of Historic Places…..

Puhina O Lono Heiau (50-10-47-3734) is commonly referred to as Cook's Heiau because it is the site where Cook's body was taken to be prepared for disposal. The original heiau construction, however, was pre-1778 for the worship of the god Lono. The heiau is located on the slopes above Ka'awaloa Flat within an a'a lava flow area. The heiau has been modified by historic activities in commemoration of Cook [5].

The Ka'awaloa Road (50-10-47-1980) is still used as a means of getting from Māmalahoa Highway to Ka'awaloa Flat. It was built as a cart road prior to 1861. The downslope side of the road on the lower portion of the road has been faced with stacked stone and rubble.

Hikiau Heiau (50-10-47-1963) is located at Nāpō'opo'o and adjacent to the coastline. This heiau was visited by Cook in 1779 where a service was held and a crewman was later buried. The heiau structure was reconstructed most recently in 1979. Hikiau is part of a larger religious complex dating from the pre-1778 period. Included in this complex is the sacred pool (the low-lying area behind the beach and north of Hikiau), the Great Wall mauka of the pool and heiau which defines the boundary of the sacred enclosure, and the priest's house platform.

Helehelekalani Heiau The site of Helehelekalani Heiau is thought to be adjacent to Hikiau. This site is important because it is where ʻŌpūkahaia was to have studied for the Hawaiian priesthood before travelling to the East Coast in 1808 to study Christianity and encouraging the first group of missionaries to come to Hawaiʻi in 1820.

The Pall Kapu O Keōua (50-10-47-3733) contains a number of caves and rockshelters that were reportedly used as burial sites. There [7] has been no systematic survey of these caves but need to be considered as part of the prehistoric cultural pattern.

The Kona Field System (50-10-47-6601) is eligible for the Federal Register of Historical Places and is adjacent to the Kealakekua Bay Historical District….

The Captain Cook Monument at Kaʻawaloa was erected in 1874. It remains today as a historic landmark and tourist attraction. The Nāpōʻopoʻo Lighthouse, also at Kaʻawaloa, is still present but the accompanying Coast Guard settlement is marked today by only a basalt wall and concrete pilings…. The foundation of the Christian mission established at Kaʻawaloa still remains…. [9]. There are also at least two recorded heiau on the northern portion of Kaʻawaloa Flat and several other features which may also be heiau [11].

Kealakekua Mission Station Report (1839-1857)

Reports filed by:
1839-1840 Forbes
1840-1842 Ives
1843-1844 Forbes
1846 Ives
1851 Pogue
1855-1857 Paris
1839-1857 (referred to as Kealakekua station, not Kaʻawaloa

Kaʻawaloa: 460 inhabitants in 1835
160 inhabitants in 1846
Drop in population due to famine and movement of people to towns along with reduced cultivation of crops

Kealakekua: 32 whale ships anchored in bay in one year [23]

Clark, S.D. (1983) "Archaeological Reconnaissance Survey in Kealakekua Ahupuaʻa. South Kona. Island of Hawaiʻi"

Greenwell, Jean (1984) History of Kealakekua Bay, South Kona, Hawaiʻi

Johannes, R.E. (1984b) "Archaeological Field Inspection. Private Subdivision Development. Waipunaʻula. South Kona. Island of Hawaiʻi (TMK:3-8-2-03: 1)"

Yent, Martha (l984)"Archaeological Reconnaissance Survey of Proposed Residential Parcels in Kealakekua, South Kona, Island of Hawaiʻi."

Yent, Martha (1985a) "Archaeological Survey and Mapping of the Hikiau Complex (Site 1963) And Nāpōʻopoʻo Section of the Proposed Kealakekua Bay State Historical Park, South Kona, Island Of Hawaiʻi"

Based on site numbers and descriptions from the Statewide Inventory of Historic places, 1972-1974, there were two complexes designated in the survey area. These are the Hikiau Complex (site #1963) and the Nāpōʻopoʻo Complex (site #1983). The two complexes were then incorporated with other

sites into the Kealakekua Bay Archaeological and Historical District (site #7000) which was listed on the National Register of Historic Places in 1973 [32].

Within the complexes are sites. These sites are locations of prehistoric and historic occupation or activity and can include both structures and areas of events. Features, then, are structural parts or activity areas of a site. Sites are designated numerically and features are designated by letters attached to the site numbers. During the survey, numerous site types were identified: platforms, free-standing walls, retaining walls, enclosures, modified outcrop, historic concrete forms (slabs. chute), talus mounds, heiau (2), pits, burials, cultural deposits and artifact scatter [32 & 35].

Hikiau Complex. The Hikiau Complex consists of Hikiau Heiau, Helehelekalani Heiau, the Great Wall, the pond, and platform alignments. The complex is defined by the Great Wall on the north and east, the ocean on the west, and a property wall on the south. This complex is approximately 8 acres in size. Although the Hikiau Complex is defined as a prehistoric settlement, historic structures are also noted in this pond area. The greatest historic modification within the complex appears to be the pumphouse, pipeline, and stacked rock walls built for erosion control and retaining the cattle. The other historic structures such as the prison and McFarlen's house, have left no existing surface remains in the area. The roadway on the makai side of Hikiau and between Hikiau and the pond that led to these structures is evident but not intrusive. However, the road did destroy a portion of Hikiau, circa 1890.

The significance of the Hikiau Complex is that it was a religious area recorded by Cook and his men at the time of Western contact. The complex consists of the Great Wall to define the religious area, Hikiau and Helehelekalani Heiau, the sacred pond, and the priest's houses. This was the area where Captain Cook first landed at Kealakekua. The first Christian service was conducted at Hikiau and the observatory was established just southwest of Hikiau. Some of the structures of this complex remain intact and the historic modification of the area has done little to alter the integrity of the site. Still present at Nāpōʻopoʻo are the Great Wall, Hikiau Heiau, the pond, a platform that may be Helehelekalani Heiau, and a platform recorded as Hewahewa's housesite (Stokes, circa 1906) The priest's housesites, many of which were located to the north of the pond, are less evident. This is a result of flooding and slopewash in this area which may have covered the platform remains [37].

Nāpōʻopoʻo Complex. The complex as defined in the 1972 inventory encompassed the area around the Hikiau Complex and extended to the boundary of Kahauloa 1st and 2nd (TMK: 8-2-04, 8-2-05, 8-2-06, and 8-2-07. The complex extends mauka to Kahikolu Church and makai to the coastline. The complex consists of both prehistoric and historic sites. During the inventory, historic kuleana walls were noted along with platforms and possible burials that could be either historic or prehistoric. Within the park area, the sites within the Nāpōʻopoʻo Complex consist of mostly property and ranching walls and historic features. The ranching features are mostly cattle chutes and stacked rock property walls. The other historic feature in the park area is the Amfac coffee mill foundation. Other Amfac features, such as the store and lumberyard, were in the vicinity of the wharf [37].

Trail. Foot and horse trail from the Hikiau area up the slope to the pali. Trail is faced with a retaining wall on the down - slope side. Trail is historic but is now discontinuous as it has not been maintained. Starts mauka of park area in TMK: 8-2-02:44 and marked by walls on both sides of the trail. Unmapped and undetermined number of switchbacks [60].

Summary and Recommendations. The historical sites at Nāpōʻopoʻo represent both the prehistoric and historic periods of occupation and use. There is a historical continuity in this area that can be documented through historical records, oral histories, and archaeological survey and testing. This continuity holds both research and interpretive potential for the park [61].

Preliminary Cultural Sequence

Prior to 1778	Traditional Hawaiian cultural pattern prior to Western contact.
1778-1850	Early Western contact through explorers and traders stopping at Kealakekua Bay; changes in material goods.
1820-1850	Missionary Period with major changes in the Hawaiian economic religious, social, and political system.
1880-1930	Market economy with ranching, coffee, pineapple and fishing the major economic base; Hackfeld/Amfac developed Kealakekua for shipping; abandonment of Ka‘awaloa and Kekua area of Nāpō‘opo‘o, circa 1920-1930. [Ka‘awaloa abandoned ca. 1940 (WWII) (Yent 2018)]
1930-present [1985]	Shift in settlement and economy to towns along the upland Belt Highway [64].

The overall objective of the coordinated archaeological, historical, and ethnographical research is development of a management plan that addresses the formulation of an interpretive program and a resource protection program (Cultural Resources Management Plan, CRMP). This research is the basis of the interpretive program, including a determination of interpretive themes, an evaluation of the most effective techniques to interpret these themes, and developing the interpretive materials (text, graphics). The research also is the basis for a CRMP with the goal of preserving and protecting the significant cultural resources for research, interpretation, and as a unique or representative sample of a historical site [64].

The greatest potential threats to the cultural resources are park development and public impact. As mentioned, many of the sites in the Hikiau Heiau Complex area have a potential for park interpretation. In order to protect and preserve these sites for future research and for park interpretation, park planning must address walkways and viewpoints that will limit the public impact on the resources. Park planning must also consider the design and location of facilities that do not hamper the integrity of the area or impact significant cultural resources [75].

Yent, Martha (1985b) “Archaeological Research Design: Kealakekua Bay State Historical Park, Kealakekua Bay, South Kona, Hawai‘i Island”

The goals of the park are to preserve the important historical sites and present the history of Kealakekua to the park visitor. In order to protect, preserve, and interpret the cultural resources at the park, it becomes important to develop an archaeological research design which will provide direction to the archaeological research conducted at the park. Because the archaeological work to date has been limited to surface surveys, our knowledge of subsurface remains and the research potential of individual sites is limited. Therefore, this research design should be considered preliminary and subject to change after archaeological testing has been conducted [1].

Herb Kawainui Kane (1986) “A New Look at Captain Cook”

As Cook was sailing around Hawai‘i, the annual procession of the Makahiki season was also making its circuit in the same clockwise direction. On shore gifts were being brought to Lono’s standard. But with the “Lono” offshore it was strictly business. Cook buying only what he needed, conserving his iron, and the Hawaiians holding out for the established prices. If a nail seems a small price for a pig, we must remember the cost of transporting it half way around the world, as well as the absence of metallic ores in Hawai‘i, and its novelty and usefulness to an advanced Neolithic civilization that placed high value on the efficiency of materials.

Of the trading at sea, Lt. King remarked on the honesty of the commoners: “It is also remarkable that they have never once attempted to cheat us in exchanges or once commit a theft.” Cook tried to keep his men honest also: “Punished James Dermot with 12 lashes for passing Tin as Iron on ye Natives”[13].

KEALAKEKUA BAY

Rounding the southern cape they at last got into the lee of the island. Here more canoes came out to meet them, an escort which grew in numbers until, when they arrived off Kealakekua Bay, they were surrounded by an estimated 1,000 canoes, including 160 large sailing canoes, and 10,000 persons on the water in canoes, on surfboards, or swimming “like shoals of fish”. Cook could no longer keep women off the ships and gave up trying. His sailing master William Bligh (the same Bligh who was mutinied on the Bounty nine years later) went ahead with two boats to [13] take soundings in the bay and, in his search for a spring of fresh water, became the first European known to have set foot on Hawai‘i.

The ships entered the bay on the following morning to a tumultuous rejoicing. So many persons were aboard the smaller ship Discovery that she began to heel over, a situation remedied by two pleasant, young, and handsome chiefs, Parea and Kanina, serving as the harbormaster authority, who cleared the decks and rigging of visitors. British trust in their hosts was so strong that it did not occur to them that these chiefs, at that moment, had the power to take the ships. Nor did they speculate on what might have happened had Cook decided not to enter the bay to which they were obviously led. The vast quantities of foodstuffs that were immediately available to them suggests that the reception had been planned well in advance of their arrival. [14]

When the anchors went down, Parea introduced Cook to an elderly priest who presented a small pig, placed a wrap of red tapa over Cook’s shoulders, made “quite a long oration”, then accepted Cook’s invitation to lunch. King wrote after dinner, he and Parea accompanied the Capt. on shore, & Mr. Bailey we landed on the Beech, & were receiv’d by 3 or 6 men who held wands tipt with dogs hair, & who kept repeating a sentence wherein the word Erono was always mention’d, this is the name by which the Captn has for some time been distinguished by the Natives.”

The Hawaiian scholar Mary Kawena Pukui believes that the term may have not been “E Rono” (Oh, Lono), but “E rono” (Oh, hearken!), a Hawaiian “Hear ye!” by which the heralds warned commoners in the vicinity of Cook’s approach. Western historians tell us that Cook was being announced as Lono the god. [14]

“Not a Soul but those I have mention’d were to be seen on the beech, but close round the huts we saw numbers of the inhabitants Prostrate, as they were on our first Visit to Atoui (Kauai)”. This was the “manner in which the commonality shewd their respect”.

Cook was led up the beach to the temple of Hikiau (much of the rock platform [15] remains today) and suffered through a ceremony more elaborate than any he had witnessed in all his travels. There was a long oration which the British could not comprehend, but which is believed to have been a genealogical chant in which a place was made for Cook in Hawaiian society. Cook was again draped in red cloth. The worst moment came, when he was induced to prostrate himself before the smallest -- but perhaps most important -- image on the temple platform, the image of the king’s god Ku, and then kiss it.

This act of humility shatters any illusion that Cook was being received as the god Lono, or as any kind of god as that term is used today. There is some opinion that the temple was dedicated to Lono during the Makahiki; but the presence of the Ku image within a fence festooned with skulls of Maui warriors, as well as the use of red cloth, signified that this luakini heiau (state temple) remained dedicated to Ku. And red was the color symbol of Ku.

The British appear to have regarded “Orono” or “Erono” as a chiefly title conferred upon their captain; evidence for this being found in the presence of a high-status chief whose name was

"Omeeah", but who was distinguished 6y- the same title "Orono" given to Cook. This Orono was also given the same honors as those paid to Cook, we are informed, including prostration by commoners. Some of the officers dined at his house and found him to be a pleasant host. [15]

The priests seemed eager to make Clerke an "Orono" also. They took him to the temple as "...with a vast deal of ceremony, singing, and fuss, sacrificed a small Pig to me with as much respect as though I had been a being of a superior Nature ... this they did to Captain Cook and afterwards would have often done to me but I always avoided it as a very disagreeable kind of amusement, but these worthy fellows continued invariably to the last our very good and firm friends."

Beings of a "superior nature"? In Hawai'i, all high chiefs were regarded as [15] being of a superior nature. Toward their visitors the Hawaiians must have experienced an awe such as we would have today toward extra-terrestrial strangers arriving in space ships loaded with evidence of a superior technology, for the British were indeed visitors from another world. "Rono", King observed, was also a proper name [16] commonly used among Hawaiians. As "Lono it is still in common use today.

The British waited nine days for the king to arrive. On the day before he was expected "No canoes were suffered to come on board the Ships & the Natives kept close to their houses; We could only learn that any intercourse with us was Tabooed, because of Teereeoboo's coming. A Mark of such consequence made us impatient to see this Monarch who kept his Subjects in such, great awe". On the next day: "In the afternoon were told that Teereeoboo was coming, & which we now believ'd by seeing towards evening many canoes coming round the north point of the bay ... we on shore observed till dark a continued line of large Sail & paddling Canoes coming round the point."

The old showman had made his dramatic late entrance. He boarded Resolution, and the British were surprised to see that this was the same old chief they had met off Maui. After some pleasantries he went ashore at Ka'awaloa, the low flat land on the western arm of [17] the bay where the Cook monument now stands. Here was the king's residence in the village of the chiefs, a community of about 125 structures.

On the following morning the bay was cleared of all traffic. Then the king came out with three large canoes, his own being seventy feet long. He sat upon 'the center deck of the first canoe surrounded by a great number of chiefs, many in feather capes and helmets brilliant in the sunlight. Then, came a canoe carrying chanting priests and four large feather gods; then a canoe loaded with provisions. It was the most impressive sight the British had seen in all the Pacific. After a stately circuit around the ships, the canoes landed on the opposite shore, at the beach near the temple. Cook followed, and was officially received.

This was not the reception of a god, but of an equal. The two "exchanged names" and "ratified a firm friendship". Presents were exchanged also, and here Kalaniopuu dazzled Cook with fine feather cloaks and helmets, and all the provisions that filled the third canoe. [18]

Bergendorff, Steen; Ulla Hasager and Peter Henriques (1988) "Mythopraxis and History: on the Interpretation of the Makahiki"

This paper deals with one of the more interesting institutions in traditional Hawai'i, the Makahiki festival, where the principal element was the annual return of the god Lono from Kahiki (the home of the gods beyond the sea Heaven). In 1778 Captain Cook arrived at Hawai'i and his arrival is supposed to have coincided with the time of the festival. It is generally believed that Captain Cook was taken for Lono and treated accordingly because his behavior seems to have followed the ritual scheme of the Makahiki. This has, in short, become a "standard theory". According to Malo (1903:187), the Makahiki lasted several months and involved the entire society. It was the Hawaiians' largest complex of rituals and ceremonies in terms of time and space.

Despite some initial doubts (Sahlins 1982:85), the standard theory has been used by Marshall Sahlins (1981) to account for the later history of Hawai'i.

It is our intention to render probability to the point that the Makahiki festival at the time of Cook's arrival had neither the spatial or temporal extent nor the content which it is generally ascribed. [391]

The argument in this article concerns one point-to refute the argument stated by Sahlins on the relation between Cook and Hawaiian history via the Makahiki ritual. We do this: 1) By demonstrating a lack of fit between the ritual itself and Cook's presence. This is not the lack of fit to which Sahlins refers himself, but a lack of fit between his description of the ritual and certain crucial facts about Cook's presence; 2) via a critique of sources, i.e., chronicles written decades later from a very definite point of view with respect to the relation between Westerners and Hawaiians; and 3) by attempting to indicate an alternative -that the Hawaiians' strategies were of a different nature from those Sahlins hypothetically deduces from cosmological schemes, and that the material suggests that interaction (of course, culturally informed) between Westerners and Hawaiians had another logic. [392]

Hommon, Robert (1986b). "Preliminary Archaeological and Interpretive Plans for Kealakekua Bay State Historical Park"

Part of a larger report on the historical resources of Kealakekua Bay State Historical Park prepared under contract no. 14137. [The] chapters, including an archaeological research design and preliminary interpretive plan, were prepared for State Parks planning purposes. The research portion of the report, including the bibliography, indexes, and other appendices, has been separated from the planning portion of the report for distribution [iii].

This report presents the results of preliminary research in literature pertaining to the archaeology and history of the Kealakekua region, Kona, Hawai'i and plans for the initial steps of field research in and development of the Kealakekua Bay State Historical Park [1].

The fifteen lands included within the Kealakekua Region are, from north to south: Ka'awaloa, Kealakekua, Kiloa 1, Kiloa 2, Waipunaula, Kalamakumu (Kalama 1), ILīloa, Kalamaumi (Kalama 2) Kalamakowali (Kalama 3), Kalamapala (Kalama 4), Kalamawaiawaawa (Kalama 5), Kahauloa 1, Kahauloa 2, Ke'ei 1 and Ke'ei 2 [4].

Archaeological data from outside the region suggest that the shores of Kealakekua Bay were probably occupied by about A.D. 1000, that is, perhaps 400 to 600 years after the Hawaiian Islands were first settled by Polynesians. Probably about A.D. 1400 the local residents began to expand their activities inland on a large scale, establishing what would eventually become the large mid-slope field systems that were seen by Captain James Cook and his men in 1779 [9].

Western Contact. The weeks in early 1779 during which the H.M.S. Resolution and H.M.S.Discovery lay at anchor in Kealakekua Bay are the central focus of Kealakekua's historical and cultural significance, for the more than 40 journal accounts, maps and drawings produced by the members of the Cook expedition constitute the only detailed eye-witness record of Hawaiian culture at the moment of Western contact. Included in these documents are accounts of virtually every aspect of Hawaiian culture including ceremonies, dance, military tactics, settlement patterns, political organization, agriculture, arts and crafts. Soon after his arrival at Kealakekua, Captain Cook was honored as the returning god Lono at the heiau of Hikiau, the traditional center of the ceremonies marking the beginning and end of the Makahiki ceremonial season on Hawai'i. According to legend, the illustrious chief Lonoikamakahiki, with whom the Makahiki is associated, was raised at Kealakekua, and it was from Kealakekua that he set forth on his voyage to Kahiki, the sacred land to the south [9-10].

While it seems reasonable to expect that the dwellings of chiefs, particularly those of high rank, would be larger and more elaborate and would include more individual structures than those of lower ranked people, neither the archaeological nor the ethnohistoric record has been clear in this matter. At Kealakekua, this problem is one of several that can be addressed by the direct historical approach, that is, the use of written eyewitness accounts of the houses and their identified occupants to guide archaeological research at specific sites. On a general scale the eyewitness documents demonstrate clearly that Ka‘awaloa and Kekua were occupied by unusual concentrations of high-ranked chiefs and priests throughout the early post-contact period. This fact, important though it is, should be tempered with two observations. First, until the early 19th century, the Hawaiian royal court was a highly mobile institution that favored certain locales such as Kealakekua, but had no permanent capital. Second, beginning with the time of Captain Cook’s arrival and throughout the early post-contact period it is apparent that prominent chiefs, including Kamehameha, were attracted to Kealakekua because, apart from any traditional importance of the area, it was the primary port of call of Western ships [22].

As important as are the general observations of Ka‘awaloa and Kekua as administrative centers, the eyewitness accounts offer far more. They include numerous references to the houses of specific named priests and chiefs, including both Kamehameha and Kalani‘ōpu‘u, his predecessor as paramount chief of the island of Hawai‘i, as well as many other prominent figures in early Hawaiian history. As would be expected, these accounts vary considerably in precision, reliability and detail. The best of them will allow archaeologists to identify and investigate the house foundations of specific historically - known individuals of the early post-contact period, something that is only possible in all Hawai‘i at Kealakekua. By investigating the remains of the houses of chiefs and priests of known rank archaeologists should be able to shed light on material characteristics (such as large size, complexity of structure or the presence of particular arrays of artifacts) that might be expected in chiefs’ residence sites. Detailed investigation of such a residential site will be a complex undertaking to be planned and executed with great care. Among the difficulties that may be expected in such an endeavor is the disturbance of early post-contact archaeological data by subsequent construction and other activities. Additionally in this regard it should be stressed that those designing future archaeological activities at Kealakekua should always be aware that the requirements of research and interpretations must always be tempered with the third imperative of a historical park such as Kealakekua: the preservation of the cultural resources by “banking” intact archaeological sites for future generations [22].

The best known of the religious sites at Kealakekua, and one of the most important such sites in Hawai‘i is Hikiau heiau. It served, at various times, as the site both for fertility ceremonies dedicated to the god Lono and for ceremonies, including human sacrifice, dedicated to the god Ku. This heiau was the center of Makahiki ceremonies at the time of Western contact and was the temple where Cook was first honored as the returning Lono. While Hikiau heiau is undeniably one of the most important single structures at Kealakekua or anywhere in Hawai‘i and will be a focus of the interpretive program of the planned park, its value in terms of archaeological research is severely limited.. At least twice within the last century major changes were evidently made in the structure by those wishing to stabilize, repair and/or prepare it for public display. The stone structure in its present form (which is actually the remnant of the platform for the perishable heiau structures and not the heiau in the strictest sense) probably bears little resemblance to the platform that existed at the time of Cook’s visit except perhaps in general size [23].

At the time of Cook’s visit, the settlement of Kekua was set aside largely or entirely as a priestly community. The investigation of the size, complexity, distribution and contents of habitation sites at Kekua may shed light on what, if any, evidence distinguishes the house foundation of a priest from that of a non-priest, a problem closely related to that of distinguishing the social rank of a house’s inhabitant, discussed above [24].

By far the most detailed accounts of Kealakekua of this period are to be found in the journals of Vancouver and other members of his expedition. By the time of Vancouver’s visits in the early 1790s Kekua was one of several residences from which Kamehameha ruled his new and growing

kingdom. These two men, who met on several occasions at Kealakekua, represent the Polynesian and the Western, persistence and change, as did Kalaniopu’u and Cook at contact [37].

Hommon, Robert J. (1986b:39-42) summaries the history of Kealakekua Bay area suggested to be in a brochure.

> When Cook’s ships, the H.M.S. Resolution and H.M.S. Discovery entered Kealakekua Bay in January 1779, they had already paid brief visits to the Hawaiian islands of Kauai, Niihau and Maui and had sailed along much of the coast of Hawai‘i itself. At Kealakekua, however, where Cook’s ships remained for nearly a month, Hawaiians and English were to truly begin to learn something of one another. It is only in the Journals and other eyewitness accounts of the Cook expedition’s sojourn in Kealakekua Bay that we catch a detailed glimpse of Hawai‘i at the moment of its first contact with the non-Polynesian world [39].
>
> Every year in ancient Hawai‘i the months of October through February were given over to Makahiki, a season of rituals, offerings and games dedicated to Lono, the god of peace and fertility. Kealakekua was once the home of the namesake of this god, Lono-i-ka-Makahiki (“Lono-of-the-Makahiki”), a renowned chief of ancient Hawai‘i. It was also the place, the legends whispered, from which Lono had departed these islands, promising someday to return. The heiau (temple) of Hikiau at Kealakekua was the center o-f the Makahiki ceremonies for the entire island of Hawai‘i. Each year the Makahiki procession, with a tall wooden image of Lono at its head, carried the celebration along the coastal trail around the island and back to Hikiau where it had begun. When Cook, a powerful stranger possessed of tall ships, iron, firearms and other wonders, arrived at Kealakekua at the end of Makahiki after having shadowed the Makahiki procession around much of Hawai‘i, it is perhaps not surprising that he was honored at Hikiau as Lono, returning to participate in ceremonies held in his honor [39-40].
>
> The priests who presided over the ceremonies at Hikiau Heiaulived in the village of Kekua, which surrounded the pond between the heiau and the high cliff to the north. Today little can be seen of the village as painted by John Webber, a member of the Cook expedition. The pole and thatch houses have, of course, long since perished, but archaeologists believe that their stone foundations and other evidence of Kekua remain preserved under the soil and sand deposited during the last two centuries [40].
>
> To the northwest, on the low level peninsula across the bay, are the ruins of Ka‘awaloa, the other major village of Cook’s day. Ka‘awaloa, built largely on lava flows, consists today of stone walls, terraces and platforms in a thick forest of kiawe and other introduced plant life. It was in Ka‘awaloa that Kalaniopu‘u (paramount chief of Hawai‘i) and his royal court took up residence shortly after Cook’s arrival. Here also Captain Cook was killed, an event that culminated an escalating series of misunderstandings between the English and the Hawaiians, people of radically different cultural traditions [40].
>
> The site of Cook’s death is marked by a small plaque set in the stone at the water line. The white obelisk closer to the cliff and visible from the Kekua side of the bay is the Cook Monument, erected in 1878. On the slope above Ka’awaloa flat is Puhina O Lono, a small stone-walled enclosure where Cook’s remains were taken by the Hawaiians after his death [40].
>
> The cliff that extends between the two villages, called the Pali Kapu O Keōua, is riddled with dozens of lava tubes, many of which once served as burial caves. Over the years many of the caves have been vandalized [40].
>
> Behind the cliff and extending inland to an altitude of about 2500 to 3000 feet was the local section of the Kona field system, which, with some 30,000 acres under cultivation, was the largest agricultural complex in aboriginal Hawai‘i. The sweet potatoes, dry taro and other crops grown in these fields, together with the products of the koa forests above and the fishing grounds below were

the wealth of the ancient district of Kona. Kamehameha's alliance with the chiefs of this wealthy, populous district was a major factor in his rise to power after Western contact [40].

During the first forty years after the Cook expedition, Kealakekua, as the most important Hawaiian port for the provisioning of European and American ships, was the primary center of contact between Hawai'i and the outside world. Throughout Kamehameha's early career and his reign as first king of the united Hawaiian Islands he maintained a household at Kekua, the old priests' enclave. Many of his most powerful chiefs and trusted advisors lived at Kealakekua as well. Much that we know of Hawai'i of this era comes from accounts of Kealakekua set down in the eyewitness accounts of the members of the Vancouver expedition and other visitors and in the later works of the native Hawaiian historians who drew upon a rich body of oral literature [40-41].

By the time of Western contact, Hawai'i had evolved what is widely recognized as one of the most highly developed, most sophisticated of Pacific cultures. Population density, often an indirect measure of social complexity, was roughly the same as Great Britain in AD. 1400 or the United States about 1900, unusually high for a non-industrial society [41]….

The courts of even the most powerful of chiefs, consisting of hundreds of royal family members, administrators, priests, craftsmen, servants, soldiers and hangers-on, were highly mobile. Still, for a variety of reasons, these chiefs favored certain places over others. Waikiki was one of these places as were Kailua, O'ahu and Kailua, Hawai'i; Waiakea, Hawai'i; Waimea, Kaua'i and others. A characteristic these places share is that with but one exception, they have been swept clear of nearly every vestige of the past as modern towns and cities have grown in their places [41].

The single exception is Kealakekua. In addition to being the most well-documented example of Hawai'i at contact and the most important early ports for Western trade, the Kealakekua settlements of Kekua and Ka'awaloa are the only surviving early chiefly centers in the Hawaiian islands. More renowned chiefs are documented as having lived at Kealakekua during this early period than in any other area of the Hawaiian Islands. In addition to Kamehameha and his predecessor Kalani'ōpu'u, the famous residents of Kealakekua included Kamehameha's favorite wife Ka'ahumanu, who achieved political prominence after his death; his younger brother Keli'imaika'i; his political rival Keōua; his high priest Hewahewa and several of his most important political allies; as well as many of his ancestors and contemporary relatives [41].…

- In 1806, a young man named 'Ōpūkahaia, then in training for the Hawaiian priesthood at Kekua, boarded a ship anchored in Kealakekua Bay and sailed to New England. After 'Ōpūkahaia's conversion to Christianity his testimony concerning his homeland was instrumental to a significant degree in precipitating the journey of the first company of missionaries to these islands [42].

- In 1819, the chiefs opposed to the abolition of the ancient religion, led by Kekuaokalani, nephew of Kamehameha, took refuge at Ka'awaloa on Kealakekua Bay shortly before their final defeat at the Battle of Kuamo'o [42].

- In 1824, one of the earliest mission stations in Hawai'i was established at Ka'awaloa at the insistence of the chiefess Kapi'olani, among the earliest Hawaiian Christian converts. Kapiolani's husband Naihe was one of a hereditary line of chiefs of Ka'awaloa that can be traced through seven generations down to Keohokalole, mother of King Kalakaua and Queen Lili'uokalani, the last of the Hawaiian monarchs [42].

Eventually seven mission families were to live and work in the Kealakekua region, beginning with James and Louisa Ely who established the station at Ka'awaloa in 1824 and ending with John and Mary Paris, who arrived in 1852 and died at Kealakekua in the 1890s. Among the houses, schools and churches built by the missionaries in the Kealakekua region the best known is Kahikolu ("Trinity") Church, the stone masonry building situated on a rise behind Nāpō'opo'o. Kahikolu Church is presently being restored by residents of the area [42].

> Early land records seem to indicate that by about 1850 Kekua, the former priestly enclave and home of Kamehameha, was nearly abandoned. Nearby Nāpō'opo'o and Ka'awaloa across the bay became minor whaling ports during the 1840s when as many as 32 whaleships a year visited the bay [42].
>
> During the last half of the 19th century large sections of the ancient Kona field system, abandoned as population declined, were transformed into pastures and coffee plantations. Steamers stopping at Kealakekua would take on passengers and cargo as well as cattle brought down to the bay by the Greenwells and other area ranchers. Herded by Hawaiian cowboys on horseback and in longboats, the cattle would swim from the shore to the waiting vessels anchored in the bay. Nāpō'opo'o had become the most important of the two settlements on the bay by about 1900 and Ka'awaloa, after decades of declining population, lost its last resident families in 1929 [42].
>
> Today the ancient villages of Ka'awaloa and Kekua lie quiet and abandoned. It is the purpose of the planned Kealakekua Bay State Historical Park to piece together the story of Kealakekua through documentary and archaeological research and to present this extraordinary story through the medium of the villages themselves, transformed into 'open-air museums' where the visitor will be invited to explore Kealakekua's history as he walks among the remnants of its past [42].

Hommon, Robert J. (1986b:55-59) also creates a scenario of the park ten years down the road in 1996. The following excerpts are examples:

> Ka'awaloa is presented to the visitor in much the same way as is Kekua, by means of guided and self-guided tours, labels and signs along a network of trails and stabilized archaeological deposits and structures. Among the structures of known function that are singled out are the household where Kalani'ōpu'u was living at the time of Cook's death, Keli'imaika'i's shrine, the "fishing heiau", "Umi's well", a shelter cave in the cliff, Puhina O Lono (which is reached by a separate branch trail) and the mission establishment [59].
>
> As the canoe makes its way back to Nāpō'opo'o in the waning light of the day, the sound of music can be heard. The visitor walks to the open grassy area south of Hikiau Heiau, watches a performance of ancient hula by members of a Kona halau and is then invited to partake in the lu'au that follows the performance. The living traditions of the people gathered here provide an additional link to the past as a day among the echoes of Kealakekua's history fades into night [59].

Kaschko, Michael W. And Paul H. Rosendahl (1987) "Full Archaeological Reconnaissance Survey of Kealakekua Ranch Makai Land Subdivision (TMK 3-8-02:2.33)"

Smith, Marc B. (1988) "Archaeological Testing Prior to Comfort Station Relocation Within the Proposed Kealakekua Bay State Historical Park at Nāpō'opo'o, Kealakekua, South Kona, Hawai'i (TMK: 8-2-04:9).

> Preceding comfort station construction, the proposed new location was tested by Martha Yent and Marc Smith, Division of State Parks archaeologists. During nine days of testing, 1-4 February and 6-10 September 1988, eleven 1 meter square test pits were excavated. This report details the 1988 test findings, and summarizes information collected from a previous test in the parcel during October 1985. The 1985 test was conducted by M. Yent and A. E. Griffin, Division of State Parks archaeologists. Two 1 meter square test pits were excavated in the northeast corner of the park, approximately 100 meters northeast of the 1988 tests [1].

Barrera, W. Jr. (1989) "Kealakekua Ranch Makai: Interim Archaeological Investigations"

Wayne H. Souza (1989) "Captain Cook Memorials and Monuments Erected at Kealakekua Bay, South Kona, Hawai'i: A Synopsis (Draft). Listing of memorial plaques erected at Ka'awaloa from 1825 to 1985.

Johannes, R.E. (1989) "Kealakekua Bay 33-Ac. Development Parcel Field Inspection. Lands of ILīloa. Kalamaumi and Kalamakowali, South Kona, District. Island of Hawai'i (TMK:3-8-28:28)"

Alvarez, Patricia M. (1990) "Land Use At Ka'awaloa, Kealakekua Bay State Historical Park, South Kona, Island of Hawai'i 1848-Present"

> Ka'awaloa ahupua'a begins in the west at Ka'awaloa Flat, a fan-shaped outcropping of lava approximately 40 acres in area. It climbs up the sharp cliff called Pali Kapu O Keōua, past remnants of the pre-contact Kona field system, and across the sloping, verdant side of Mauna Loa volcano. Its 2,100 acres stretch from the flat at sea level to the 4,280 foot elevation. The ahupua'a ends well before reaching Mauna Loa's summit. Ka'awaloa ahupua'a is bounded by the ahupua'a of Keōpuka on the north and Kealakekua on the south. Like its neighbors on the Kona side of the island, Ka'awaloa is characterized by drier weather than that of the eastern side and by a general lack of surface water. Many recent lava flows have traversed this district.
>
> In addition to identifying the ahupua'a and the flat, the name Ka'awaloa is used for the village that developed on the lava outcropping at the coastal end of the ahupua'a. Historically, it was a village reserved for the highest chiefs of the district and contained numerous heiau for the worship of Hawaiian gods. It shared Kealakekua Bay with several other villages, the most important of which was Kekua. Kekua was a priestly village with its center at Hikiau Heiau, a luakini heiau. A trail across the pall, linking the two villages, was used for religious processions. The area of study for this report is the entirety of Ka'awaloa Flat, including its thirteen apana, and a small portion at the west end of LCA 8452.10, the apana which encompasses the remainder of Ka'awaloa ahupua'a. Its parameters are those adopted by the State of Hawai'i for the Kealakekua Bay State Historical Park [1.1].
>
> In the early nineteenth century, Ka'awaloa continued as the home of several important chiefs of the realm, including Naihe, Kapi'olani, Alapa'i, and Kamakau. This accounts for its selection in 1824 as the second site on the Island of Hawai'i for a Protestant mission station.
>
> The missionary legacy remains in Kahikolu church at Nāpō'opo'o and in the road system into Ka'awaloa which they fostered. Ka'awaloa Road, the cart road up the pali was for half a century the best road in Kona. At the end of the road was the government wharf which was heavily used by resident foreigners. As the nineteenth century progressed, and as foreign influence in the islands increased, Ka'awaloa's position as the home and meeting place for ali'i declined. Politically, it became increasingly obscure as Kailua and Honolulu ascended [1.5].
>
> The relative political and economic isolation of the village in the nineteenth century protected its archaeological and historic sites from destruction. Thus Ka'awaloa contains a "multitude of remains of this contact period, undoubtedly overlying pre-contact structures and deposits." Preliminary mapping shows "a virtual maze of standing walls, platforms, historic house foundations, refuse pits and religious structures. Most of these features are in good condition and promise to have some of the highest research potential in all of Hawai'i." Its wealth lies in the "relative completeness of the evidence of the pre- and post-contact patterns of the economic, social, political7and religious systems of the settlements around the bay."
>
> The upper ahupua'a contains evidence of the Kona Field System, which was "composed of a series of interlocking earthen and rock field boundaries." This pre-contact agricultural system "continued to at least the Māhele." Its remnants reveal much about the practices of the ancient Hawaiians [1.6].

The history of Ka'awaloa echoes much of the history of Kona, yet it is devoid of the renaissance enjoyed by Kailua since statehood. It evolved from a bustling community into a deserted landscape, from a Hawaiian seafront village into a hillside Asian plantation, from a subsistence economy to dependence on cash crops, from a chiefly enclave to a political backwater …. Land was alienated soon after the Mahele, sold by its chiefs to haoles. These new landowners initially turned to dairy and cattle ranching. Kailua, Nāpō'opo'o and Ka'awaloa were major cattle shipping ports for the Island. Coffee, [1.7] sugar, tobacco, and pineapple were later alternatives. Among new ventures in the early twentieth century were Kona Development Corporation and Hala Canning Company, both of which had interests in Ka'awaloa [1.8].

Prosperity finally arrived with the Captain Cook Coffee Company, which was headquartered in upper Ka'awaloa. It was coffee which made Kona "the most prosperous district in the Hawaiian Islands" by 1930. Coffee also brought the division of the land into numerous leaseholds held by Japanese farms, producing a community of "quaint little homesteads."

The Paris and Greenwell families have dominated economic circles in South Kona as stock raisers and landowners. Rev. John Paris bought the ahupua'a from its chief shortly after the Mahele, but the Greenwells have come to own major portions of it in this century. Both families were politically active as well. Other Kona pioneers - John Hind, W. W. Bruner, and Robert Wallace - farmed Ka'awaloa land. Even Bishop Estate, which owned1approximately fifty percent of all improved land in Kona," held a square of it (the Hatcher Lot) for a time…. Ka'awaloa Flat is [now] deserted. With the exception of hippies in the 1960s and occasional squatters since then, the land has not been occupied since World War II [1.8].

In the early 1970s, the State of Hawai'i began acquiring land around Kealakekua Bay for the Kealakekua Bay State Historical Park. The park was conceived as part of a larger complex, the South Kona Coast Historic and Recreation Area. When completed, it will return to Ka'awaloa Flat the much deserved attention which its historical significance in Kona and in Hawai'i warrants [1.9].

The family histories begin in the period before the Great Māhele, with the chief Keawe-a-Heulu, his descendant Ane Keohokalole, and the last konohiki of the ahupua'a, Awahua. The major landowning families at Ka'awaloa Flat after the Māhele were those of John Paris, Sr., Moses Barrett, Peter Whitmarsh, and Mrs. Henry Greenwell. The Kaneao family was a long-term lessee at the flat [2.1].

Keawe-a-Heulu was the chief of Ka'awaloa during the early years of the reign of King Kamehameha I. His son Naihe and daughter-in-law Kapiolani succeeded him as chiefs, serving until Naihe's death in 1831 and Kapi'olani's in 1841. Keawe-a-Heulu had been among the successful warriors and faithful followers of Kamehameha I who, as king, made him his chief counselor. Keawe-a-Heulu was also a relative of the new Hawaiian king, being a cousin of Keōua, Kamehameha's father. As Kamehameha defeated his rivals and gradually consolidated his power over the islands, he made the customary grants of the spoils of war to his entourage. For Keawe-a-Heulu, the reward was three important ahupua'a on the island of Hawai'i - Kapalilua, Ka'awaloa, and Kealakekua. These former lands of Chief Kalani'ōpu'u fell to Kamehameha after the defeat of Kīwala'o, Kalani'ōpu'u's son. The historian Samuel Kamakau places Keawe-a-Heulu's residence in Ka'awaloa on the lot called Hanamua.

Naihe and Kapi'olani. Keawe-a-Heulu married Ululani, a haku mele [sic?]. Their son Haiha Naihe, as had his father, served as an advisor to Kamehameha I and became the chief of Ka'awaloa. Naihe's command of the English language was said to have been very good, a result most likely of the substantial intercourse he had with foreign ships which weighed anchor at Kealakekua Bay. His wife Kapi'olani became a devout follower of the Protestant missionaries who came to the islands in 1820. Naihe was a reluctant convert [2.2].

Visiting ship captains were astounded by how westernized Naihe and Kapiolani had become, not only in their speech but also in their habitat. They had built a single large house in which all the functions of living could be accomplished, as opposed to the multiple dwellings of the earlier ali'i. V. M. Golovnin reported that on a visit to Naihe's house on the seashore of Ka'awaloa in 1818 he found him "sitting in an armchair of European make…." Naihe died in 1831 and Kapi'olani served as "magistrate over the districts of Ka'u and South Kona" until her own death in 1841. They left no children [2.3].

Keohokalole & Kapaakea. Chiefess Ane Keohokalole, with her husband Caesar Kapaakea, was the ruling chief of Ka'awaloa from approximately 1841, during the Great Māhele, and until 1859 when she and her husband sold the land to pay off debts. The lands that Naihe had inherited from his father Keawe-a-Heulu were passed down in the family to the son of Naihe's sister Keohohiwa.

Keohohiwa married Kepookalani and they produced a son, Aikanaka. As an adult, Aikanaka was charged by Kamehameha III with the guns at the fort on Punchbowl Hill. It was reported that he was not allowed to become a Christian because he could neither read nor write. Aikanaka married Kamaeokalani and fathered Ane Keohokalole. As the sole surviving descendant of Keawe-a-Heulu, Keohokalole eventually inherited the ahupua'a awarded to him, including the valuable properties of Ka'awaloa and Kealakekua. Keohokalole married Caesar Kapaakea who was descended from equally noted forebears. His great-great grandfather was the noted eighteenth century ruling chief of Hawai'i, Keaweikekahialliokamoku.

The children of Keohokalole and Kapaakea, raised by other parents as was the Hawaiian custom, played an important role in late nineteenth century Hawai'i. Two of their surviving children, David Kalākaua and Lydia Lili'uokalani, were the last reigning monarchs of Hawai'i, and their granddaughter, Ka'iulani, would have succeeded them, had the monarchy not been overthrown. The claim of this family to the throne, in the absence of Kamehameha heirs, was through Keawe-a-Heulu, whom Lili'uokalani referred to in *Hawai'i's Story* as "the founder of the Kamehameha dynasty". She added that "Kamehameha owed his selection to the monarchy to the early chiefs of my [2.4] family." Such was their claim to greatness that after their deaths, the bodies of Keohokalole and Kapaakea were removed from Kawaiahao cemetery and laid to rest with those of other royalty at the Royal Mausoleum of Hawai'i in Nu'uanu. The Governor of O'ahu who ordered the change was John Dominis, their son-in-law and husband of the future Queen Lili'uokalani.

Both husband and wife were active in the Hawaiian monarchy. Kapaakea served in the House of Nobles from 1845 to 1866. A Privy Councilor and "aid-de-camp" to Kamehameha V, he "was created Knight Companion of the Order of Kamehameha, for good services." Keohokalole served in the House of Nobles from 1841 to 1847, and in the Privy Council in 1846-47. Like her great-aunt Kapi'olani, Keohokalole was an early convert to Christianity. Yet in the House of Nobles, she took a stand against the growing westernization of her country by opposing the division of land into individually-held plots.

Nevertheless, by the terms of the Great Māhele of 1848, all the chiefs were required to turn their land holdings over to King Kamehameha III. Keohokalole, acting in accord with the decree, handed over to the king the ahupua'a of Ka'awaloa and Kealakekua, as well as numerous other properties. The legal term used to convey her land to the king was "Ka'awaloa Awa a me kahi honu i kai" meaning "Ka'awaloa the harbor and flat land towards the sea." Most of her lands were returned to her in the form of Land Commission Award (LCA) 8452 on March 30, 1853. In Royal [2.6] Patent 4385 which accompanied the award of Ka'awaloa and which was made on June 23, 1858, the king added a significant reservation for the government: "Koe nae kahi honua i kai a me ka a" meaning "reserving the flat land makai and the harbor." Denied the portion of the ahupua'a that was the most valuable at the time, Keohokalole followed her first claim with the claim of four small apanas at the seashore.

It is unlikely that Keohokalole ever lived at Ka'awaloa. On Oahu, she and her husband were reported to have a "large and comfortable thatched house near the Pumping Station on the slope of Punchbowl." However, their children were said to have played in the stone house built at Kuapehu by Kapiolani, and the Rev. John Paris reported that his wife rode a mule belonging to Keohokalole from Kuapehu to Hilo. It is possible that she spent some of her time there, perhaps peripatetically as in the fashion of the earlier ali'i. In 1869 at the time of her death, she was departing from Hilo.

No sooner had Kapaakea and Keohokalole acquired title to their lands than they were forced by their financial circumstances to sell them. The commutation fees required for lands claimed in the Māhele may have complicated an earlier embarrassment. Public records reveal that they mortgaged their lands, including Ka'awaloa and Kealakekua, to James I. Dowsett on November 1, 1856 for the sum of $8,500. Dowsett, a prominent kaima'āina and owner of a fleet of whaling vessels, was said as a child to have been a "playmate" of three future Hawaiian monarchs. Surely he would have been a sympathetic lender. Yet in January 1858 the chiefs sold the entire ahupua'a of Kealakekua to the British subject Stephen Hastings Atkins for $2,000. The [2.7] mortgage on Ka'awaloa was assigned to Benjamin F. Snow of Honolulu in June 1858 for $6,250, only a few months after David Kalakaua, their son, had been "assigned from him (Kapaakea) of his life estate." Thus the name of the future Hawaiian monarch appears on the subsequent deed of sale of the ahupua'a.

The Protestant minister Rev. John D. Paris purchased twenty acres of their land near the former mission station at Kuapehu on June 25, 1853, only months after the Land Commission had awarded it. Their daughter Miriam Likelike, still a young child, was given thirty-five acres at Kuapehu in 1855. John Paris bought the whole ahupua'a of Ka'awaloa and their four apanas on March 5, 1859 for $3,000. The sale of Ka'awaloa did not solve the financial situation of the chiefly couple. On June 14, 1860 Keohokalole and Kapaakea made Charles R. Bishop the trustee of their real and personal property in the Hawaiian Islands. Their land tenure under the Great Māhele had been short, indeed.

Miriam Likelike and Archibald Cleghorn. The connection of the family with Ka'awaloa did not end with the sale of the ahupua'a to John Paris in 1859. Princess Miriam Likelike, the daughter of Kapaakea and Keohokalole, was named an heir of Awahua, the konohiki of Ka'awaloa. Along with Awahua's wife Makue, Princess Miriam inherited LCA 2862 in [2.8] neighboring Keōpuka. It was probably through a trade with Makue that in 1869 Likelike became the owner of Awahua's two apanas at Ka'awaloa, as well as that of Ioba. She also became the owner of Nahaku's kuleana.

Miriam Likelike was raised on the Island of Hawai'i. In 1870, she married Archibald Cleghorn, a prosperous Honolulu merchant who did business throughout the Hawaiian chain. At Ka'awaloa, the Cleghorns deeded a prime portion of their waterfront property, about 5,707square feet, to the British consul Mr. James H. Wodehouse. On this property was erected Ka'awaloa's most famous landmark, the Cook Monument. It was completed at this location in 1874. Behind the monument, Cleghorn built a wooden bungalow. Living as they did in Waikīkī, the Cleghorns may have used this as an occasional summer or weekend retreat. Cleghorn had coffee interest in South Kona, for which he may have come to the region.

Likelike died in 1887 and their daughter Kaiulani did not live to adulthood. Cleghorn leased several parcels they owned at the shore (LCAs 9444, 6750 and 9446), equaling about one acre, to John Paris, Jr. in 1899 for fifteen years [2.9].

Awahua was the konohiki of Keohokalole in Ka'awaloa village. Awahua made five claims at the time of the Great Māhele, compared to the one or two made by most claimants. This and his residence in close proximity to the chief's house on the seashore demonstrate his significance. Awahua was married to a notorious lady of the village, Heneriata Makue. Cochran Forbes referred to her as a "noted prostitute" who was well behaved in the days when Kapi'olani lived there, but who subsequently entertained foreign sailors in her house and who generally spread just the kind of wickedness that the missionaries were attempting to eradicate from the village.

Makue (or Makui) is thought to be the daughter of Apau, one of Kapiʻolani's handniaidens. Apau had been a beautiful young girl growing up in Hilo when the chiefess spotted her, "adopted" her, and brought her to her residence in Kona. At Kaʻawaloa, Apau converted to Christianity and was married under protest to Kawika, the cook of the missionaries. Apau and Kawika had three children, Makue among them. When Apau ran away from her forced marriage, she left Makue in the care of the good Kapiʻolani.

At Kaʻawaloa, Awahua was awarded one kuleana consisting of two apanas and came into possession of two other kuleanas very soon after the Māhele. No deeds were found for these transactions so it is unknown whether Awahua or Makue inherited or bought these other lots. The lots in question are those of Ioba and Palahu [2.10]

The **Paris** family, especially John Paris, Sr., dominated the life of the ahupuaʻa from its purchase in 1859 to his death in 1892. His son, John Paris, Jr., retained much of his father's interests. John, Jr. and his sister Ella were followed by a succession of Paris descendants who continue to be a presence in Kaʻawaloa [2.12]…. Paris' purchases began with a small piece of land in 1853 from Keohokalole at Kuapehu, continued with the purchase of the entire ahupua'a in 1859 and culminated with the purchase in 1863 the neighboring ahupua'a, Kealakekua, from Stephen Atkins. He subsequently sold Kealakekua, the LCAs Kalaemano and Hanamua to John Logan. He received back the LCAs and half of the ahupuaʻa when Logan had difficulty paying the mortgage held by Paris [2.14]…. Paris built a residence at Kuapehu which he called Maunaʻalani or "Orange Hill…" he sold this to his son John, Jr….he built another residence on the site of Kapiʻolani's mauka house [2.14]....

In 1909, [John Jr.] bought the parcel deeded to James Paris by John Sr. This included the "stone house and 3 lots" rented to Jose Henriques since 1888 on the road to Kaʻawaloa Landing. In 1913, he bought back from Joseph Medeiros two parcels on both sides of the road to Nāpōʻopoʻo, adjacent to Kealakekua. Later that year, he sold the two parcels to Arthur L. Greenwell, son of Henry N. Greenwell.

John Paris, Jr. and his wife maintained a cottage on the flat, where Mrs. Paris brought her grandchildren in the summertime. It is not known which house this was - perhaps the Cleghorn house or the old Barrett Hotel which Paris had briefly owned. Their grandson William Paris, Jr. reported that when they were growing up, they spent interludes at the shore in the dry season, in order to conserve water up above [2.16].

John Paris, Sr.'s daughter Ella inherited her parents' last home, built on the site of Kapiʻolani's mauka house. She ran a boarding house there, sometimes referred to as the "Paris Hotel…." Governor Walter Frear had appointed her a member of the Hawaiʻi Board of Missions, School Agent and later School Commissioner. She was also a noted translator of hymns into the Hawaiian language. Small portions of Ella's land had passed into the hands of the Captain Cook Coffee Company and others, but the bulk of it was inherited by her niece Mae Paris Smith in 1939.

John Paris, Jr.'s heirs were his children John, James, William, Ethel, Samuel Alexander, and Mae Paris Smith. His land was managed by a trust until his wife's death in 1938, at which time the property was to be divided equally among them. His heirs agreed to their own distribution of the land. Recipients of major Kaʻawaloa parcels were Mae Paris Smith, who acquired 120 acres above the pali, north of [2.17] Kaʻawaloa Road. Ethel was given the land south of the road; John III, much of the land between the two government roads; and William, the "tryangle" [sic] at the intersection of those roads and the family homestead at Maunaʻalani. This generation of the family, notably John III and William Paris, no longer lived at Kaʻawaloa. In 1940, both gave Kealakekua as their residence. William, in fact "controlled the whole village (of Kainaliu) until 1938." His daughter Margaret Schattauer inherited Maunaʻalani.

Hannah Johnson Paris and her sister **Carrie Johnson Robinson** were members of a distinguished Kona family. Their ancestors included Isaac Davis, an advisor to King Kamehameha; one of South Kona's chiefs; and William Johnson, a major Kona landowner. Carrie Robinson was dedicated to keeping the family lands intact. She became a presence in Kaʻawaloa in the 1920s through her purchase of Awahua's original LCA and the Hatcher Lot. In 1910, she was listed as a "rancher" with a residence in Kainaliu..." Without children of her own, Carrie left her numerous properties, including those at Kaʻawaloa Flat, to the children of her sisters Hannah Paris and Mary Shipman [2.18].

Daniel Barrett. Members of the Barrett family owned parcels at Kaʻawaloa Flat from 1862 until the end of the century…. The first member of the family there was Daniel Barrett, a British ship's carpenter whom Rev. Paris described as a "gypsy from old England (who) had been left on the Islands sick." As early as 1835, he was a resident of the neighboring ahupuaʻa of Onouli. After Barrett regained his health, he took in a variety of sick seamen and nursed them back to health…. Barrett married a Hawaiian woman named Keoholua. He had one known son, Moses, born in 1842.

At the time of the Māhele, Barrett sought to claim the lot Awili, which he said Kapiolani had given him in exchange for services rendered. However, the lot was awarded to Keohokalole. Barrett's attempt to gain land near seaside succeeded in 1862 when he bought the lot of Maka…one of the smallest LCAs in the village…on Kaʻawaloa Road. That would have been a convenient location from which Barrett could conduct his wood-supplying business for the weekly steamer that stopped at Kaʻawaloa in the 1860s. Complaints to the Minister of the Interior stated that Barrett's wood hauling severely [2.20] damaged the road…. By 1880, Daniel was listed in Bowser's Directory as a "coffee planter." On his death in 1893 the age of 90, his lots went to Stephen S.M. Barrett, presumably his grandson.

Moses Barrett. The only known son of Daniel Barrett, Moses Barrett was a "grazier" at Keekee in 1880. He owned two lots at Kaʻawaloa Flat--Hanamua and Halehuki--which he bought from John D. Paris in 1875. He established an enterprise there known as the Barrett Hotel. Moses and his wife came down to the hotel periodically when there were guests. The hotel would seem to have been in operation until Barrett's death in 1894. At various times, Moses was also Commissioner of Fences for North and South Kona, South Kona Road Supervisor, and overseerer of the Kaʻawaloa Royal Burial Grounds in the cliff above the village. It was at his house in Keōpuka that the Boundary Commission met in 1872 to determine the line between Kealakekua and Kaʻawaloa.

He was also reportedly an "agent" for King David Kalākaua. John Paris, Sr. sent a letter to Moses on December 11, 1885, "in reply to your inquiry and application in behalf of His Majesty Rex Kalakaua." Paris offered to [2.22] sell the King the ahupuaʻa of Kaʻawaloa for $10,000 in gold…. His obituary in 1894 described Moses as a "well-known character," of about 50 years of age. On his death, Halehuki and Hanamua were assigned, in undivided half-interests, to his widow Julia K. Barrett and to Sarah Barrett, presumed to be his daughter. Julia transferred ownership of her parcels to Julia Kupehea (Kupihea) and Martha H. Dowsett. Neither of these women carried the Barrett name. They are thought to be her daughters by a prior marriage [3.23]….

Peter Whitmarsh. The Whitmarsh connection to Kaʻawaloa began in 1889, when Peter Whitmarsh bought Kaʻawaloa Flat, Kalaemano, and ʻĀwili from John Paris and his son. The connection continued until 1959…. Peter Whitmarsh Keka was a carpenter's apprentice in Kainaliu…. He was the adopted son of William Whitmarsh, described…as a boot and shoe maker and a landowner in Kainaliu in 1880. William sometimes went by the alias Peter Pendegass. He conveyed 172 acres at Hokukano to his son Peter in 1879. At Peter's death in 1902, his widow Kamaka and Joseph, his seventeen-year-old son by an earlier marriage, jointly held the Kaʻawaloa properties. In a settlement of the inheritance, Kamaka handed over to Joseph her dower rights to these. Joseph subsequently married Hannah Spencer. Hannah came from a well-known Kona family. Her great-great-grandfather Samuel Rice was a blacksmith for Kamehameha I and her great-grandfather was Charles Hall, a prominent Kona businessman. Both she and Joseph worked for Hawaii Telephone Company in Kealakekua…. He later worked as a county road supervisor.

Neither Joseph nor Hannah, who later became their sole owner, had an easy time managing their assets. After selling off various parcels of the flat land, Joseph was forced by the High Sheriff to sell his remaining interests [2.25] at the flat in 1913 and 1914. The flat land and two apanas were awarded to James Ako of Kailua. Six months after acquiring them, Ako sold these parcels to Elmer E. Conant, manager of the West Hawaii Railroad Company who had bought and leased the east side of the flat land. Conant held a mortgage on another piece of Whitmarsh land in Hokukano. Conant soon sold back the Ka'awaloa properties to Hannah Whitmarsh. Hannah took out a mortgage from the First Bank of Hilo and leased everything except Kalaemano to J. D. Paris, Jr. Again, however, the Whitmarsh's ownership was challenged. The territorial government, through the 1928 decision in Land Court Case 736, repossessed the flat land outside the kuleanas in Ka'awaloa. The government successfully maintained that Rev. Paris had not held title to the flat land at the time that Peter Whitmarsh purchased it. Hannah retained title to Kalaemano and Awili until 1953, at which time she turned them over to her daughter, Mrs. Lucy M.L. Ako. Lucy and her husband Herbert Ako sold them in 1959 to local rancher Frank Henriques [2.28].

Greenwell. Among other land purchases, Henry [Nicholas Greenwell] bought a portion of Kealakekua ahupua'a from John Paris, Jr. in 1880. The Greenwell acquisitions in Ka'awaloa began in 1901 with Mrs. Elizabeth C. Greenwell, his widow. She bought Daniel Barrett's Maka lot at the flat. Her son Arthur bought land above the pali from John Paris, Jr. in 1913. About 1929, members of the Greenwell family, including their in-law Fred Richards, decided to resume shipping cattle from Ka'awaloa Flat. The wharf had been abandoned about 1913, but they were ready to experiment with a new method, a cattle chute. Maud Greenwell, the wife of Henry's son William, purchased five of the seaside lots belonging to Japanese owners, after "much trouble" finding them in Japan. She bought Halehuki, Hanamua, Nahaku, Apana, and Western Ioba. Henry N. Greenwell Ranch and Arthur Greenwell Ranch shipped from Ka'awaloa's shore from 1931 until 1941. A more recent Greenwell acquisition in Ka'awaloa was the property above Mamalahoa Highway, which was initially sold to Manuel de Gouveia by John Paris, Sr. [2.29].

Kaneao. Several Hawaiian or part-Hawaiian families were said to be living at Ka'awaloa Flat in the early twentieth century. The only family that can be named with certainty is that of Henry Lanui Kaneao. The family was sometimes referred to as the Lanui family and the name was spelled in several different ways. Henry's father was reportedly a full-blooded Hawaiian, but his mother's ethnicity was not ascertained. Theirs was the last known family to live on the flat. Henry Lanui Kaneao was listed…in 1910 as a fisherman in Keei. However, three other Kaneaos - George, Kele, and Manolau - all gave Ka'awaloa as their address in that year. Kele Kaneao, a fisherman whose exact relationship to Lanui has not been ascertained, had bought a portion of Joseph Whitmarsh's land at Ka'awaloa Flat. Thomas Barrett was married at one time to Hannah Kaneao, Henry's sister. Henry raised his niece, Barrett's daughter Victoria, as his own at Ka'awaloa. Mrs. Whitmarsh was also said to have been a relative of the Kaneaos. Henry Lanui's family is variously reported to have lived at Awili in the Barrett Hotel and "in Lepeamoa by the [2.31] monument…. about 2 or 3 blocks away from it." The family lived at Ka'awaloa until about 1940. The Kaneao children attended school at Konawaena several miles inland. They climbed the mountain side every school day, using Ka'awaloa Road. Victoria Barrett said that "sometimes we'd ride the donkey to the gate (at government road) and leave it there for the return trip." Henry Lanui Kaneao made a living by fishing, and the family had extra income by tending the Captain Cook monument. They also made a dry dock at the base of the pali.

The **Leslie** Family. Henry Kaneao's daughter Mary married Henry Leslie, Jr. of Nāpō'opo'o. In 1872, Henry Leslie's maternal grandfather John Gasper had built the first coffee mill in Kona at Nāpō'opo'o. Various members of the Leslie family tended the Cook Monument at Ka'awaloa and, on occasion, the beacon light [2.33].

Ka'awaloa Missionaries. Missionaries Stationed at Ka'awaloa and Kealakekua by the American Board of Commissioners for Foreign Missions 1824-1869 [3.3].

James Ely	1824-1828
Samuel Ruggles	1828-1832
Cochran Forbes	1832-1845
William Van Duzee	1837-1838
Mark Ives	1839-1848
John Pogue	1848-1848
John D. Paris	1852-1869

Trails. Ka'awaloa's connection to the outside world had not been limited to its shore landings. From early times, two trails led there, one crossing over the pali from Kekua and the other connecting it to Keauhou and Kailua. The name Kealakekua means, in Hawaiian, "the way of the gods" or "the road of the Gods." The name is said to derive from the path linking the two villages on the bay, Kekua (Nāpō'opo'o) and Ka'awaloa. (Figure 2) According to Albert Baker, it was "an old trail up which an idol used be carried in the regular processions to Ka'awaloa." Russell Apple, who sketched several maps of the area based on his intene research of its trails, shows this trail in use in 1750.

The second trail to the outside world was a seaside route from Ka'awaloa to Keawekaheka. Originally a footpath and later upgraded for horses, the road subsequently fell into disuse. It does not appear in Apple's map of Ka'awaloa for 1875. However, it is probably the trail used and mentioned by the early Christian missionaries. Some of them preferred it to its alternative, a pre-dawn canoe ride, when traveling between their two mission stations in Kona. Rev. William Ellis in 1822 wrote about using a "rugged road" to get Ka'awaloa, along which he had counted nineteen heiaus.

A third significant trail called Umi's Road, while not connected to the village itself, formed part of the boundary [3.33] of Ka'awaloa ahupua'a. Umi was a sixteenth century Hawaiian chief. According to Baker, he "built a road from this place (20 miles inland from Kealakekua) to Ka'u and in South Kona, on the flow which comes down just north of Miss Paris' home on the site of Kapiolani's stone house, and about a dozen miles above."

Roads. Several important roads linked Ka'awaloa Flat to the outside world in the nineteenth century. The first and most important of these was Ka'awaloa Road, which is discussed in a later section. A second road, built by Governor John Adams Kuakini in 1836, was described by Baker as the "ancient trail to Kailua, built by Kuakini…bordered by the smooth steppingstones of a still older trail." Both roads were clearly visible in drawing and engraving done from across the bay about 1840.

The editor of the Sandwich Island Gazette noted on September 10, 1836 that "an excellent road…has been constructed by the indefatigable Governor John Adams Kuakini, at great expense of labor." The editor said that the road leading from Kailua was sixty to seventy miles long, although he neglected to note through which villages it passed. It is probably the new road from Ka'awaloa to Kailua described by Barrot in 1836 as "almost finished." Apple classified this as a "C" trail, a refined horse trail. The road avoided the seashore in favor of a straighter route to Kailua. It corresponds to today's jeep trail from Ka'awaloa, one that appears on current maps as a "cart road." It has been called by some the "King's [3.34] Trail," but Apple denies that it bears any relationship to an actual king.

Government Road. A third road was built above the pali by later governors. Acting Governor of Hawai'i George Kapeau wrote to the Minister of the Interior on June 26, 1847 about "the highways to be built from Kailua to Ka'awaloa, and from Kailua to Ooma." In another letter, he noted that "the roads from Kailua and down the pali of Kealakekua. . . are now being surveyed." This is no doubt the road of which Russell Apple says, "Sometime early in the period 1840-1918, a road was

built from Kuapehu to Kailua…. All that is known of the route is that the starting place was the Paris' house at Kuapehu and the destination the former Thurston home in Kailua." Work on the road was performed in the late 1850s. Road Supervisor J. E. Taylor reported on February 5, 1858 that "the road leading from Kealakekua to Kawaihae… has received most of the work done this year."

Shortly after, a petition to the Interior Minister described it as "running from the main road leading through Kona to the beach (Keauhou) and terminating at Cook's point on Kaʻawaloa." This same petition for "improving the road which had been laid" was signed by 36 Kona residents, led by H. N. Greenwell. In 1862, the road was mentioned in a letter of H. L. Sheldon to the Minister of the Interior in which he states that, "There is now a good cart road from the beach at Keauhou to the Kaʻawaloa road." This is the road which [3.35] appears in current maps as the "Old Government Road." It was usually described in Interior Ministry accounts as the "Road from Kealakekua Pali….."

Upper Kaʻawaloa was connected to Kaʻū about this same time. T. H. Paris, brother of John D. Paris, was the South Kona Road Supervisor in 1858. He reported that, "I have been opening up a new road, or rather an old road that has been closed for 15 or 20 years past--which is the only practable rout (sic) to Kau." It linked up with Kaʻawaloa Road and the road to Kailua to become the "main road from Kawaihae to Kaʻu."

Kaʻawaloa Road. Chief Naihe and Chiefess Kapiʻolani built the first major road, and for many years the most important one, in Kaʻawaloa. The story of its construction is an interesting one. It began with the passage of a law punishing persons who broke the new Christian marriage laws. Impugning the [3.36] motives of the Protestant missionaries, a French visitor to Kaʻawaloa in 1836 explained the road's construction:

> The road is due to the missionaries, who resorted to a singular expedient to accomplish the object. They caused a law to be enacted, by which every person, man or woman, convicted of adultery, should pay a fine of fifteen dollars (75 francs), or in case of non-payment, should labor on the road four months. The plan of the missionaries has been so much encouraged by the people, that this road was completed in less than two years, and that another road from Kaʻawaloa to Kailua (Apple's "C" trail) is almost finished.

The missionary James Ely, who lived at Kaʻawaloa, put the matter in another perspective by explaining that "The rulers of this district have declared that, in the future, marriages shall not be accounted valid, unless solemnized by a minister of the Gospel. Offenders are punished by being made to work on a public road."

Building of the road would have begun about 1827. The marriage law in question was the Chief's Proclamation of October 7, 1829. But James Ely reported as early as November 5, 1827, that "Naihe ordered them [the people] to labor on the public road…if they don't get married legally."

Cochran Forbes said that although the road wound around the cliff, it was still very steep, "too steep for a horse to draw a cart up." Help for travelers was provided, however, in periodic "rani [ranai] as they call them, a temporary shed erected for a resting place which we found very desirable indeed. There are three of these stopping places on the way up….." [3.37]

In 1895, the Interior Minister reported that, "In South Kona a new road was laid out by Mr. Bruner to connect with the upper road…. The road was begun at the junction with the upper road, and by March 31st will probably be completed to Nāpōʻopoʻo. The new road to Nāpōʻopoʻo, combined with a new wharf under construction there, completed the bypassing of Kaʻawaloa. The abandonment of Kaʻawaloa Road and then of Kaʻawaloa's wharf assured its isolation [3.40].

Once the home of the island's chiefs, by 1848 Kaʻawaloa was politically a backwater. The island's governors now lived at Kailua. After the establishment of Honolulu as the capital of the Hawaiian Kingdom, the chiefs rarely met on the other islands. Chiefess Keohokalole is not thought to have lived at Kaʻawaloa. Its only significance resided above in the caves of the pali, Ka Pali Kapu O Keōua. The pali took its name from the eighteenth century chief Keōua Kalanikupuapaikalaninui [father of Kamehameha I (Kamakau 1992:489)] whose bones were deposited there. The area's increasing isolation recommended it as a safe repository for the remains of ancient chiefs. A major transfer of bones was made to Ka Pall Kapu O Keōua about 1829 by Chiefess Kapiolani and Queen Kaʻahumanu. Both converts to Christianity, they removed the bones of almost two dozen chiefs from their resting places at Hale O Keawe at Hōnaunau and Hale O Līloa in Waipiʻo. They did this to prevent the worship of the bones by chiefs who were [4.10] resisting the new foreign influences. These bones stayed in coffins in the caves at Kaʻawaloa until they were moved in 1858 at the order of King Kamehameha IV. They probably rested at Pohukaina, the Royal Tomb on King Street in Oʻahu until, in 1865, the bones were finally laid to rest in the Royal Mausoleum of Hawaiʻi in Nuʻuanu. Deprived of their special wards but containing other sacred bones, the caves continued to be guarded at the government expense of $20 per month. Two such guardians, supervised by the Minister of the Interior, were S. Makue and Moses Barrett. Their title was "Overseerer and Keeper of the Royal Burial Grounds at Kaʻawaloa" [4.11].

In 1890, there was only one inhabited house at Kaʻawaloa. According to Robert Barnfield, the Mokepuhi family lived there in a native grass [house] wherein live thirteen people men women and children. . .The old woman professed to be a kahuna. . .Barrett was under her treatment for some complaint [4.16]. Of the Mokepuhi family he said further, "these are quiet enough people--their days spent in fishing and their nights--half of the night anyhow--in dancing the hula."

The family may have been renting the house from Peter Whitmarsh, who had recently bought much of the flat land from John D. Paris. When Paris had tried unsuccessfully to sell this area several years before to King Kalakaua, he enumerated its dwellings and included "grass house ceiled with boards on the seashore, in Awili." As late as 1910, Husted's Directory listed a fisherman named Moki Puhi living at Kaʻawaloa…..[4.17]

It was at the site of Kapiolani's house that Paris was living in 1890. He had sold Mauna'alani to son John in 1881 when he moved to Honolulu. Now back in Kona because of his wife's knee injury, he razed Kapiolani's old stone house and rebuilt a new home on its foundations. Never one to sit idle for long, he soon after opened a boy's boarding school on the premises….[4.18]

A monument for Captain Cook had only recently been built on the LCA Awahua, on land donated by Princess Likelike. It was the destination of an endless round of resident and foreign visitors, not the least of which were King David Kalākaua and Queen Lili'uokalani…. [4.18] [King Kalākaua and party…visit took place in February 1888, according to Feher, Pictorial, p. 324. Queen Liliʻuokalani's visit was described by Barnfield in his Diary, May 21, 1891. The queen's party arrived about 10 A.M. and left before 1 P.M (4.18)]

[Major land owners in Kaʻawaloa in 1920 were Hannah Whitmarsh and John Paris Jr. (4.21 & 4.23)] The third major landowner at Kaʻawaloa in 1920 was West Hawaii Railroad Company. The company was owned by Kona [4.23] Development Corporation which intended to use Kaʻawaloa as a ship-loading point for their Kona sugar production. In 1908 and 1909, West Hawaii Railroad Company's President James Castle had bought up the land and leases on the eastern half of the flat, with trifling exceptions. His purchases included Halehuki and Nahaku, which he acquired from Martha Dowsett and Archibald Cleghorn respectively; and Hanamua and Apana from John Paris, Jr. The leases were on Awahua and the western portion of loba, which Paris leased from Cleghorn. From J. Whitmarsh, Castle bought the 10.51 acres of 9lat land east of the road that was not in kuleanas. The only lots which he did not secure were the Hatcher Lot, belonging to Bishop Estate, Palau, Palahu and Naahu. Upon buying up the Kaʻawaloa properties, Castle conveyed them directly to West Hawaiian Railroad.[The railroad only went as far as Onouli due to financial problems…. (4.24)]

Mrs. E. C. Greenwell, widow of the former Postmaster of Kealakekua. She bought Daniel Barrett's Maka lot in 1901. Her son Arthur bought land above from John Paris, Jr. in 1913….. A second small landowner was C. Akui. The operator of a general merchandise store in Nāpōʻopoʻo, he is the first Chinese to be noted at Kaʻawaloa. He bought Palau's lot in 1911 and put it in the name of Shu Ching Akui in 1915. The Akui family thus began a long association with Kaʻawaloa.[4.24]

By 1920, coffee had taken over as the premier crop of South Kona, dwarfing pineapple, tobacco, and sugar cane production. The lands above the pali at Kaʻawaloa were at the center of this development. Coffee production in South Kona began on a large scale at the Kealakekua Coffee Plantation owned by Robert Wallace. Wallace reportedly began his ventures on one hundred acres of 91, and formerly belonging to William W. Bruner in Kealakekua. As early 1898, Wallace was listed in Husted's as a coffee planter, and from 19 to 1903, he served as manager of R. R. Hind in Kealakekua. William Bruner, the government engineer for the Island of Hawaiʻi, "played a large role in the development of South Kona." Added to his government job was that of coffee planter, beginning about 1898, and mill owner by 1900. From 1903 to 1904, he seems to have dropped these interests to serve as president of Hawaiian Carriage Manufacturing Company. The next year he was back in the agricultural business, this time as a "coffee and pineapple planter," latter going by the name Captain Cook Fruit Company. Bruner was also the manager, probably the owner, of the Canning Company, a pineapple cannery in Nāpōʻopoʻo [4.25].

From John Paris, Jr., Hala Canning purchased land on the pali ridge in Kaʻawaloa in 1909. In 1907-08, Captain Cook Fruit Company produced about 5,000 cases of canned pineapple, a small amount by industry standards. The company was in operation into the 1920s [4.26]. [1922 last mentioned in Polk-Husted Directory, p. 1023 (4.26)].

Wallace, Bruner, and Hind operated large plantations on leased and private lands. They were the more prominent South Kona planters in this era. Initially, they employed Chinese, then Portuguese, and later Japanese laborers leaving the sugar plantations. However, the vagaries of the market led them to divide up the large acreage and sublet the land to individual farmers. The Japanese especially were to "love the freedom of being coffee farmers in Kona." Many of them stayed on for decades through the ups-and-downs in the market [4.28] upper Kaʻawaloa now called the Village of Captain Cook from company name Captain Cook Coffee Company….

Although Nāpōʻopoʻo was not mentioned in this account, ranchers regularly used its sometimes perilous beach for loading cattle unto Honolulu-bound ships. Major shippers from this port included John Paris, Jr., Henry N. Greenwell Estate (managed by his oldest son, William), Arthur L. Greenwell Ranch (later Kealakekua Ranch), and the McCandlesses. In 1902, Thrum listed the Greenwells and Paris as among the twelve principal stock and sheep ranchers on the island of Hawaiʻi… [4.29].

Nāpōʻopoʻo. That village had recently burgeoned, with the estab1ment of the Hackfeld & Company general merchandise store. At the same time, the village could boast of two churches (Kahikolu Protestant and St. Joseph's Catholic), two coffee mills (belonging to Hackfeld and Captain Cook Coffee Company), a pineapple cannery (Captain Cook Fruit Company), and a public school. By 1920, Hackfeld's had been bought by American Factors, which maintained the store among the several other general merchandise outlets in Nāpōʻopoʻo. The post office was located in the American Factors (now known as Amfac) store. A new concrete pier and access road also made the village flourish [4.30].

Husted's Directory for 1910 listed many Hawaiian names in the [Kaʻawaloa] ahupuaʻa, although it did not specify whether they were living on the flat or above the pali. Those named as fishermen included Kanakaole Keliikipi, Kalani Kalele, Paalua P. Kaleikou, George Kamala, and Kuinuku Kauhi [4.31].

The Hawaiian teacher and composer who lived at Nāpōʻopoʻo [4.31] Zero P. Kalokuokamaile, was listed at Kaʻawaloa in the same directory. Named as a taro planter was Aben Kukui. None of these men was similarly listed in 1920 [4.32].

Kona. As early as 1900, the Japanese formed 27.7% of its population and the Chinese 7.4%. Fewer than one half the people in Kona were full-blooded Hawaiians, so Kaʻawaloa's mixed population was a microcosm of the larger district's. [4.32]

In 1940 coffee was the seventh largest industry in the Territory. A decade earlier, coffee had made the "most prosperous district in the Hawaiian Islands" [4.37]

By 1940, Japanese formed a majority of the population while Filipinos were close to 10%. Native Hawaiians and part-Hawaiians made up only a quarter of the population [4.38]

World War II brought an end to the human occupation of Kaʻawaloa Flat. After the attack on Pearl Harbor, a Japanese invasion of Hawaiʻi seemed imminent. To secure the shore against an enemy assault, U.S. military authorities forced the evacuation of the flat and tore down the remaining buildings, including the Barrett Hotel. No one was allowed to live or visit here. An artillery defense system was installed "mauka." These military precautions were lifted in 1943.

In the ensuing years, an abandoned Kaʻawaloa Flat played host to Hollywood movies, hippie squatters, and tour boat patrons. Plans were being formulated for a marina and restaurant in the 1970s, before the state acquired the land for the Kealakekua Bay State Historical Park [4.40].

The day after granting the right of way, Paris sold the property [upper Kaʻawaloa] itself to the Hala Canning Company. This company, owned by John Hind, had a pineapple cannery in Nāpōʻopoʻo. Pineapple was planted above the pali and processed at the nearby cannery. Never a major producer of canned pineapple, the company was affiliated with Hind's other venture, the Captain Cook Coffee Company, and eventually phased out its pineapple business [5.32]. The heirs of both Mae Smith and Ethel Paris are currently in possession of most of this land, although some of it has been subdivided for sale. A total of 88.833 acres of Ethel's property, the area bordering the pali, was condemned in 1981 by the State of Hawaiʻi for its Kealakekua Bay State Historical Park [5.33].

Smith, Marc B. (1991) "Historical Overview: Kealakekua Bay State Historical Park and the Surrounding Area South Kona, Island of Hawai'i"

This history is recorded in legends, Hawaiian genealogies, government documents, letters, news clippings, anecdotes, oral histories, drawings, photographs, and maps. This historical overview begins in 1786, seven years after Capt. Cook's death at Kealakekua Bay in January 1779. Cook's visit to Hawai'i and descriptions of its people and culture at that time, have been adequately reviewed by Beaglehole (cf. 1967, 1974). Foreigners reappeared in Kealakekua Bay in 1786. What started as occasional visits by western traders soon became a flood of western goods, attitudes and beliefs [1].

The Multi-Cultural Center contracted with the Division of State Parks in August 1977 to collect oral histories from residents of Kealakekua Bay. L. Kimura interviewed fourteen individuals, all current or past residents of the area. Tapes and transcripts of the interviews were deposited at the Division of State Parks in March 1978. Additional oral histories were recorded in 1980 by the Ethnic Studies Program, University of Hawaiʻi. Focused in the area of Kona, several of the 26 individuals interviewed live in the immediate area of Kealakekua Bay. Transcripts of these interviews are published by the Ethnic Studies Program, University of Hawaiʻi (Hawaiʻi, University of Hawaiʻi - Manoa, 1981) [4-5].

[NOTE: This report contains a tremendous amount of information of the area]

Walker, Alan, Lehua Kalima & Susan Goodfellow (1991) "Archaeological Inventory Survey Kealakekua Ranch Development - Ka'awaloa Parcel Archaeological Inventory Survey Kealakekua Ranch Development -Ka'awaloa Parcel (TMK:3-8-1-10:Por.2)"

Forty-four sites (consisting of 85 component features) were identified during the survey. The sites included 34 single and ten multiple component sites.

Of the 44 sites identified, 36 (81.8%) are assessed as significant solely for scientific information content. Further data collection is recommended for 27 of the 36 sites. Alter further data collection is completed, if further work is warranted, a data recovery plan for the work should he prepared and implemented for sites not recommended for preservation or interpretation. No further work is recommended for the remaining nine of the 36 sites. Data collected from them during the present survey is considered sufficient; their preservation is not essential, although sortie sites could perhaps be considered for inclusion into development landscaping. Of the remaining eight sites (18.2%), five are assessed as significant for scientific information content, are excellent examples of a site type, and are culturally significant. For these use sites (Sites 14176, 14177, 14180, 14186, and 14154), further data collection followed by preservation with some 1evel of interpretive development is recommended. One of the five sites contains a burial feature (Site 14180. Feature E). It is recommended that this feature be preserved "as is" and not be interpreted or displayed. Two of the eight sites (Sites 14185 and 14192) are assessed as significant for scientific information content and are culturally significant. For these two sites, further data collection is recommended. Because the two sites contain burials, following further data collection, preservation "as is" is recommended. The final site (Site 14755) is assessed as significant for information content and is tentatively evaluated as culturally significant. For this site, further data collection is recommended, and preservation "as is" is tentatively recommended, pending further data collection results. This site may contain a burial [ii].

The Kealakekua Ranch Development. Ka'awaloa Parcel project area is situated inland of a steep cliff known as Pali Kapu O Keōua; this cliff overlooks Kealakekua Bay and Kalaemamo. The project area is bounded on the south by the Land of Kealakekua, (the boundary is marked by an old stone wall), on the north by the Land of Keōpuka, and to the east and west by lands within Ka'awaloa [2].

The entire project area is within the boundaries of the Kona Field System and the Kealakekua Bay Historic District Previously declared eligible for inclusion on the NRHP (National Register of Historic Places), the Kona Field System (Site 6601) is a complex of aboriginal Hawaiian dryland cultivation and habitation features which covers an area approximately 3 by 18 miles, extending from the Kailua area south to Ho'okena. The Kealakekua Bay Historical District (Site 7000) is an extremely important historical district that was placed on the NRHP in December of 1973 [2].

Based on the above criteria, the most likely age ranges (or the two samples are as follows: 1380-1510 A.D. for sample RC793 and l470-l680 AD for sample RC-798. The two age ranges suggest that the project area was occupied as early as 1380 AD at Site 14158 and 1470 AD at Site 14192 [22].

Based on a series of radiocarbon and volcanic glass dates, initial occupation of the general Kailua Area is hypothesized to have occurred sometime during the period AD 1050-1400 (Phase I), with dryland agricultural development becoming established by AD 1400-1600/1650 (Phase II). However, two radiocarbon dates presented in Landrum et al. (1990) have indicated that initial occupation in the seaward portion of Puapuaa ahupua'a land probably the general Kailua area) may have occurred as early as AD 600-890 (Landrum et al 1990). Dates recorded in the Kahalu'u area indicate that cultivation and exploitation of other portions of the Kona Field System were occurring by AD 1420-1660 (Shun and Walker 1984). By AD 1600/1650-1779 (Phase III), the Kona Field System in the Kailua-Keauhou area had undergone extensive development and was under intensive use until cultivation of fields eventually began declining during the historic period AD 1779-1850

(Phase IV). The most probable date ranges selected from radiometric samples recovered during the present project (AD 1380-1680) generally correspond with the Phase II exploitation and habitation period [30].

Yent, Martha (1993) "Restoration Plan Hikiau Heiau Kealakekua Bay State Historical Park Nāpō'opo'o, Kealakekua, South Kona, Island of Hawai'i"

Hikiau Heiau is a large, raised, rectangular platform constructed of rounded and subangular basalt boulders. The platform is built above the existing ground surface on all four sides. The platform currently measures 170'/52m along the south wall, 160'/49m along the north wall, 110'/34m along the east wall, and 100'/30m along the west wall. The area of the platform is approximately 17,600 sq. feet. The vertical to slightly slanted walls of the platform vary from 3'/l00cm along the east wall and 4'/l30cm along the south wall to approximately 13'/4m along the north wall. Features associated with the heiau platform include: a paved terrace…a raised, 2-stepped platform (altar)…a walled enclosure [1].

The Hikiau Complex (Site No. 50-10-47-1963) consists of Hikiau Heiau, Helehelekalani Heiau, the Great Wall that defines the mauka boundary of the priestly compound, the brackish pond to the north of Hikiau, and the house platform of Hewahewa, high priest to Kamehameha I. Hikiau Heiau was the religious center for the chiefly complex at Kealakekua and Ka'awaloa. The annual tour of the island associated with the Makahiki season began and ended at Hikiau Heiau. During this 4 month period, the god Lono returned, bringing rain and fertility to the land. A complex of religious ceremonies was conducted at Hikiau Heiau in conjunction with the Makahiki season. At the end of the Makahiki Season, Lono would leave and the god Ku would return [4].

The goal of restoration is to stabilize and restore a structure to its condition prior to collapse, damage, or deterioration while maintaining the historical character and integrity of the structure. At Hikiau Heiau, the major objective is to stabilize and restore the northwest corner of the platform which collapsed as a result of high surf in conjunction with Hurricane Iniki (September 11, 1992) [5].

The following is a brief overview of the activities that occurred at Hikiau Heiau during Cook's visit in 1779:

January 18 -	Observatory erected to the southwest of Hikiau Heiau with several tents erected atop the heiau platform.
January 28 -	Crewmember Watman dies and is buried in Hikiau Heiau.
February 2 -	Wooden railings removed from Hikiau Heiau for use as fuel aboard the ships.
February 3 -	The observatory is dismantled and taken aboard the ships. The ships leave Kealakekua Bay on February 4 but return on February11 after the mast of the Resolution breaks.
February 12 -	Observatory tents are set—up again at Hikiau Heiau.
February 14 -	Observatory is dismantled after altercations between Cook, his crew, and the Hawaiians. Cook killed at Ka'awaloa.
February 18 -	Shore party burns Kekua to the north of Hikiau Heiau. Ships leave Kealakekua Bay on February 22 [10].

Lisiansky was a Captain in the Russian Navy who visited Kealakekua Bay in June 1804. His description of Hikiau Heiau suggests that the heiau was in use but may have been in a deteriorated condition.

"This temple is merely a piece of ground, enclosed chiefly with wooden rails, but here and there with stones, and of the form of an oblong square, the extent of which is about fifty yards by thirty. On the side towards the mountains is a group of fifteen idols, which were wrapped in cloth from the waist downwards; and before them a platform, made of poles, is erected, called the place of sacrifice, on which we saw a roasted pig, and some plantains and cocoanuts. On the side to the right of the

group of fifteen, are two other statues; further on, on the same side, is an altar with three more; and on the opposite side another group of three, one of which is in a state great decay. On the side towards the sea stands a small cottage, which is also in a ruinous state." (Lisiansky, 1814:106) [13]

Previous Restoration Projects [1890, 1917, 1928, 1960, 1977, 1979] [36-42]

The damage to Hikiau Heiau as a result of Hurricane Iniki was limited to the collapse of the northwest corner of the stone platform and a section of the ramp along the west wall. The collapse of the corner affected an area measuring 3-4m (10-12') along the north wall, 9m (27') along the west wall, and to a depth of at least 3m (10') from the top of the platform. An accurate depth of collapse could not be determined because of the unstable nature of the corner. Based on these measurements, an estimated 100 cubic yards of fill was collapsed, removed, and/or re-deposited [44].

Roy, David K. Jr. (1994) "Ke Kapili Hou Restoration of Hikiau Heiau Kealakekua Bay State Historical Park Napo'opo'o, Kealakekua, Hawai'i" Prepared for DLNR-State Parks.

Mr. David Roy, Jr. was hired as a consultant for this project because of his previous experience with the 1979 restoration project at Hikiau Heiau and his knowledge of Hawaiian stonework and construction. The restoration project began on September 7, 1993 and was completed on October 22, 1993. The following report was submitted by Mr. Roy as a record of the work conducted to restore the disturbed corner of Hikiau Heiau [Pref].

William P. Halliday (1996) "Preliminary Considerations of Differentiation of Caves in Ka'awaloa Ahupuaa, Kealakekua Bay, Hawai'i County, Hawai'i"

Considering the innumerable published accounts of caves at Kealakekua Bay, in the Pali Kapu o Keōua, it is surprising how little is really known about them. The Hawai'i Speleological Survey has done no field work here and none is planned in the foreseeable future. Enlargement of the state park at Kealakekua Bay to include the cliff has been proposed, however, and for planning purposes, consideration of the caves, their features and contents needs to be clarified.

It appears that there are three caves and/or groups of caves on the cliff. In 1823, William Ellis visited a cave here in which the body of Captain Cook had been deposited after his murder on the beach nearby. In 1827 Ellis wrote that:

"In the afternoon Mr. Thurston and I climbed the rocks, which rise in a north—east direction from (the old village of Ka'awaloa), and visited the cave in which the body of Captain Cook was deposited, on being first taken from the beach. These rocks, which are entirely composed of lava, are nearly two hundred feet high, and in some parts very steep. A winding path of rather difficult ascent leads to the cave, which is situated on the face of the rocks, about half-way to the top. In front of it is a kind of ledge three or four feet wide, and immediately over it the rocks rise perpendicularly for a yard or two, but afterwards the ascent is gradual to the summit. The cave itself is of volcanic formation, and appears to have been one of those subterranean tunnels so numerous on the island... It is five feet high, and the entrance about eight or ten feet wide. The roof and sides within are of obsidian or hard vitreous lava; and along the floor it is evident that in
some remote period a stream of the same kind of lava has also flowed (lava) has probably flowed through the cavern in which Captain Cook's body was deposited, as traces of a stream of lava from thence to the plain below are very distinct" (Ellis, many editions).

Historically, it is not clear whether this was Hoaiku Cave (Cave of Chiefs Descended from Gods); it should be remembered that even after his death, some Hawaiians still believed Captain Cook to be the god Lono. From the mention of locally steep rocks nearly 200 feet high, it appears that this cave is west of the Pali Kapu O Keōua. Ellis continued:

"There are still a number of caves in the face of these rocks (at the head of the bay, in a landslip surface which Ellis identified as such) which are seldom resorted to for security in a time of danger, but used as places of sepulture. Several were barricaded, to prevent any but the proprietors entering them, or depositing bodies there. The natives pointed out one in which the remains of Keōua, uncle of (Kamehameha I), were laid."

From this account, it is clear that this is a group of caves entirely separate from Captain Cook's Body Cave. Inasmuch as this cliff is a landslip surface, the cross-sections of lava tube structure should be of unusual geologic interest; similar cross-sections at Whittington Beach, Hawai'i County and Makapu'u Point, Honolulu County have been depicted and described in the literature of planetary geology [1]

Two years after Ellis, Lord Byron followed him to Kealakekua Bay. In the manuscript diary of one of his companions published only in 1972 (Macrae, 1972) still other caves are described, just above water level just east of the small point, a short distance east of Captain Cook Monument. The more westerly contained numerous muskets from several countries, deteriorated from exposure to marine air and possibly from immersion in salt water. From Macrae's account these caves are not part of the burial cave group and clearly are not Captain Cook's Body Cave. Seemingly innumerable later accounts mention the burial caves. The only known published references to the musket caves and to Captain Cook's Body Cave are those cited above.

The burial caves themselves may exist in two groups. In 1958 (Krauss, 1958) a cave investigated by Kenneth Emory was said to be "another 150 feet up the sheer face of the cliff by rope," after a "climb up the slope of an old rock slide against the base of the cliffs." On the other hand, Albert Spake (Loucks, 1978) saw a ransacked burial place of royal chiefs "some 40 years earlier" and the empty brass coffin of Kalākaua's brother in a cave near the debris at the bottom of the cliff. A photo of part of the cliff containing burial caves appears in Grosvenor (1924) [2]

Belt-Collins Hawai'i (1997) "Kealakekua Bay State Historical Park Conceptual Plan." For DLNR

Kealakekua Bay State Historical Park and provides a guide for its future development. The plan was produced through a complex process which included community meetings, community inter views, historical research, on-site observations, general planning research, and physical design studies. Park planners from the Division of State Parks guided its overall development. This document first describes the park plan and its planning rationale. Each chapter which follows explains in detail the important issues which had an impact on plan development [1].

Robert Rechtman (1999) "Archaeological Inventory Survey of the Norrie Property South Kona, Island of Hawai`i (TMK: 3-8-1-10:por.:05)"

An archaeological inventory survey of a portion of TMK:3-8-1-l0:05 in the ahupua'a of Ka'awaloa, South Kona District, Island of Hawai'i. This work was undertaken in support of state permitting requirements for the residential use of Conservation District designated land. The landowner proposes to construct a single-family dwelling with an associated vehicle and utility access corridor. It is the landowner's intention to preserve any archaeological sites within the project area through avoidance if practical. Where it is determined impractical, data recovery will be proposed for significant sites. The project area is 225-265 meters (740-870 feet) above sea level, roughly 500 meters (1,640 feet) inland of the steep cliff known as Pali Kapu O Keōua that overlooks Kealakekua Bay. The project area is part of a larger area that had been previously inventoried by PHRI (Walker et al. 1991). Five sites were previously recorded in the project area, and six additional sites were identified during the current survey. Only two of these eleven sites will be impacted by the proposed development, and both are recommended for data recovery. The remaining nine sites will be avoided and thereby preserved for future investigation [ii].

The project area is within the boundaries of the Kona Field System (SIHP Site 6601) and the Kealakekua Bay Historical District (SIHP Site 7000). Determined eligible for listing on the National Register of Historic Places (NRHP), the Kona Field System is a complex of dryland agricultural and habitation features covering approximately 60 square miles minimally between Kailua-Kona and Ho`okena. Listed on the NRHP in 1973, the Kealakekua Bay Historical District, among other things, is noted as the location of the death of Captain James Cook in AD 1779 [1].

During early historic times the area above Pall Kapu O Keōua, above Kealakekua Bay, was noted for the presence of extensive agricultural fields (Ellis 1782, Ledyard 1863, Menzies 1920). Many different crops were observed in the patchwork of lava rock-bordered fields, including sweet potatoes, breadfruit trees, plantains, bananas, taro, ginger, sugarcane, and paper mulberry. It seems likely that these field supported chiefly interests as very few claims for Ka`awaloa land were filed during the Great Māhele. The ahupua'a was listed as government land, and a large grant of 2,100 acres, including the current project area, was awarded to Keohokalole, mother of King David Kalākaua. Two other Land Commission Awards (LCA) were made within Ka'awaloa, distant from the current project area: LCA 6750 to 'Awahua (the konohiki) and LCA 9446 to Mano'auwa'a. This suggests that any residential sites within the project area were of a temporary nature, occupied by individuals actively working the agricultural fields [4].

Yent, Martha (1999). "Archaeological Research Proposal: Replacement Restroom/Pavilion Nāpō'opo'o Section Kealakekua Bay State Historical Park South Kona, Island Of Hawai'i (TMK: 8-2-04:. 9)."

In 1992, jurisdiction of Kealakekua Bay Park at Nāpō'opo'o (Kealakekua) was transferred from the County of Hawai'i to the State of Hawai'i. Executive Order 3744 set aside the 3.24-acre parcel (TMK: 8-2-04: 9) for park purposes under the management of the Department of Land and Natural Resources, Division of State Parks and inclusion into Kealakekua Bay State Historical Park (SHP). When the park was transferred, State Parks requested State funds to relocate and upgrade the facilities within the park. This archaeological research proposal is being prepared in conjunction with plans to relocate and rebuild the existing restroom and pavilion structures in the former County park area. A similar project was proposed in 1988 and 1990 with archaeological testing conducted in 1988 to evaluate the research potential of the archaeological deposits within the project area. The project area in 1999 involves a new location for the facility, indicating the need for additional test units in the project area that will expand on the testing conducted in 1988. The archaeological research proposal outlines a testing strategy for this new project location [1].

Situated on the western flank of Mauna Loa, the lands of Kealakekua were formed by 'a'ā and pāhoehoe lava flows of recent geologic age. These flows are exposed along Pali Kapu o Keōua, a 600-foot high cliff and a scarp of the Kealakekua-Kaholo fault system. More recent flows have spread out at the base of the scarp and built the flats which enclose Kealakekua on the north (Ka'awaloa) and south (Nāpō'opo'o). The soil of Nāpō'opo'o is classified as part of the Kainaliu soil series (Sato et al. 1973). The soil has developed from volcanic ash on a moderate slope and is well drained. The soil is described as a very stoney clay loam. The vegetation in the Nāpō'opo'o Section of the park consists largely of exotic trees and shrubs associated with ranching, such as kiawe, opiurna, and koa haole (ekoa). A few scattered coconut trees remain on the rnakai side of the pond. The former County park area (parcel 9), is a landscaped area with a grassed lawn and plantings of plumeria, coconut, ti, and other ornamentals. Mauka of the improved park area, the vegetation is a similar mix of kiawe, opiuma, and koa haole [6].

Table 1. List of Archaeological Testings in Nāpō'opo'o Section, Kealakekua Bay SHP (23) [Not included here]

Belt Collins Hawai'i (2000) "Kealakekua Bay State Historical Park Phase One Development Plan" for Department of Land and Natural Resources.

The Phase One Development Plan presents a guide for the development of the Nāpō'opo'o section of Kealakekua Bay State Historical Park and describes interim actions needed to preserve resources throughout the park. Prior to implementing the Phase One Development Plan, an Environmental Assessment will be prepared and other actions will be taken to fulfill regulatory requirements.

The Phase One Development Plan was produced through a process that included community meetings, on-site observations, general research, and physical design studies. Park planners from the Division of State Parks guided its overall development. Two divisions of the state's Department of Land and Natural Resources (DLNR) - State Parks and Land Division - currently have jurisdiction over Kealakekua Bay State Historical Park, and State Parks has requested the Governors approval to set aside these lands for a historical park under the jurisdiction of the Division of State Parks.

This document is a refinement of the Kealakekua the Kealakekua Bay State Historical Park Conceptual Plan for Nāpō'opo'o. Although the Phase One Development Plan reproduces some information contained in the earlier document, it should be used in conjunction with the Conceptual Plan [1].

There are two segments of the Phase One Development Plan: (1) Nāpō'opo'o Development Plan and (2) Interim Management Plan. [2]

PARK MISSION
The plan for Kealakekua Bay State Historical Park is designed to fulfill a clearly defined park mission:

• preserve the park's historical sites and natural features for future generations;

• tell the story of Kealakekua Bay's role in the development of Hawai'i and its people; and

• accommodate recreational opportunities that do not conflict with historic park concepts or degrade natural or cultural resources within the historic park or the MLCD.

Although planners worked with the local community in a collaborative effort to develop park concepts compatible with local needs, park plans are also appropriate to the larger mission of the Division of State Parks, Department of Land and Natural Resources [3].

Interpretive Themes

If Kealakekua Bay State Historical Park is to fulfill its potential to inform visitors about the bay's unique role in Hawai'i's history; then interpretive programs are a critical part of the park plan. Four primary interpretive themes were established in the Conceptual Plan for the park's interpretive program:

• Theme 1 - Ruling Center of the Kingdom of Hawai'i. During the 1600s and 1700s, Kealakekua Bay was one of the island's ruling centers. Although Kealakekua Bay is not unique as a ruling center, the archaeological sites at Kealakekua and its physical setting are more intact than nearly all other former ruling centers. The ruling centers are a critical part of a theme that describes the important changes in Hawaiian culture prior to European contact.

• Theme 2 - Kamehameha's Rise to Power The period between 1782 and 1792 marked Kamehameha's initial rise to power, his gaining control over Kealakekua, and his political reunification of the island (the Kingdom of Hawai'i. These key events link Kealakekua to Honaunau and were played out in the vista that can be seen from the park's visitor center. They also occurred

before much change occurred as the result of foreign contact, and were important events in the Kingdom of Hawai'i's history involving one of today's most well known Hawaiian leaders.

• Theme 3- First Contact. Contact with the non-Polynesian world was a major turning point in the history of Hawai'i, and it marked the beginning of the westernized, multi-ethnic Hawai'i which exists today. Kealakekua Bay was not the first point of contact, but it was the final and best recorded of Cook's stops in the Hawaiian islands.

• Theme 4 -The Impact of Western Contact. This theme focuses on the impacts of western contact during the decades following western arrival. For example, during the 1780s and 1790s, Kealakekua Bay was one of three major ports for foreign ships or trade in Hawai'i and a center of contact between Hawai'i and the outside world. Missionaries, whaling ships, and the Great Mahele are also part of Kealakekua Bay's history and reflect the broader history of the Hawaiian Islands [4].

DLNR (2001) "Report to The Twenty-First Legislature 2002 Regular Session Requesting an Investigation of the Impacts of Increased Public Access on Ka'awaloa and Kealakekua Bay, Island of Hawai'i"

Kealakekua is located in the district of South Kona, along the southwestern coastline of Hawai'i Island and approximately 12 miles south of Kailua-Kona (Figure 1). Kealakekua refers to an ahupua'a (traditional land division), a town along Māmālahoa Highway, and a state historical park. Kealakekua Bay State Historical Park is comprised of the makai portion of the Kealakekua and Ka'awaloa ahupua'a which surround the bay. Located on the slopes of Mauna Loa, Kealakekua Bay is sheltered by the 600-foot high, steep pali known as Pali Kapu O Keōua. Surrounding the one-mile wide bay are the rich agricultural lands that comprised the historic Kona Fieldsystem and the coffee fields of Kona today. Although there are no streams in the area, numerous springs provide a source of freshwater. Settlements lined the bay in the pre-contact period, as do the small residential communities of Nāpō'opo'o and Ke'ei today (DLNR 2001:1).

Senate Concurrent Resolution No. 139, Senate Draft 1 was adopted by the Legislature during the Regular Session of 2001. This Concurrent Resolution requests the Department of Land and Natural Resources (DLNR) to conduct an investigation of the impacts of increased public access at Ka'awaloa and Kealakekua Bay on the Island of Hawai'i. The Concurrent Resolution recognizes the historical and cultural significance of Kealakekua, the diverse marine resources of Ka'awaloa Cove, and the recreational opportunities available to hikers, horseback riders, fishermen, boaters, and tour operators. An assessment of users and impacts of these users on the resources involves an evaluation of the carrying capacity and levels of acceptable change. As outlined in the Concurrent Resolution, the assessment involves four objectives:

1. Establish a baseline study of existing conditions and the number of visitors currently using the Ka'awaloa area, including the numbers of snorkelers and divers at Ka'awaloa Cove;

2. Assess the potential impacts of increased use and visitation, and determine an acceptable level of use and visitation that will protect the land and marine resources;

3. Provide recommendations for the management of the Ka'awaloa area through [1] controlled access, the use of preferred trails that protect the sites, education and interpretation, guided tours, additional facilities such as restrooms, personnel needs, and other means as appropriate; and;

4. Gather input from individuals, including those who use the area for recreation, who are interested in the management of the resources in question, who own property in the area, or who own businesses that affect the resources in question.

In response to the resolution, an inventory of the natural and cultural resources of the bay and surrounding shoreline was compiled, the existing levels of visitation were determined by conducting two day-long surveys, the current efforts to assess and mitigate the impacts were identified, and recommendations have been made to further mitigate these impacts. The resources needed to accomplish these recommendations, however, may extend beyond the scope of this resolution [5].

Jurisdiction of Areas and Resources

Jurisdiction for the management of the resources and controls over visitation of Ka'awaloa and Kealakekua Bay lies with six different divisions within the Department of Land and Natural Resources (Figure 3). The potential for overlapping jurisdiction, different sets of rules and regulations, and the absence of a set aside for Kealakekua Bay State Historical Park, create confusion for the public when issues and concerns arise.

• Division of Aquatic Resources (DAR) - Jurisdiction over the Marine Life Conservation District (MLCD) that encompasses most of Kealakekua Bay.

• Division of Boating and Ocean Recreation (DOBOR) - Jurisdiction over the recreational activities in the bay and the wharf property at Nāpō'opo'o through Executive Order (E.O.) 3706 in 1997. [Transferred to DSP in 2012 (Yent 2018)]

• Division of Conservation and Resources Enforcement (DOCARE) - Enforcement of laws, rules and regulations of the department and divisions.

• Land Division (LD) - Jurisdiction over the unencumbered State lands around Kealakekua Bay. This includes the parcels acquired for state park purposes which have not been placed under the jurisdiction of State Parks for management, maintenance or park development through an executive order. [All parcels have been transferred to DSP (Yent 2018)]

• Division of State Parks (DSP) - Jurisdiction over Kealakekua Bay State Historical Park.

• Division of Forestry and Wildlife (DOFAW) - The Na Ala Hele Trails Program has jurisdiction over the Ala Kahakai trail that runs across the top of the pali and within the designated park boundaries. [Now wth DSP (Yent 2018)]

• Historic Preservation Division (SHPD) - Does not have management jurisdiction, but reviews and approves projects within the Kealakekua Bay Historical District. [5]

Approximately 375 acres around Kealakekua Bay comprise the Kealakekua Bay Historical District that was listed on the National Register of Historic Places in 1973. Identified by State Site Number 50-10-47-7000, the district contains multiple sites in the area extending from the ahupua'a of Keōpuka in the north to Ke'ei in the south [7].

The park area is part of this large historic district that includes archaeological sites and complexes in the makai portions of the ahupua'a of Ka'awaloa and Kealakekua. The historical and cultural sites found within both the District and Kealakekua Bay SHP are summarized below and in Table 1 [not included].

• Ka'awaloa Complex. This complex of sites on the coastal flat in the Ka'awaloa ahupua'a represents a continuous cultural occupation from the pre-contact period to the abandonment of the area, circa 1940. Noted as one of the seven royal centers of Kona, the chiefly compound at Ka'awaloa Flat was occupied by Kalani'ōpu'u at the time of Cook's arrival. The complex includes 3 heiau and several possible house [7] platforms from this time period.

However, the majority of the sites, including walls and platforms, appear to date from the 1800s. Many of the walls correspond to the Land Commission Awards (kuleana claims) from the Māhele of 1848-1850. One structure with its stone and mortar walls is suggestive of the missionary period when a mission station was established at Kaʻawaloa. On the slopes above the flat is Puhina O Lono Heiau. During the 1800s, a wharf at Kaʻawaloa was used by ranchers to load cattle onto boats in the bay and the Barrett family operated a hotel near the wharf.

• Pali Kapu O Keōua. The agricultural complex atop the pali is part of the Kona Fieldsystem consisting of walls and mounds for the planting of ʻuala (sweet potato), kō (sugar cane), wauke, and dryland kalo (taro). In the face of the pali are numerous burial caves. The entrances to many of these caves have been covered by rock fall and landslides.

• Hikiau Complex. Centered around Hikiau Heiau, this complex is associated with the priestly compound to the north and east of the heiau. The eastern boundary of this priestly area is marked by the "Great Wall" that runs north-south to the east of the heiau. The pond behind Nāpōʻopoʻo Beach and north of the heiau was surrounded by the priest's houses. Also in the complex is a platform believed to be Helehelekalani Heiau where kāhuna were trained.

• Kealakekua Bay. Recent underwater testing with magnotometers by the University of Hawai'i, Marine Options Program, has indicated the research potential of the bay in terms of underwater archaeological resources.

Trails

There are 3 dirt roads and trails that provide land access to the Kaʻawaloa Section of the park (refer to Figure 3). The Kaʻawaloa Road runs mauka-makai from the upper Nāpōʻopoʻo Road to Kaʻawaloa Flat. This is a County road that was a passable 4 wheel drive (4WD) road until recent years. The lower portion of the road is probably the historic path to Puhina O Lono Heiau. The trail was modified to a horse and cart road by the missionaries in the 1820s. The road has fallen into disrepair by the lack of maintenance, erosion, and regular use by horses over the past 10 years.

The ala loa (long trail) was the coast trail that ran around the island of Hawaiʻi. In use as a footpath from the A.D. 1400s to 1700s, sections were modified for horse and cart in the 1800s and 1900s. A 175-mile portion of this ala loa has been designated the Ala Kahakai (Trail by the Sea) and recognized as part of the National Trail System. As a conceptual model, the Ala Kahakai runs from ʻUpolu Point in North Kohala to Volcanoes National Park in Puna on the southeastern shoreline.

A largely intact portion of the trail begins at Keauhou on the north, intersects the Kaʻawaloa Road, and runs south over the top of Pali Kapu O Keōua within Kealakekua Bay State Historical Park. This trail section is referred to as the Keauhou-Nāpōʻopoʻo Trail and Old Government Road. The Na Ala Hele Program proposes to restore this 10-foot wide trail for recreational hiking with motorized, equestrian, and bicycle [10] use being prohibited on much of the trail. Because the trail passes through privately owned lands and areas with significant cultural and archaeological resources, the need to restrict the public to the trail becomes a major concern.

The third access is the 20-foot wide, State-owned Cart Road that runs along the coast and intersects the lower portion of the Kaʻawaloa Road. The presence of waterworn boulders suggests an earlier steppingstone trail. It is now a 4WD road that is used by fishermen accessing the shoreline of Kaʻawaloa and neighboring Keōpuka [13].

Marine Resources

Kealakekua Bay is approximately 1.5 miles across, 1.0 mile wide, and 315 acres in size. As the largest sheltered natural bay on the island of Hawai'i, the bay is an attractive anchorage. The floor of the bay drops off steeply beyond about 10 fathoms and most of the marine life of the bay is concentrated in a narrow band of shallows along the shore. The marine environment of Kealakekua Bay, especially at Kaʻawaloa Cove, is an excellent example of a small coral reef abutting the pahoehoe shoreline. This area is popular for snorkeling because of the abundance and diversity of reef fish and corals. Dolphins are also a major marine component of the bay.

The bay is designated a Marine Life Conservation District (MLCD) because of the wealth and diversity of marine resources. Over 100 species of fish have been observed. The diversity of habitats in the bay also supports an abundance and diversity of invertebrates, including molluscs, echinoderms, and crustaceans. There are 3 major coral reef zones in the bay (Marine Research Consultants, 1989):

• Nearshore Boulder Zone. Low coral cover (—11%) but high coral diversity, including *Porites lobata, Pocillopora* spp., and *Pavona* varians. This zone is subject to the effects of wave stress. The majority of the fish are found in the shallow waters of the boulder and reef zones. Prominent fish species include the yellow tang (lauʻi pala, *Zebrasoma flavescens*), the convict tang (manini, *Acanthurus triostegus)*, and the goidring surgeonfish (kole, *Ctenochaetus strigosus*).

• Reef Terrace Zone. A coral reef lines the rim of the bay before sloping down into the deeper benthic zone, except at Nāpōʻopoʻo Beach which is a sandy bottom. This reef is dominated by *Porites lobata* (--65% coral cover). Dominant echinoderms are *Echinornetra rnatheai* and *Echinostrephus aciculatus* which bore into the limestone surfaces. Also present are the red pencil urchins, *Heterocentrotus mammillatus*.

• Benthic Slope Zone. The slope from the reef terrace to the benthic zone (-60 foot depth) is dominated by the coral *Porites cornpressa* (95% coral cover).

Kealakekua Bay provides one of the few available resting areas for spinner dolphins (naiʻa) on the island of Hawaiʻi. Other sites in South Kona include Hōnaunau and Hoʻokena. Kealakekua Bay's configuration provides an important habitat for dolphins who prefer to spend daylight resting periods over sandy substrate in protected bays.

In the 1960s, a resident pod of 30-80 dolphins was reported in Kealakekua Bay (Doty, 1968). Today, the resident pod appears closer to 18 individuals but as many as a hundred dolphins may congregate in the bay (Soto-Amundson, pers. comm., March 2000). They use the bay for feeding, resting, and playing. Much of their time in Kealakekua Bay occurs during the mid-morning hours [14].

Kealakekua Bay State Historical Park

In the 1960s, the State initiated the establishment of a historical park at Kealakekua in recognition of the historical and cultural significance of the bay and the surrounding lands. The acquisition of lands for the park began in 1967 and was completed in 1986. In 1992, a park exchange transferred the County's Nāpōʻopoʻo Beach Park (3.24 acres) to the State for inclusion within Kealakekua Bay SHP.

In 1997, the bay was transferred from State Parks to DOBOR and park now encompassed only the 181 acres of land surrounding the bay. The large park area has been divided into 3 geographical areas for park planning and management:

• Nāpōʻopoʻo. This portion of the park on the southern side of the bay, corresponds to the former priestly compound and settlement called Kekua at the time of Cook's [16] arrival. Today, Nāpōʻopoʻo refers to the small community along the southern edge of the bay and the small boulder beach at the end of Nāpōʻopoʻo Beach Road. The Nāpōʻopoʻo Section of the park encompasses 71 acres, about one third of the park area. This park area includes Hikiau Heiau, the beach area, and the former County Park with a restroom and pavilion. This is the only portion of the park with existing infrastructure, including paved roads and utilities. Except for the developed, former County Park, most of this section is covered by a dense growth of kiawe and ʻopiuma trees with an understory of Guinea grass.

• Pali Kapu O Keōua. The central area on the eastern edge of the bay consists of a steep pali with remnants of the Kona Fieldsystem atop the pali and burial caves in the pali face. Since the late 1800s, the top of the pali has been used for ranching and much of the pali is covered by a dense growth of kiawe and ʻopiuma trees with an understory of Guinea grass. The park consists of the pali face and an approximately 300-foot wide strip atop the pali, encompassing about 10 acres in area.

• Kaʻawaloa. This portion of the park on the northern side of the bay corresponds to the former chiefly residence. Today, this area is marked by the Captain Cook Monument with an adjacent wharf and an intact complex of archaeological and cultural sites located on Kaʻawaloa Flat. The public can access Kaʻawaloa from either Kaʻawaloa Road or the coastal Cart Road. While photographs suggest that Kaʻawaloa was sparsely vegetated in the early 1900s, the dense kiawe forest was well-established by the 1950s. The Kaʻawaloa Section encompasses about 100 acres.

Although the park is land-based, the lack of any historical park development means that much of the current park use involves access to the bay for ocean recreation. This ocean recreation includes swimming off Nāpōʻopoʻo Beach, kayaking between the Nāpōʻopoʻo and Kaʻawaloa sections of the park, and snorkeling in Kaʻawaloa Cove, with access to the cove from either the bay or Kaʻawaloa Flat [18].

The impacts of tourism on the reefs have been documented at Hanauma Bay on Oʻahu and there have been several studies conducted through DLNR that address the impacts to the corals at Kaʻawaloa (Whitcraft and Robichaux, 2000; Tissot and Hallacher, 2000). Direct contact with coral usually removes protective mucous layers and bruises sensitive surface tissues. The impacts are magnified by the numbers of people present in the water over time. Visible short-term impacts include broken coral, dead patches, and scuffed areas overgrown by algae. Coral reef management systems may include limiting the number of people with access to an area of coral reef at a given time, rotation of snorkeling or diving areas, and periodic closing of areas. [37]

Cultural Resources of Kaʻawaloa

Most of the recent impacts to the cultural resources of Kaʻawaloa Flat have been a result of shoreline camping, illegal squatting, and uncontrolled landings along the coastline. These activities have generated trash and the use of archaeological sites as "toilets". It has been documented that illegal squatters have damaged archaeological sites and disturbed archaeological deposits and burials within cave sites along Pali Kapu O Keōua that are accessible from Kaʻawaloa Flat. Other site disturbance is occurring as visitors wander through the area and there is a high potential for surface artifacts associated with the archaeological sites to be taken. It was observed by the State Parks archaeologists in 1995 that a stacked rock wall was modified by users of the area to [37] allow for easier access to the Cook Monument area by 4WD vehicles. During the October 13, 2001 survey, it was noted that the two 4WD vehicles parked within the archaeological site adjacent to the monument…. The community often raises concerns about the plastic on the pahoehoe along the Kaʻawaloa shoreline which is scraped off the kayaks being hauled on shore and the plastic shavings that float out into the bay. The plastic appeared to be minimal during the 2001 surveys, but the long-term impact of this plastic is unclear [38].

Education about the fragile nature of the coral reef is of special concern. Additional recommendations for protecting the reef of Kaʻawaloa Cove emphasize education and regular monitoring to evaluate the effectiveness of these educational measures:

• Prepare an educational packet for distribution to recreational users, kayak rental companies, and commercial boat operations. DAR has already printed several brochures that share general guidelines for protecting corals.

• Review and comment on visitor education programs developed by recreational and commercial boaters in compliance with the proposed amendment to DOBOR's Administrative Rules.

• Complete and install the interpretive signs being developed by State Parks and the Sea Grant Extension Service for Kealakekua which discuss the resources of the bay and what visitors need to do to help protect these resources.

Recreational Use of the Bay

Controlling and regulating the recreational use of the bay is key to maintaining an acceptable level of use in the bay. Determining an acceptable level of use should be based on 1) avoiding adverse impacts to the resources, 2) maintaining the historical setting for the historical park, and 3) providing a satisfactory visitor experience. Much [41] of the responsibility for maintaining an acceptable level of use lies with DOBOR [42].

There appears to be a general consensus by the DLNR staff that the current level of visitation to Ka'awaloa should be capped and not allowed to increase until the current studies are completed and more analysis of the data is conducted. Increased visitation without adequate management and enforcement will result in adverse impacts to the cultural resources of Ka'awaloa Flat and the marine resources of Ka'awaloa Cove [46].

Maigret, Mary Anne, Martha Yent, and Holly McEldowney (2007). Archaeological Inventory Survey for the Proposed Commercial Kayak Tour Permits at Kaʻawaloa.

Previous Oral Histories

Several oral history projects have been conducted for Kealakekua, Nāpōʻopoʻo, and Kaʻawaloa. A few are listed below.

Kona Historical Society (n.d.)

Oral History Collection

Approximately one hundred hours of audio interviews with current and former Kona residents on a wide range of subjects. Includes interview with a 100-year old Japanese coffee farmer, in Japanese. Approximately half of the collection is transcribed.

National Park Service/Kealakekua Oral History Project (n.d.)

This document presents interviews with several long time residents of the Kealakekua area. There are references to the PUHO site, mentions of area fish ponds, and brackish springs, and fishing patterns. The interview with William Johnson Parrish Jr. describes his grandfather rebuilding the puʻuhonua at Hōnaunau after the great earthquake of 1868 demolished it, and planting the coconut trees in the Royal Area. An archaeologist named Stokes was described as wrecking the site, digging things up and leaving them that way. https://data.doi.gov/dataset/kealakekua-oral-history-project

Kimura, Larry (1977)

"*Kealakekua Oral History Project.*"

Oral histories were conducted with long-time residents of the Nāpōʻopoʻo and Kaʻawaloa area in 1977 by Larry Kimura (Hawaiʻi Multi-Cultural Center 1977) through a consultant contract with the State Historic Preservation Office. These interviews assist in our understanding of the community, the economy, and the structures of Nāpōʻopoʻo in the 20th Century.

An oral history project designed to provide information for the historical and archaeological research, development, and interpretation for the Kealakekua Bay Historical Park. *Vol.* 2 of Robert J. Hommon's *Historical Resources Study: Kealakekua Bay State Historical Park.* Honolulu 1986, index these interviews by subjects.

Ethnic Studies Oral History Project, UHM (1981)

A Social History of Kona.

Slightly edited transcripts of interviews conducted by the Project. Kona became a haven for immigrants who broke their labor contracts with sugar plantations. Volume I contains the transcripts of sixteen interviews. Volume II contains the transcripts of eighteen interviews, along with the transcripts of a community meeting including photographs. Most interviews were conducted in 1980 and include coffee farmers, a hotel founder, a school principal, and a rancher. Loe: UH/HL PUB

Native Hawaiian Resource Center (1989)

Oral Histories of the Native Hawaiian Elderly: On the Islands of Hawai'i, Kaua'i, Lana'i, Maui and Moloka'i. Honolulu: Alu Like, Inc. Transcripts of discussions that cover the social life and customs of Hawaiians. Loe: UH/HL

Maly, Kepa (2001)

A Historical Overview of The Lands, And Trails Traveled, Between Keauhou and Kealakekua, Kona, Hawai'i: A Study of Archival-Historical Documentary Literature, Oral History – Consultation Interviews, and Kama'āina Recommendations on Site Preservation in the Lands of Keauhou, Honalo, Māihi, Kuamo'o, Kawanui, Lehu'ula, Honua'ino, Hōkūkano, Kanāueue, Haleki'i, Ke'eke'e, 'Ilikāhi, Kanakau, Kalukalu, Onouli, Keōpuka, Ka'awaloa and Kealakekua, North and South Kona, Island of Hawai'i (TMK Overview Sheets – 7-9, 8-1, 8-2)

A detailed study of archival and historical literature, and oral history interviews with individuals known to be familiar with the natural and cultural landscape and history of land use in the lands which extend from Keauhou (North Kona) to Kealakekua (South Kona), on the island of Hawaiʻi. This study was conducted in conjunction with efforts by Nā Ala Hele to develop cultural resource management and site protection plans (including, when appropriate, interpretive programs) for the Keauhou-Kealakekua Section of the nationally recognized Historic Trail System ("Ala Kahakai"), on the island of Hawaiʻi. The study area extends approximately eight miles (north to south) from Keauhou to Kealakekua**….** The study looks at, and reports on traditions, practices, historical land use and resources, found at varying elevations within each ahupuaʻa crossed by the trails and historic government road ways.

Maly, Kepa (2001)

Ola Nā Iwi-Kupuna Profiles: Joseph Keanini Gaspar and Weston Leslie (Part 1) based on *He Wahi Moʻolelo no Nā Keʻei ma Kona Hema.*

Maly, Kepa (2002)

Fisheries and Native Customs of the Kealakekua-Hōnaunau Region, South Kona: Oral History Interview at Keʻei Nui — with Howard Ackerman, Katie Keliʻi Kalā-Andrade, Mona Kapapakealiʻioka'alokai Kapule-Kahele, Maile Keohohu-Mitchell, Weston Leslie, William Kalikolehua Pānui & Nāmahana Pānui (pp352-372).

Maly, Kepa (2003)

A History of Fishing Practices and Marine Fisheries of the Hawaiian Islands: Oral History Interviews Vol. 2.

This volume, compiled at the request of Scott Atkinson on behalf of The Nature Conservancy, includes excerpts from more than 130 oral history interviews that have been conducted by Kepa Maly over the last twenty-eight years. The interviewees were born between the 1890s to 1950s, and all shared personal knowledge—either in native beliefs, traditions, customs and practices; the locations of, and types of fish caught; or about the changing the conditions of the resources—in Hawaiian fisheries. The early interviews are taken from notes recorded and expanded by Maly as early as 1975, with excerpts from recorded interviews dating from 1996 to 2002. The interviews conducted specifically as a part of this study date from late 2002 to late 2003. As a result of many years of work, the oral history interviews cited in this study fall under two classes: (1) those conducted between October 2002 to April 2003, and are directly related to aspects of the present study; and (2) those conducted prior to undertaking this study, or as a part of other research, and which share important kamaʻāina knowledge of Hawaiian traditions and use of fisheries. All of the interviews cited, were conducted by Kepa Maly, most with elder kamaʻāina ranging in age from their late 60s to late 90s. The interviews document personal knowledge of fisheries of all the major Hawaiian Islands (Hawaiʻi to Niʻihau), and also touch on the fisheries of Nihoa and the Northwestern Hawaiian Islands of the archipelago.

ETHNOGRAPHIC SURVEY, REVIEW and ANALYSIS

The Ethnographic Survey (oral history interviews) is an essential part of the Cultural Impact Assessment (CIA) because they help in the process of determining if an undertaking or development project will have an adverse impact on cultural properties/practices or access to cultural properties/practices. The following are initial selection criteria:

- Had/has Ties to Project Location(s)
- Referred By Office of Hawaiian Affairs (OHA)
- Known Hawaiian Cultural Resource Person
- Known Hawaiian Traditional Practitioner
- Referred By Other People

The ethnographic consultants (interviewees) for this CIA were selected because they met the following criteria: (1) grew up, lives or lived in the vicinity Kealakekua Bay State Historical Park; (2) familiar with the history and mo'olelo of the park and vicinity; (3) cultural practitioner; or (4) referred by other people from the project area. Ten people were interviewed.

Research Themes or Categories

- In order to comply with the scope of work for this cultural impact assessment (CIA), the ethnographic survey was designed so that information from ethnographic consultants would facilitate in providing information about any cultural sites or practices or access to them. The information would be incorporated in the *Kealakekua Bay State Historical Park Master Plan and EIS*. To this end the following basic research categories or themes were incorporated into the ethnographic instrument: Consultant Background, Land Resources & Use, Water Resources & Use, Marine Resources and Use, Cultural Resources & Use, Anecdotal Stories and Project Concerns. Except for the 'Consultant Background' category, all the other research categories have sub-categories or sub-themes that were developed based on the ethnographic raw data (oral histories) or responses of the ethnographic consultants. These responses or clusters of information then become supporting evidence for any determinations made regarding impacts on cultural resources and/or practices including access. [Due to issues with the wind, and other noises (e,g, people, vehicles), the transcribers could not hear or discern certain words in the interviews and inserted blank lines (___). Regrettably not all the photos of the consultants survived a computer meltdown in 2010.]

Ethnographic Demographics

Table 3. Interviews for Kealakekua Bay State Historical Park CIA (2009)

Ethnographic Consultant	Ethnicity	YOB	Born/Raised	Lived/Lives/Works
DeBina, Irene Wainani	Pt. Hawn	1942	Nāpō'opo'o, Hawai'i Is	Hokuli'a, Hawai'i Is
Dooley, Haleaka Pule	Pt Hawn	1964	Nu'uanu, O'ahu	Kealakekua, Hawai'i Is
Gaspar, Joanna	Pt. Hawn	1934	Nāpō'opo'o, Hawai'i Is	Capt. Cook, Hawai'i Is
Hickox, Tommy	Pt. Hawn	1946	Hilo, Haw Is/Honolulu, O'ahu	Keauhou, Hawai'i Is
Josephides, Analu	Pt. Hawn	1973	Kamaile, Wai'anae, O'ahu	Kealakekua, Hawai'i Is
Kihe, Verna (d 2015)	Pt. Hawn	1943	Honolulu, O'ahu/Nāpō'opo'o	Kealakekua, Hawai'i Is
Lau, Wally	Pt. Hawn	19??	Honolulu, O'ahu	Kailua-Kona, Hawai'i
Leslie, Gordon	Pt. Hawn	1947	Nāpō'opo'o/Ka'awaloa, Hawai'i	Nāpō'opo'o, Hawai'i Is
Leslie, Milton	Pt. Hawn	1946	Nāpō'opo'o, Hawai'i Is	Kealakekua, Hawai'i Is
McGuire, Derek (Mac)	Pt. Hawn	1959	Hilo, Hawai'i Is	Kealakekua, Hawai'i Is

YOB = Year of Birth

Ethnographic Consultants and Backgrounds

Usually each person interviewed is asked to talk about their background; where they were born and raised, where they went to school and worked, and a little about their parents and grandparents. This category helps to establish their connection to the project area, their area and extent of expertise, and how they acquired their proficiency. In other words, how they meet the selection criteria. Ethnographic consultants either have family or personal ties to the project vicinity and/or are familiar with the history of the area. Ten people were interviewed; all of them were part-Hawaiian (hapa kanaka maoli) and live, lived, work and/or volunteer in the Kealakekua Bay area (e.g., Nāpō'opo'o, Ka'awaloa, Kealakekua).

All ten people interviewed have a range of traditional cultural practices from fishing and gathering to arts and crafts to 'olelo Hawai'i. Two are full-time cultural practitioners; two are members of the Royal Order; but most incorporate cultural practices in their non-working (job) time. All of the following are "monologue-type" answers to basic requests (e.g. "please tell me your name," "where were you born and raised?" "please tell me about your parents") or phrases of pertinent information in other parts of the interview that are part of "Consultant Background." [NOTE: Photos were taken, but some lost in a computer crash. The date after consultants names are the date of the interview].

Irene Wainani (Leslie) DeBina [Nov 16, 2009]**.** I am Irene Wainani Leslie DeBina. I was born and raised in Nāpō'opo'o. I went to Nāpō'opo'o Elementary and Intermediate School; and graduated from Konawaena High School. [I was born] October 1942 and my parents are Henry and Mary Leslie Jr. My mother Mary was born and raised in Kaawaloa. My father was born and raised in Kealakekua Bay area. My dad's father was Henry Andrew Leslie Sr. My grandmother was Joanna Gaspar. That was my dad's mother and father. My mom's mother was Ida Kaniau was my grandma and my grandfather was Henry Launui Kaniau. Ida's maiden name was Kaaihuikaalele - Mary's father and mother. I'm not really sure [where Henry Sr. was born], I think it was in ___ up there, I'm not really sure. His grandma was from Nāpō'opo'o. I don't know, you ask Gordon he might have documents. [Ida was born in] Kaawaloa yeh, tutu lady. [Henry Launui Kaniau was born and raised] could be Kealakekua you know…gotta be Kealakekua; I don't know what year they went to Kaawaloa... No yah they stayed there until the bombing of Pearl Harbor and then they relocated I guess they were relocated by across because they didn't want anybody living on the coast yah they relocated across Kealakekua Bay, Nāpō'opo'o. We lived ah this is what's up here? You know the pier when you make a left to go past Gordon.

My mom was a very disciplined mother. Sundays well I know for a fact we couldn't hang out all over. For us was lectures, each of us had a chore yeh. She was very stern, very, very stern. Strict, but yet now we look back I'm thankful she raised us the way she did – Hawaiian – very much. She made sure that we respected… I know I remember from her about Pele and all that. And she was never superstitious, but she always told us to respect other people's feelings and everyone of us had a chore to do when come home from school. So what we did I guess what I did was help with the cleaning, whatever the oldest one in the family because there was eight of us yeh, and she was together and very strict on keeping the house clean. I was the youngest of all, second to the youngest, my brother was younger than me and he was the one that fell off the mango tree…. But the older ones worked hard and we kind of had to do what had to be done whatever there was. My mom was never a working mom, she always stayed home so we always went - when we came home she was always home. Everybody had their duty of what they had to do. [Siblings] Henry III we call Sonny, and then Joanna [Gaspar], and then Henry Launui, and then Mary [Paiva], then Charles, no Alfred before Charles, then me, and then Earl.

My dad was a commercial fisherman. He was very kind. He was really handsome. He had hazel-green eyes. My dad and mom all of the netting they did by hand. My mother was really good at that. My mother was strict, but not abusive. She was very disciplined. She never wore makeup. So when she died we told them do not put makeup on her. Her hair was long, it was neat and different, she put it up and do this and that and then it would go in place. So natural. And then at the age of… I mean she at the age of 85 when she died she hardly had any white hair. I never remembered my mom to be white. She's pure Hawaiian. My dad and she spoke fluent Hawaiian. We should have, I understand some words, but I cannot speak. I think we just never made an effort. I just maybe never wanted to learn. But my dad and mom spoke; I mean look at my dad, he had light brown yeh? Yeh, tan skin and my grandfather my dad's father spoke fluent too, Henry Sr. I don't know [if Henry Sr. was part Hawaiian], but they all spoke Hawaiian, I mean my

mother used to get really upset as I got older and she would hear people speak in Hawaiian she would say you know that's kapulu that's not the way it supposed to be spoken. They would cut it short yah. Henry Sr. was related to Anna Lindsey I think.

I don't know if it's true but I thought I heard my growing up time that our great-great grandfather [Frederick Leslie] was a whaler, who came to the islands and came you know how before they came and didn't wanna go back and that's how our name Leslie came into being but I'm not sure. That's what I remember. When my son was born, Henry Sr. asked me to name him my oldest son Fredenburg because nobody else had it. So my son is the only one that has it; so he cannot use Jr. because my husband doesn't have the same name yeh. I have no idea why, now I think about it I don't know why my grandfather asked me, all he said name him Fredenburg. I guess to carry on yeh? Gordon knew about the harbor master. I didn't tell you he [Frederick] was the first harbor master in Honolulu?
And then my father's father was down here in Kealakekua.

My grandfather [Henry Launui Kaniau] had seven daughters. So that's why when my brother was born, Henry Launui, my grandmother hanai him because she didn't have any boys…Gordon too was *hanai*. From Gordon Kuwaha, but Gordon's mother was my father's cousin. It was relatives of the family. And it's really sad we've gone to meetings and people would ... we're not a Leslie, but he was my father's - his mother was my father's cousin so it was blood relative yah. She was a Kuwaha yah. His grandma was a Kuwaha yah his grandma and my father's mother was two sisters. So when I hear people tell because we've been to so many meetings and tutu would come out and say I just stand up and I just tell em you know you folks don't know they would try to ... Gordon went through a lot but yet they don't know he is blood on my dad's side.

I went to school at Konawaena…after Konawaena I worked hah? I got married a year after I graduated. I worked. My husband is Franklin. I had Frank Jr. about a year after and then I worked at the meat market…oh no I was a coffee inspector first. What they're doing now for coffee inspection we were one of the first people that were hired by the state to inspect the coffee beans, I did it right up here for about maybe 2 years and then I went to work at the Kona Meat Market from there I worked at Bank of Hawai'i for 10 or 13 years.

The whole [coffee] cherries we had to distinguish the whole cherries and we did it all by hand. What we did was before ___ was born the bags went through the bin we would just take handfuls and put it in ___ and then inspected the coffee with this, what they called the floaters, the brown ones. We were the first people the state hired and that I think they used that to this day how they can grade the coffee and all that. And then I worked from the bank, I worked as a physical therapist for 8 years and then I was doing home health service also, worked with a lot of the cancer patients. And then I went to work from physical therapist we were running home health service for 2 years oh and I forgot I worked for as a dialysist for 5 years. And my husband was a technician there - a water tech and dialysist - he actually came out of the Navy. I met him after he came out. Before that or after I graduated from school my first job was working at Kona Inn in the fashion shop – in fact I was working there and going to school. Hokulia I got to work there in 1996 I think. First I started as the landscaper and then went to security, until present. I worked for Aloha for 10 years. Two months before they went under I retired. Aloha Contract Services, Aloha Airlines. But I worked on the contract side working with American but mostly Japan Airlines. And then to present I still work with Hokulia [Irene].

# # #



Harriet Iolani Haleaka "Aka" (Pule) Dooley [Nov 17, 2009]. I was born in 1964 to parents Fern K. Pule - Prim was actually her maiden name, and my father was William Mahoe Pule. Original family name is Kealiihanapule out of Kohala. My grandfather was Akoni Pule, State House Representative on my father's side…and his father was Solomon…and his father up behind him was…at that point the name changed back…Kealiihanapule. Their valley was the next one over to Kamehameha's taro patches….which the family still owns the water rights to. My grandmother was Sarah Kekulauokalani Moku. My mother's side is Nāpō'opo'o and Kealakekua comes into play mostly. She was born here in Nāpō'opo'o. Fern Kalehua Makanoe Prim. She was born in our old house here in Nāpō'opo'o that was built by my fourth great-grandfather, George Panila Kamaoha or Kamahoa….depending upon what books you're reading it in and who phonetically wrote it.

[My tutu man, George Panila Kamahoa, who was the governor of South Kona, built that house. It was a 140 something years old when Kekaulike Kawananakoa paid a state official to come down and condemn it. It's not there anymore. My mom wasn't here…nobody notified any of us…I just left for college. My mom was in O'ahu. When the neighbors notified my mother and she caught the next flight, half the house was down already by the time she came over here. Nobody served any papers to any of the people. I worked for years to get that on the Historical Register because Lili'uokalani, Prince Kuhio used to come and stay here because my tutu man, Manase Makekau, was his lua partner. Every time they came to South Kona that's where they stayed, at our house. Every time she (Lili'u) came here she would come and stay with Kapiolani…Keohokalole…but the old house…they were all cousins…just like Tutu Bernice Pauahi Bishop….all these lands out on this side were Na Luahine…her grandmother's land that came to her. These lands over here all came to the Bernice Pauahi Bishop Estate through Na Luahine.

He [George] was married to my tutu wahine, Kalaialiilii, who was a caretaker of Hikiau Heiau at that time. When she passed away, I think it was in the late '30s, the temple was then watched over, during an interim, by Tutu Ko'o. And Auntie I'o was told to come back, I'olani Luahine, to Kona. Tutu Ko'o asked her to please come back…and then he was getting ready…or they were getting ready to pass and he needed somebody in that line of the family to come back and take over. Auntie I'o did…that's also when she took the position at Hulihe'e Palace…at the same time…the Daughters of Hawai'i. She was the caretaker of Hulihe'e Palace at that time. That's my grand aunt, I'olani Luahine…who has also become a living legend during her time. She was a caretaker of Hikiau Heiau during her time. Uncle Liko Martin was also one of her helpers. Uncle Sam Heart was another one of the helpers that she had….

Our line…my mother's line goes all the way to Kaumuali'i on that side too….from my grandfather's side, Makekau and up …Kaleihulumamo…that area…this is where Auntie Io's halau all centered on…cause she was raised by Tutu Julia Luahine, who was the caretaker of Haena Heiau…the hula heiau [Kaua'i]. Tutu Julia Luahine…and that's her auntie…I'o was taken and raised…Tutu Manase he had all these daughters…three daughters…he had asked Tutu Bessie, my great-grandmother, if he could go ahead and send the youngest one, that's Auntie I'o who was also born here - same house…Nāpō'opo'o…born here…if he could send her to his auntie…and that was Tutu Julia Luahine who was the caretaker and the one that lived at Haena. That was the hula heiau. Tutu Julia was there for a long period of time. Remember Tutu Julia was a cousin to Kapi'olani, who was also born and raised here…Kaawaloa…Kapiolani…Queen Kapiolani. She was also a family member also to us. Mea was all the ladies-in-waitings.

Tutu Julia - that was her [Kapiolani's] niece…that was her niece...niece or cousin? Hang on. Tutu Julia was in the late 1800's…she was from the early 1800's to the late 1800's. She was born something like 1820…if I'm remembering my grandmother…because my grandmother recorded all of it and translated all of it. My grandmother's the reason why a lot of Hawaiian people can find beyond the surnames…because we get stuck …you get pa'a to the surname…all the surnames the majority of them came in on whaling ships …because before that if you had the attributes…if you as a keiki had good skills as a lawai'a then you ascend to that tutu man that was a lawai'a and so the name was chosen and picked and showed that…and so the name changed. So my grandmother was very instrumental in the over fifty years that she did that. And she worked with Auntie Elizabeth Montgomery who was the State of Hawai'i's genealogist. And she also worked …and we got so much correspondence between her and Auntie Elizabeth…and her and Tutu Kawena…. Tutu showed me all the genealogy - Tutu Kawena Pukui - which is another cousin. Yeah. She's another cousin - Kawena…and even the Simeona - Tutu Morna….that's all ohana. Tutu Morna's grandfather was a Makekau….Keli'i O Nu'uanu Makekau …my Tutu Manase Makekau's older brother…there was only two brothers. Keli'i O Nu'uanu Makekau had fourteen sons. They came down from the line from Kaumuali'i …and they were direct…they were the great-great-grandsons of Kaumuali'i…Kaumuali'i is my fifth great-grandfather on that side.

Bessie Makekau… that's her grandmother - my mom's parents were Matilda Ku'upua'ainahau Makekau….my mom's father was Herbert Prim. I can't remember his middle name right now. He bailed off of a whaling ship and hid from the …over here in Kealakekua Bay…hid from the people…he was half-Indian and Swedish/Norwegian. And when my mom did the genealogy…my grandmother did it actually during her lifetime and then my mother finished it…and he was the fourth great-grandson of Chief Seattle.

So, I'm in the position that I am now, I'm watching over Hikiau because my mother put the responsibility into my hands…eleven days later she passed away. The responsibility was placed into her hands from my Auntie I'o almost a year before Auntie I'o passed away. The responsibility was placed into Auntie I'o's hands by Tutu Ko'o…and Tutu Ko'o was the one that was only supposed to watch 'em! I remember the story …"I was only supposed to watch 'em for a little while 'til you guys come back from Molokai and you guys never come back for a long time!' That was one of the stories that was floating around back then! But I always remember that because my grandmother said it with such a smile on her face…so it was one of the stories that really stuck with me …because, you know, they went to Molokai…they were helping Prince Kuhio who also was a cousin to my Tutu man, Manase Makekau. They was helping him to try to get the Hawaiian Homes established…so the very first lots were Molokai - Holualoa. So between the very first lots…1 to 7…was all my tutu's…

I was born in Nu'uanu, O'ahu. I went to school at Maemae School…Maemae Elementary, actually. Went seventh grade at Kawananakoa, and then moved back to Kona here during that time and completed my studies at Konawaena High School. Graduated my junior year…my senior year, supposedly, was spent as a freshman at Brigham Young University where I acquired a degree in Cultural Anthropology…Ancient Hawaiian Studies. I then met and married my first husband whose father was the Director of Admissions at Brigham Young…. Kevin Harold Reed …had three children ended up moving to Arizona which is where their home grounds were and I ended up completing my studies and getting a Bachelor Degree in Law. There was an Admission of Law…I was at a perfect facility that allowed me to go ahead and study a whole variety and aspects of it…so one of my specialties was actually studying Forensic Pathology during that time. I ended up working with a variety of different Indian Tribes while I was up there…I lived right on the side of St. Carlos Reservation …Apache Reservation…which is where I started. I worked with the Swift Trail Federal Penitentiary and ran the Criminal Rehabilitation Unit, so it allowed me to do a lot of meditation in both the Federal and the State levels. I worked with a lot of different area tribes but always the same thing…counseling mostly …mediation …ho'oponopono … which is what has continued on to what I do now. I run an organization called Mission Aloha…I go around the world and I lecture and share ho'oponopono in its most original form.

I spent every year of my life here…back and forth…back and forth…back and forth! My father was born and raised Kohala, my mother born and raised Nāpō'opo'o …they always brought us back. There's never been a time…they moved to O'ahu then because of the jobs…that's where the jobs were…that's what a lot of people of that era and time did…there were no jobs over here…they had big family…no jobs! So my mother went from here to Moloka'i first… and then went over from Moloka'i to O'ahu. But back and forth…throughout my entire lifetime I've come back and forth…in fact I was on the plane…the last plane that the old airport had before they shut that down for good and started up the new one.

The old school up here and Miloli'i where one of her [mom] tutu wahine's, which was Sarah Kahiwa, was the schoolmaster…schoolmistress. You know all the village kids they all run together…the 'ohana ones was from here to Papa Kepelino them over in Kealia…Ho'okena side…then the Kahewa's and the other ohana that we had down in Miloli'i…all these villages…it was a courtship from canoe to canoe…. My mom was a police officer for Honolulu Police Department for thirty-four years, I think it is…. She had six daughters…she put us into training …she made sure that we were all efficient at what we had to do. I think I'm the only one out of all the daughters that got back into lua because my tutu man them were all lua trainers. But we all did four years of karate…four years of judo…I did sixteen years of tai chi, which I love…and we all danced hula for eighteen plus years…everyone of us. And it was just growing up in the house….she had two boys…we had a non-gender house. I'm the baby girl; I have a baby brother…we both shared titles.

My father….he would always tell people that he was a simple fisherman…but there was nothing simple about him. We'd go out to Kohala where he was born and raised …he was born and raised down in on the rain side Keokea…Nuli'i is where he was born and raised. He put us in the canoe…take us out me and my brother…slap the side of the canoe…the mano would come! He'd tell us, 'You guys sit right here, I'll be right back.' He'd drop down in the water…the mano would fly…go right underneath him…he'd grab the top of the dorsal and he'd be gone…for hours and hours and hours us guys would just have a little pull and sit there and eat a little bit and wait…and hours later he'd come back totally refreshed with a big bag of this and a big bag of that …mostly limu kohu and other stuff…and always with the mano…he swam with the mano…every chance he could get. That's why it was important for him…that's why it was mandatory for him to come home all the time. Do you know how he came home here all the time …even though we were all O'ahu kids…born and raised? We'd go on my father's boat …Kewalo Basin…holo holo all the way from there to Moloka'i…drop off akule fish my auntie them down at the Kaunakakai

pier where she'd bring us a case of Molokai bread …we'd troll between Lana'i and Maui…just coming this side of Mahukona…coming into Mahukona where my uncle would meet us with the trailer…and that's how we came over to this island all my life until my first airplane flight was the last airplane landing that was made in the…I thought that was cool because it was my first airplane flight ever! And these guys had leis for us and music and all this stuff…and I realized later on that they were just closing…that was the last flight for the old airport! I thought it was because I was on the plane! I never forgot that!

My father worked a lot with Poni's [Kamauu] dad, my Uncle Howard [Kamauu]. They fished in the northwestern islands…they used to do the studies…they were a part of the studies that…[NOAA] Yeah, and the USS Gilbert… if he wasn't on the boat with them, he was hired by Jacques Cousteau. Because he was highly skilled at the work he did. My father could go 400 ft. free dive with a rock around his waist. He dove old style where they take the kukui nut oil in their mouth and you tilt your head like this…and you let the bubbles come up your mouth…run the line of your mouth…up your nose like that…and as it hits right here…open the eyes and so the kukui nut oil would coat the eyes and that's how they could see under the water. That's how the deep sea diving of the ancient Hawaiians was done…and how we did it without glass. Not just spilling the oil on the water for make 'em clear to see from the top…but for opening your eyes when the bubble would get right here...get into that pocket [Aka].

Harriet Iolani Pule Dooley, also known as "Haleaka" or "Aka," 49, of Captain Cook, Hawaii, a kumu ho'oponopono, died in San Cassiano a Vico, Lucca, Italy [August 11, 2014]. She was born in Honolulu [1964]. She is survived by companion Ricky Pisanu, son Nolan K. Reed, daughters Lilinoe and Suzy Reed, two brothers, five sisters and five grandchildren.

Fern Kalehuamakanoe Prim Pule, 72, of Kailua, Kona, Hawai'i, died Sept. 18, 2009. Born in Nāpo'opo'o, South Kona, Hawai'i [January 24, 1937]. Retired Honolulu Police Department officer. Survived by sons, George Kapali Kamau and William Mahoe Jr.; daughters, Wanda Iokia, Fern Kalehua Cardenas, Sarah Kela, Lisa Torres, Harriet Aka Dooley and Wanda Lehua; 24 grandchildren; 30 great-grandchildren.

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Joanna (Leslie) Gaspar [Nov 16, 2009]. My name is Joanna Gaspar and I went to school at Nāpō'opo'o and on to Konawaena High School. I was born December 8 1934 down in Nāpō'opo'o… in Japanese hospital - Kanaha Hospital…in Kealakekua. When we were little we went to Nāpō'opo'o School…right about say 3 miles from here. The long building, the state building, yah that's the school. It went from 1st grade to 8th grade. Then we graduate there and go on to Konawaena. We used to walk to school. They had a bus running later so we took the bus. The bus driver was Manuel Cordeira. And after school we would walk home every day. From the school down I think it was 5 miles. It was fun because sometimes we would go to the coffee mill and they had the big well there and it was so hot sometimes we just jump in and swim. When we go home our parents say howcum you wet we say had big rain, but that was a lie. We used to go there and drink water had an old water tank the faucet had a Bull Durham bag to collect the worms and then we used to drink the water there. After school we would walk home… was a whole bunch of us. My husband was Mitchell [Gaspar]…he was older than I am. His mom was the post mistress for Nāpō'opo'o Post Office.

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Tommy Hickox [Nov 19, 2009/Mar 8, 2003]. My name is Tommy Hickox, I was born (1946) here on the island [Hilo]…went to school in Honolulu. After high school went into the military [Air Force – all over the U.S. - Vietnam], served four years, returned back to the islands …continued my education at the University of Hawai'i …and eventually got into the police force and retired after thirty-six years in service. My family is from Ka'ū …and that is Ha'anio. My mother is Virginia Ha'ino; my father is Norman Hickox, haole from America…the continent. Auntie Lily [Kong] is my mother's youngest sister. Actually of the girls in the family, she's the only one still alive. She passed away. Her parents names are Mary and Harry Ha'anio, my grandfather's name was Benjamin Ha'anio, and his wife was Ka'apaka. From my grandfather's side as far as we could go it stops and we have been informed by our kupuna that's family members that we are not to pursue any further, so it remains there. My grandmother's side, that is miles and miles long, I have charts and could give you a copy of. But my grandmother is originally out of Maui. That was Mary; her maiden name was Ah Lo. If you're familiar with the Ah Lo genealogy it is very, very entwined. It is all over, and I'm still trying to put all of that together.

During my childhood I would come over very often and spend time down at Keauhou. The family had two homes, mauka and makai. I guess this was somewhat traditional at the time because most of the families farmed and also fished for their living, not necessarily for their living but for sustenance. So we would spend time both down at the beach and up mauka. At that particular time there was no running water, no toilet, no electricity. So we had kukui hele po, we had punawai at the beach house and we cooked outside by fire. The mauka house was pretty much the same only we had a catchment there, an out-house of course, and kerosene was available at the time for the folks and we would use that occasionally because, I guess, of the expense. The majority of my time was spent down at the beach house. I spent a lot of my time with my grandmother. My grandfather had passed away. She was the only one that was really there. My uncles and aunts, they all had already left to pursue careers. I learned from her a number of things, involving life, understanding, involving family, and how to survive. She was a very avid fisher. And for those that visited Keauhou during those days, they looked to her for dry opelu because she would have four or five large dry boxes down at the beach and she would be consistently be drying opelu. She was also known for her weaving, lauhala weaving. She made beautiful hats along with other things. Her hats were sought after, as I remember, because of the quality of the weave. She took great pride in her work. Makuakane Selamoku…my father was a sailor. I'm the produce of the war. After marrying my mother he would work for the National Park at the Volcano as a ranger there. Subsequently, he had left to go back to the mainland and never returned.

What I do now is I find myself involved in somewhat cultural issues. I'm no way an expert on it in any way, shape or form. What I've learned have come from my own personal life experiences from the kupuna and also from reading. That kind of capsulizes who I am. I was there [Hilo] for a few years and in Honolulu. That's because of the time we were born, the jobs situation was very, very minimal so my mom moved to Honolulu, and I went to school there…St. Louis.

I'm a member of the Royal Order, Kamehameha Ekahi, Moku O Kona, and we have undertaken namely one, the Ahuena Heiau. We do restoration work there. Along with that I'm President of the nonprofit organization for Ahu'ena. It's called Ahu'ena Heiau, Inc. From there we go to Lekeleke. We are working towards putting together a program for Bishop Holdings. We have been designated to ask for the lease of the property basically to go in and taking care of it and Kuamo'o, although Kuamo'o does not come under the purview of this Lekeleke Drive. And we also have been awarded stewardship – the Order has – of a 40 acre parcel of State land, State Parks area and we're working towards restoration [Tommy].

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Analu Kame'eiamoku Josephides [May 9 & 11, 2008/Nov 18 & 19, 2009]. My name is Analu Kame'eiamoku Keikikaneokahekili Josephides. I was born on March 1973. My mother is Marie Aulani Cruz. And my father is Andreas Demitrios Josephides. My dad came to America in the 1950s and married my mom in 1967. My oldest sister was born in 1968. My second oldest sister was born in 1970. And I, being the youngest, was born in 1973. I was born and raised in the district of Wai'anae. I am from the ahupua'a of Wai'anae kai. I have resided all my life, since my birth, in an ili called Ka Maile, that sits in Wai'anae kai. I went to Mākaha Elementary School through first grade, and left Mākaha Elementary when the boundaries changed. I attended Wai'anae Elementary from second grade through the sixth grade. I graduated from sixth grade and went on to Wai'anae Intermediate and spent seventh and eighth grade there. Then I went to Wai'anae High School for my freshman year, then I dropped out of high school. I tried to go back to school under the guardianship of my grandmother, the late Alice Leinani Laura Rodrigues who was married to Frank Cruz (my mother's parents). My grandmother is originally from the island of Kaua'i, from a place called Keālia, Kaua'i.

She moved to Honolulu and resided in Kapahulu, where I attended Ka'imukī High School from her address, but traveled everyday from Wai'anae, never living out of Wai'anae, just using her address. I attended Ka'imukī for a couple of years, until I dropped out again, and I went into a program that was located at…the McKinley School, where I joined an employment training opportunity to earn credits towards graduating from high school. I was successful in completing the program, but I was short a credit and returned back to Wai'anae, where I decided not to graduate. I got my G.E.D. from McKinley adult school and continued to travel by bus from Wai'anae to the McKinley school. Because the time frame in which I could receive my G.E.D., I went and did that. That same year in which I would have graduated Class of 1991 (the original year I was supposed to graduate), I received my G.E.D. around the same time my classmates graduated.

That fall, about September, I entered into college at the Kapi'olani Community College… I later transferred to Leeward Community College…where in 1998 I received my Liberal Arts two-year degree. Then I went to Honolulu Community College because I didn't have the courage to go to a university yet, I was afraid of the big university. So I went and studied under Kumu Hula Kimo Alama Keaulana, not for hula. I studied under him Hawaiian botany and Hawaiian culture about two years. Then I had the courage to enter in the four-year university where I began my trek at the Center for Hawaiian Studies under Director Lilikala Kameelehiwa. I received my Bachelor of Arts in Hawaiian Studies in Fall 2001.

I studied and trained under Dr. Kameelehiwa, Dr. Kamakawiwo'ole Osorio, Dr. Kanalu Young, Dr. Haunani K. Trask, in various coursework such as Modern History of Hawai`i, Decolonization of the Kanakamaoli, Post-Contact Chiefs, Mo'okuauhau Genealogies of the Ancient Chiefs, Hawaiian Mythology. And many, many other courses. I also studied at the university hula, both kahiko and 'auana under Kumu Hula Aunty Vicky Holt Takamine for about three years as an elective to my Hawaiian Studies program. The university was my formal training. I studied Hawaiian language since Kapi'olani Community College at the college level, first from Kumu Kahi White, then I studied Hawaiian language at Leeward Community College under Kumu Ekela Kaniaupio Crozier. And then when I went to Honolulu Community College I studied some language under Kumu Alama Keaulana. And then at the University of Hawai`i, I studied Hawaiian language under Kekeha Solis and Puakea Nogelmeier.

My traditional schooling comes from several elders in my family. I studied genealogy under the following kūpuna: Kupuna Mildred Keli'iheleaupuni Aiu, who is Mrs. Rasmussen of Wai'anae, and Sally Kealoha, who is Mrs. Tanigawa of Waipahu, originally born and raised until her older teenage years in Kōloa, Kaua'i. Kupuna Millie was a Fort Street Mall girl. I tease "Fort Street Mall" because they were born and raised on a property up Fort Street, which is now the corner of Pali and School Streets, which was the old Ahia property. Our great-great-granduncle William Malulani Ahia was one of the first legislators in the territorial days. He was a child that ran around the palace and was raised by Queen Lili'uokalani. His mother was one of the kaukauali'i, or retainers to the Queen. Her name was Mrs. Malaina Ahia, she was a Mahoe girl, and that was one of my Tūtū's sisters, my Tūtū being Mrs. Olivia Libby Mahoe. She was Mrs. Mahoe because she was a Mahoe marrying a Mahoe, her husband being Reverend Joel Hulu Mahoe.

I also studied Hawaiian culture which included not just genealogy but various aspects of Hawaiian culture that dealt with land and history, the social structures of the traditional lifestyle of our kanaka. I studied from various other kūpuna in my family such as Aunty Dorothy Gillett. Aunty Dorothy was born Dorothy Aulani Kahananui, and she was the daughter of the well-noted musician, Hawaiian historian, and Hawaiian cultural specialist, Dorothy Mitchell Kahananui. Aunty Dorothy Mitchell Kahananui was someone that Mary Kawena Pukui would often go to for information and advice, as Aunty Dorothy was her senior. And they all worked together with the Bishop Museum at that time. I also learned Hawaiian genealogy and history from my Tūtū Nani, that's my mother's mom, Mrs. Cruz. From when I was about three or four years old, I remember Tūtū teaching me about her grandmother, the late Abigail Kekūlani Mahoe. I remember seeing these pictures and hearing the stories. She was the daughter of the Reverend Joel Hulu Mahoe and Olivia. Also, I learned genealogy and history of the Hawaiian Islands in general. A lot of focus was on the two Konas of Hawai`i Island, Lahaina of Maui, the island of Kaua`i, and parts of O'ahu…. Now, being that you are here because of Kona, my connection to Kona is because of Tūtū Man Joel Hulu Mahoe who is from South Kona. We say 'Opihali but the government says 'Opihi Hale.

There's a lot more to my traditional training. I began studying Hawaiian language in seventh grade under my Kumu Shane Kauwela Valejo at Wai'anae Intermediate. She is today known as Mrs. Novokov. She was my school teacher 21 or 22 years ago. So I guess 21 or 22 years spans the time that I've been speaking Hawaiian. And I remember one day, it was recess time, and it was in the stairway, and when she found out my middle name was Kame'eiamoku, she grabbed my shirt and slammed me against the wall and she says, "Do you know who you are? Do you know who you are?" And I freaked out and I started to cry and I would recite my name over and over and over again, my whole name, because I didn't know what she was trying to tell me. Later that day I realized that she was just shocked that there was somebody carrying the name Kame'eiamoku and I was in her class. From that day on, she took care of me really well and she has been, ever since, my very dear friend.

I would spend some years riding in my Aunty Millie Rasmussen's van, learning to speak Hawaiian. Aunty Millie would tell me, "Pehea. Hea kena 'ōlelo. O 'oi `ōlelo, ka 'ōlelo makuahine, ka 'ōlelo o ka 'āina, ai'ole ka 'ōlelo mai ka puke." She would tell me, "What is that you speaking? You speaking your mother tongue? You speaking the

language of the land? You speaking that language they learned from the book over there at the university." And I would say, "I guess all of the above, Aunty." And she goes, "Whoa, huikau, huikau. Whoa, confusing, confusing." And I would tell her, "Aunty, instead of telling me confusing, confusing, then why don't you just teach me the way you think I should learn how to speak Hawaiian?" And she did, everyday driving in her van. To the Archives, the Bureau of Conveyance, Hawai`i State Library, every time we went to do genealogy research, or we would do land title research. I was baptized in Kamakumauloa Church on Mokuwea Street in Kalihi where she is the deacon of the church and her sister Aunty Patricia Kanehiwa is Kahuhaiwanaliu (ordained minister) there. The main kahu, the kahu poʻo is Jacob Naweli. It's a non-denominational Christian Hawaiian church. During Prince Kūhiō's time this church was founded by Papa John Weiss. And the cornerstone of the church was built on the Hawaiian language. Before that Aunty Millie's family came out of a church in Kakaʻako called Ibarena Ho.

My family came out of the Kawaihaʻo Church from Tūtū Man Mahoe time. My great-grandma Alice Kahalemalahinikalei Mahoe Harper, a Kapaʻa schoolteacher, married the Portuguese man Alfred Rodrigues, the storekeeper of Keālia, and they are the biological parents of Tūtū Nani. Tūtū Nani was raised by her mother's adopted mother Tūtū Neʻe. Tūtū Neʻe was actually Tūtū Kalehua, also known as Tūtū Kalelua. Tūtū Kalehua folks were listed in the house of Queen Liliʻuokalani in the 1910 census. Queen Liliʻuokalani, King Kalākaua, Princess Likelike, they were all children of Caesar Kapaʻakea and Keohokaʻalole. And Caesar Kapaʻakea and Keohokaʻalole were first cousins. Caesar Kapaʻakea was the oldest half-brother of the Reverend Joel Hulu Mahoe. They shared the same father but had different mothers.

Tūtū Neʻe was the sister of Tūtū Olivia Mahoe, the Reverend's wife. In those days, when the kūpuna comes and asked for the baby, you gave the baby. So when Tūtū Abigail Kekūlani Mahoe was giving birth to Grandma Alice Kahalemalahinikalei Mahoe Harper (simply known as Mrs. Rodrigues), Tūtū Neʻe came and took the baby. Tūtū Abigail gave birth to Tūtū Alice in Kōloa, Kauaʻi, but Tūtū Neʻe took the baby to Makaweli, down to Waimea, Kauaʻi. When Tūtū Alice was giving birth to my grandmother in Kapaʻa, Kauaʻi, Tūtū Neʻe came again and took my grandma. But by then, they were staying up in Kawaihaʻo, which is all the way up Kapaʻa, go up by the cemetery, and then you go all the way behind.

And you know Mahealona Hospital, that's all my grandma's aunties and uncles. Tūtū Olivia's sister was Malaina Ahia, her daughter was known as Mrs. Nancy Mahealona and she was the head of the hospital in Honolulu, the one where all the Kalaupapa patients would come through. She was the superintendent or the head of that. My Tūtū said that when they were little, Tūtū said her mama had Japanese maids. And they used to dine with all this wonderful silverware, coat of arms on top the plate, fine china. And I said, but Tūtū, your father was a store clerk for Keālia, how did you have that? She goes, "My mama was Hawaiian and my mama was from the ali`i. And my mama had inherited stuff. And at the same time mama was a school teacher and she got paid good as a school teacher. Mama was a wise investor, so mama purchased land throughout Kapa`a town and they built up the town, and they'd sell and make money. So mama ended up being a businesswoman. But she said that they would dine with the Mahealona-Wilcox family all the time, and she said that family was her aunties and uncles. She said when she was twelve, her mama died, and all of that life was pau and she went to live with the Aki family for a time….

Getting back to Tūtū Olivia and Tūtū Joel…Reverend Joel's half-brother was Caesar Kapaʻakea, they shared the same father. Their father was Kamanawaʻelua, who was the twin brother of Hulu Kameʻeiamoku, and they were just known simply as the Mahoe brothers. This is not the royal twins on the Kona farms; that would be their grandfather. These twins are the grandchildren of ones on the Kona farms. Reverend Joel and Olivia, who had plenty of children, one of their daughters was named Abigail Kekūlani Mahoe. Tūtū Abigail's middle name, Kekūlani, reflects a region in Kona high above in the spaces where the akua dwell on Mauna Loa, which is a place called Kūlani. It's above the waukele. Kekūlani is when the heavens stand upright.

You know King Kalakaua and Queen Liliʻuokalani, their father was Kapaʻakea and my tutu man Reverend Joel was that brother, well they were first cousins to Keohokalole [Kapaʻakea's wife]. Tutu man Mahoe and his brother Caesar Kapaʻakea, they were the first cousins to Caesar Kapaʻakea's wife. If you look in the genealogy…Keohokalole, the sacred hair. Because the hair acted like a blanket, it was so beautiful and long and almost like a blanket. Okay, so Kamanawa's brother was Aikanaka, and that's Kamanawaʻelua. And Aikanaka was married to Kamaiokalani and Aikanaka was the aliʻi ai ahupuaʻa of Lanihau. Yes [they all have connection to Kaʻawaloa, because they all go back to Kalaniʻōpuʻu. It all goes back to Kalaniʻōpuʻu of Kaʻawaloa. And I'll share with you a little bit more of that in a

bit. Kamaiokalani was the aliʻi ai ahupuaʻa; now that is a chief higher than the konohiki. They belong to the second degree of chiefs. Of the several districts there, of what makes up this area…[Analu].

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Verna (Navas) Kihe [Nov 19, 2009]**.** My name is Verna Kihe. Born Oʻahu…Honolulu-Kalihi. 1943. Grew up in Hōnaunau until ten…and then I moved to Nāpōʻopoʻo. My parents are Antoine Navas and Elizabeth Keleikolio. My father was from Nāpōʻopoʻo with Sam Koko - that's his hanai father. My mom she was born in Hōnaunau. My grandmother passed away and my grandfather asked them to come back to stay with him in Kaʻawaloa. Yeah. Going toward the rubbish dump…you know where Manini Beach is…right over there…that other beach right across this bay. I went to Hōnaunau School to Eighth grade. Then went to Hilo High School because I wanted to stay with my aunt. My auntie's name…I think you mentioned her name earlier. Grand-daughter owned the lei stand and sold lei over there. Iolani…and then the last name's my grandfather.

[After Hilo High School] I came back to Kona to care for my grandfather for awhile. And then after, I got married. Then I told my mom and dad, 'Well, you guys got your own home …you guys take grandpa. I'm moving out. I'm on my own.' Then I move up to Hōnaunau mauka…after I got married to Alfred Kihe. I think Alfred was born Keʻei Beach. Yeah, Kahua. He grew up in Keʻei and mauka Hōnaunau and here [Kealakekua]….with his sisters 'cause his mom passed away giving birth to him. He was a construction operator. He could drive big machine, big trucks for Tanaka. James Tanaka. He passed away in the '80's…so long ago. He had a heart attack and he had cancer. I have six children. I had one from Alfred Kihe and five from Charlie Gaspar. They call him Kaeo Gaspar…I never got [re]married. Kaeo Gaspar worked construction. Tanaka. Same with Alfred, but he did farm work…that was his main job….part time he used to take care farms. My son Alfred still lives here…when they were younger, yeah…you know, back and forth … Hōnaunau …Nāpōʻopoʻo…was more Hōnaunau.

I live up mauka…but my daughter lives down the beach. Even the Leslie's … I don't see them no more. My father built stonewalls, fisherman… Bobby Leslie….pick coffee…all farm kind stuff he did over here when he came home to Kona. That stonewall…going all the way to Hōnaunau…sometime when you driving you see that wall on the mauka side…my father built that too. And the wharf…the wall like going on this side…when you look at the wall it goes like a wave…like that. He helped build that too. And the Leslie's…and the Moku's too…yeah, Millie Moku that was her name. My mother used to weave hats. Lauhala things…mat…hat…all that Hawaiian craft…and pick coffee, of course. But she did alright. Allen Nakamura…and then Felice Nakamura's coffee farms….Japanese family. My grandmother taught me [to weave]. Actually my grandmother raised me … that's why I came here in the 40s. [Grandma] Claire…she had a long Hawaiian name… I cannot remember…we are all related. My grandma had no children, so she asked my mother…my mother had twelve children. So my mother let me go and I was raised here from then…never went back to Honolulu….didn't like that place…. I have sisters live in Honolulu, and I don't know their married names. No, they come visit us though…they come visit…they visit. I don't like airplane ride.

When I came to Kona I didn't want Honolulu anymore…because when I came I was amazed at the fruits they had! Mangoes and…whoa! We used to call it kapu like…"that's mine you can't touch it!"…we were so clustered with fruits and I just fell in love with this place. And then you would know every neighbor …it was safe to walk around day or night. I used to walk from here actually…go all the way to Hōnaunau! I wasn't afraid in the dark. The only thing was that the neighbors was far away. Far, far away…we kept in touch through my grandparents…they all kept in touch with each other. Time to work, they work…when was time to party, they party. They party! What I miss now is the young people…they don't go serenade like Christmas…the old folks they all went to every house…and they left us children home for someone to come serenade 'cause they give gifts when they serenade…give people gifts. So the next day they would come send a car and get all the children…like me and my cousins…and we all went down to Hōnaunau Beach and then we just celebrate 'till the next year. I used to like that because I didn't have to go home and pick coffee.

I have two brothers left…no three brothers…one is in Kauaʻi…the oldest is in Kauaʻi. Haven't visited him since he moved there 'cause I was mad at him…I'm still mad at him. He left me over here…me and my brother was raised together. When he made seventy my children and my brothers and sisters and in-laws...kind of mali mali me…took me to his birthday party…in Kauaʻi, yeah. And we stayed at a hotel…I don't know what hotel …I just wanted to see him and come home. But then I forgive…we forgive each other. 'Cause I was small and I thought he just abandoned

me…'cause he had girlfriend. Then he got married and (??) no more. Some of my sisters when I was young…I didn't know them by looks but I knew them by their name…until my parents moved here. And my oldest sister…when my other sisters used to come to visit…she used to bring them up to my place to visit me. The Leslies are ohana… on the Gaspar side. They're my ohana. I hardly come [down here at Kealakekua] because I got disease from the water so I'm not allowed to go near the ocean for a long time. Then I had a stroke…They don't know where but they said, 'salt water.' [The hat in the photo was made by her grandmother. Verna passed away July 2015]

# # #

Wally Lau [Nov 19, 2009]. Wally Lau…born and raised on O'ahu…went to high school…graduate of Damien Memorial High School. Went to further my education in the State of Washington at Central Washington State University…and came back home and began my career at Kamehameha Schools. I was their Director of Alternative Education Programs. Working with our at-promise youth in the community….under Community Education…that was the division that we were in…and came to Kona….came here in '97….been here ever since. Parents…my father is Walter Lau…whose roots actually come from right here in Keauhou…but born on O'ahu…but his mother, Esther Chai, is from Keauhou mauka…and my mother is Catherine Ka'awa Lau. Her 'ohana comes from Na'alehu in Ka'ū. So we get roots back over here in both sides of my family. [Ka'awa family have roots in Ka'awaloa] So '97 I opened up a non-profit called the Neighborhood Place of Kona…that focused on the prevention of child abuse and neglect. Up until November of last year, that's what I did…until I came on working for the Mayor…about a year ago now…Deputy Managing Director.

I've been with the Royal Order for about fifteen years now…been with Hale Mua maybe about eight years. Hale Mua is really about perpetuating the Hawaiian culture…I don't know the exact mission but it's about the perpetuation of the Hawaiian culture…whether it's through the arts…whether it through educational programs…it's also about helping to support other cultural entities that maybe are not the 501-C3's. So we can act…we try to act as their financial…their fiscal agent…but our whole area is about perpetuating our Hawaiian culture…various types of projects. One of the projects is Ka'awaloa where we have an MOA with DLNR….to kind of be the kahu of a particular parcel of Ka'awaloa. That's the one that is right by the flats - thirteen point something acres. It's basically….you know where the monument stay? In that area. What Hale Mua has done is then have an MOA with the Royal Order of Kamehameha O Moku Kona to help us, along with the community, in taking care of cleaning the area…malama the area per our agreement. Basically its malama the area over there right now.

# # #

Gordon Leslie [Nov 16, 2009]. My name is Gordon Leslie. I was born in Kona Hawai'i at the old Japanese hospital in Kealakekua, and I was raised all my life in Nāpō'opo'o Village. Went to school in Konawaena and finished in 1965. Spent 4 years in the military in the Navy. Attended 2 years junior college in San Diego. My parents are Mary and Henry Leslie Jr. My mother Mary was born in Ka'awaloa and raised in Ka'awaloa by Launui Kaneao and Ida Ka'aihuekaalele Kaneao. My father was born in Nāpō'opo'o to Thelma (Gaspar) and Henry Leslie Sr. who was also raised in Nāpō'opo'o. They were actually born in Keokea in South Kona. Her [Thelma] 'ohana all come from Ka'awaloa and the Hokulia area, Onouli [they pronounce it Nouli. Nouli yah without the O], that's where her father and mother are from. Henry Sr. was the brother of Frederick and Lionel…and so was Milton's dad (Robert). I guess their grandmother and grandfather were Friedenberg from Kaua'i. He married high chiefess Mary Kahekili from Hāna, Maui. They had 5 daughters. One daughter married Leslie. One daughter married Lindsey. One daughter married Purdy. One daughter married Place. And I can't remember right now about the other daughter but because of the relationship with the Lindseys, Frederick Leslie actually moved to Kohala. He was the postmaster in Kohala and he also owned 4-5 bars there. And they were ranchers. So my grandfather and Bob would haul cattle from Waimea to Kona to ship cattle and then when they were here they would haul shipped cattle from the Kealakekua Bay where my grandfather met my grandmother Thelma Gaspar. And Milton's dad I don't know where he met aunty but she was a Perkins.

My great grandfather Captain Lonke - their graves are at the Catholic Church cemetery down in Nāpō'opo'o. He came from Italy and he arrived here before the turn of the century and he was the first coffee producer in Kona. You know the coffee mill that the State land has down in Nāpō'opo'o? That was his coffee mill. We always thought that he was Portuguese, but we found out later that he was actually Italian. He came here from Portugal, and as a young man he was already sailing on ships already. When he came to Kona he jumped ship; he was actually a cook on the ship that he was on so when he jumped ship he took coffee, and that's how he planted coffee here…all up mauka yeh.

He was very industrious. He had a dairy up Kealia also. I have stuff that if you need more we kept them a lot of information, written information about him.

You go down Nāpō'opo'o intersection, you turn right and the only road going to the bay, the first house. That was grandpa's house. Right now it's a haole owns it... and she sold it. She lost it put it that way. My dad was raised in that house. My grandfather and grandmother's first house in Nāpō'opo'o here, and that was completed on June 12, 1912. They turned it into a fishing - they had sampans, they were the first local long line fishermen on this island. At one time grandpa had 11 sampans, and that's why today we still have our moorings, which were grandfathered in. My grandfather also was the wharf manager, he was in charge of the pier. The pier was the shipping port of Hawai'i at the time up until the '30s – '40s.

My family is from Kauwili…this is my mother's ...she was Kaneao and Whitmarsh. The Kaneao family was my grandfather's. He has a brother Joe Kele Kaneao, one of the big family clans on Ni'ihau. He was there. But he took Kaneao off so Oliver Kele of Ni'ihau is a Kaneao. My grandfather was a fisherman. There was a time in his life according to…you know you can get better information on all this is from…what was her name that did the Kahua study and who's that Martha had the book did you see that book? This was made by a wahine, Portuguese kinda name. She researched all of Ka'awaloa and I know there was a lot about the Kaniau family about the Greenwells. I can give it to you if you can't find it.

Whitmarsh was given the award. It ended up with Whitmarsh. My grandfather Kaneao Alanui he had several children with the Whitmarsh family so they allowed them to live there. Tutu man was 20 years older than tutu lady and he already had children with the Whitmarsh lady and the Spencer lady so when he married tutu lady, tutu lady Ida comes from high ali'i yah. Her middle name was Pelepaikapu and so she told him that his children were ...puolo. He went and had all these other children, so as it turned out they only had their 5 girls. They had 5 boys in between they had the sons but they all died at birth. My mother contracted leprosy. Mama was married to daddy. Her sister was now going out with his brother. They lived in Ka'awaloa and she was at the Kona Hospital, Aunty Ana. And she would go back Ka'awaloa but when she was going out with my Uncle Freddie she wouldn't go home, she would come to Nāpō'opo'o right where I'm living now and live with mama and daddy, and tutu lady from across the ways and she was ... with mama for bringing her sister over there. And then mama came down with leprosy, kahuna got involved, brought a kahuna from South Point – Kinile – and he worked on her and cured her but he was able to tell her who cursed her. And he only described tutu lady ... hair ... tutu lady and she said yah it was her. She was mad at my mother for Aunty Ana not coming home. So that's why we were always afraid of tutu lady we never wanted to get her mad growing up.

My dad, Henry Jr., was just a commercial fisherman. He died the first so on his tombstone is at Kahikolu. His last akule school surround at Nāpō'opo'o the day before he died was 43,000 lb. the most ever brought up in the bay. Henry Sr. knew akaka, he knew opelu fishing, all kind day and night opelu fishing, kaili fishing, long line – we were the only long line fishermen on this island in Kona at least. And my grandfather Alanui at one point in time he fished and lived in Ke'ei.

[After the military] I worked for Boeing as a Check-boil pilot. I worked with Boeing for 10 years, then I took furlough and never went back. I was married at the time and they were shipping me all over China, Hong Kong, and Venezuela and she didn't want any more of that so I took furlough; and then she divorced me anyway. Then I had a dredging company, I had a contractor's license and did dredging in the state of Hawai'i. Malama Aina construction after that… I started that in 1987. I also was a fisherman with my family too prior to military and even after military.
I did everything. Everything that the family did – opelu, kaili, akaka, ko'a, ahi and long line fishing. Our family my brothers and I started you know they talk about Seamount fishing people who go up Seamount, we were the pioneers for that. We did the cross-Seamount; Chuckie can tell you more about that. For about six years before people realize what we were doing and then other people started to travel up and fish. But Chuck can tell you more about that. He is the fisherman of the family. Today I'm still with Hokuli'a. I'm the last on the Hokuli'a list. And I do a lot of church work. I'm helping Kona Farm what's called Keiki of Kona. Or it's called Kids of Kona today it's called Kids of Hawai'i Nei with Dick Choy. I still do construction work but most of my construction today is non-paying jobs, I go out and you know Hawaiian families have land and they wanna build but I go in and clean up with the machines and I don't charge them. They pay for the hauling and the fuel and I donate my time.

Malama Pono goes way back, the name Malama Pono is relatively new but it was called Nāpō'opo'o-Keei-Hōnaunau Community Association back in the '70s. Ha'i and I started it and we were the first…the three hotels and the first three golf courses up in Kohala you know by Waikoloa, that supposed to be between Keei and Hōnaunau. That's how Ha'i and I got involved and we fought and fought and we got Bishop Estate to move it up there [Kohala instead]. That was '78-'80s back then. Then Manini Beach, but they crossed that. Did you see Creighton's plan the one with the palms that the state has? They started off was Creighton's plan. I gotta show you that plan. It was horrible ... boat harbor right by the pier, big brick wall, big boat harbor in there, and that was in 1967 time. And we fought that one too. Well we got I got a lot of younger guys coming into our group they've been here for a number of years and I'm hoping that they can be enthusiastic enough to carry on [Gordon].

# # #

Milton Leslie [Nov 15, 2009]. My name is Milton Leslie. I am 63 years old. I was born and raised in Nāpō'opo'o... I went to grade school in Nāpō'opo'o and then went to and graduated from Konawaena High School in 1964. I was drafted into the military; after military, I went to college in California. I got a bachelors, masters and a doctorate in CSU San Francisco…EdD. I retired from the UH as of December 2008. I was a staff member, an educational specialist...I was also a high school teacher previously for one year at Konawaena, teaching home economics and social studies. My father is Robert Leslie Jr. and my mother, Madeline Fujihara. My mother was born and raised in Ho'okena, South Kona. Her father came from Yamaguchi Ken, Japan. And he married a pure Hawaiian girl from Ho'okena, Lily Haae in 1901. (Big Boy, Clarence Medeiros), all relatives… (Matthew Haalilio and Thomas Kaupu)…all family. That's on my mother's side. (Also Hannah Bush, Virginia Kelii and Aunty Lehua Domingo)…all from Ho'okena side. My father is deceased, my mother Madeline is still living. She's gonna be 91 next year [2010]. She lives in a care home. Her father Koji Fujihara, stared the Fujihara Store in Kulia... my mother later rebuilt the store and decided to keep this legacy ... but she sold it to a retail business in California somewhere. Koji was married before he came here…he left his wife and daughter back there. And he had seven children with Lily Haae of Ho'okena.

Robert Leslie Jr. was born in Kealakekua Bay. His parents arrived right around the 20th century, Robert Leslie Sr. and Helen Perkins. Helen Perkins is originally from Kauai. Her father came here from Ireland and settled on Kauai. He built a plantation there called Levi Perkins. She is half Hawaiian, half Irish. My father Robert was Irish-German and one-fourth Hawaiian. Helen's mother, I don't remember, but in our genealogy according to my cousin, her mother was linked to royalty on Maui. I don't know; that's what I was told…she could be a Maui girl I'm not sure, going back and forth. I know her father settled on Kaua'i.

Robert Leslie Sr. came on business, and saw the bay and was attracted by it. He chose to make it his home. He was very proud of himself, a very proud man. One of his proudest moments was when he ... fisherman of his boat. I have pictures of him, it's in the family home and that's why I want to convert it into this museum, particularly the old families and who knows going way back. So anyway, he decided to settle here. His wife Helen Perkins she had a brother who was having problems at home, so she went back and brought him home here, this was Charles Perkins.

He was a very proud man, a proud fisherman, and he loved to sing. He loved to drink, he loved to sing, everything he sang was in Hawaiian yet he only had maybe an 8th of Hawaiian in him, because his mother was Hola'o.

Nāpō'opo'o where I was born, was a very vibrant city village at one time. I went to Nāpō'opo'o School with a population of over 100 students. Majority of the people there made their living off the ocean. Most of the people there were farmers or fishermen, and there was a barter system whereby they traded with the Portuguese and Japanese for vegetables, for fish, for taro. However, after the war Pearl Harbor was rebuilding and they came looking for laborers and so what happened was a lot of the families moved out of the bay around the late '40s to move to homesteads on Oahu and worked for the government. So the population had declined to about 50% back in the '40s and in the late '40s early '50s as a result, Nāpō'opo'o School was closed in 1960 the last class. Majority of the farmers there were fishermen; my father was a fisherman and so were his cousins, and the economy was fish. So we sold our fish, we had fish markets along the road and sold our fish in the back of the truck. Fishing was the mainstay of the economy down there.

At Nāpō'opo'o, there's a pond over here…this is the landing…we lived right over here. By the heiau there's a park over there on the Ka'ū the south side. That's where I grew up. On the west side, across the street on the ocean front, that's where my father was born and raised. There's two homes, you can see a large home over there with a red roof

and there's a cottage still owned by the Leslie family, my family in particular, yeh. We lived there. My father and 9 brothers and sisters…were born and raised there. We lived right across the street there. My father was the only boy that remained back there. He didn't have an education, so he stayed back and carried on his father's legacy as a long-line fisherman. His father, Robert Leslie Sr. arrived right after St. Louis High School…it was called St. Louis College at the time. My father told me that right around the turn of the century like 1900. He was a smart man but he never gave his son (Robert Jr.) an education. And I think I know why. His other children had education, his oldest son Robert was kept back to be a fisherman and never got an education and when I was old enough, I reflect back and I think the only reason why he never gave this son an education was this son was black, so he kept him by the fifth grade he was out of school. So my father by definition today was a dysfunctional ___ before he died. But he was a very talented man, he knew what he had to do, he understood the currents, he understood his fishing, he could make opelu net using his fingers and toes and count with his eyes, he would carve his canoe, I mean he did things that was amazing for a man without an education. He knew what he had to do to survive. I can give you a lot of history, more about the family too, and how he lost some of that through ...marriage.

Robert Sr. was born and raised in Honolulu. His grandfather arrived in 1860-something around then. Frederick and Lionel Leslie…they were the two brothers that arrived here. It's a little confusing because when they arrived here I looked in the Archives, they're names were Frederick and Lionel Friedenberg Leslie; it's a German name. Friedenberg. I don't know how the Leslie name became attached. They were the two brothers that arrived here. Frederick married Hola'o…I don't know her English name, but I know her Hawaiian name was Hola'onanea…from Oahu, part Hawaiian. Her husband died, who was on a Steamer between Honolulu and Oakland… then she married Frederick. My grandfather Robert Sr. was Frederick's son. Robert Sr. had a brother Henry, a brother Alexander, a sister Martha, and another brother Thomas; they're the only ones I remember. They're all deceased.

Before my father died, I need to share this information because we're going into some legal issues here within my family. One of his wishes was that his home across the street the large home with the red roof, he wanted to convert it into a museum. And he wanted the property for the community in the bay. Besides Capt. Cook, which we call the bay's ___ fort, there was a Leslie family that settled there two generations ago, and they were very ... They intermarried, how they survived, how they built an imu in the ocean, how the corralled the fish, how they fed their families, how they raised ten children. One is still buried there on the property. So he wanted to communicate to everyone that came to the bay ... how they fed their families ... so that was his wish before he died. He entrusted me with several documents. He also asked me to be his trustee, which he did. He added me to his trust so that I would fulfill his wish. But since then we've been tied up in legal issues within the family as to who should be responsible for that, in spite of my father's wish. So the place just sat there after my father died and rarely used other than ... fishing ... We just came out of court on Monday and the judge had issued an order that ... Milton Leslie Sr., that's me, would be responsible for all the land management and all finances. My sister Lily and I have been battling this, we went to court ... So that's the ruling right now. I haven't been in the bay for a year, until the transition that would take place this coming Wednesday, and I would take possession of the home, not for me but for my brothers and sisters. If not all this would be sold.

# # #



Derek "Mac" McGuire [Nov 20, 2009]. My name's Derek McGuire, everybody call's me Mac. I was born in Hilo, Territory of Hawai'i, 1959…raised by my grandparents…so I was the grandson of fishermen. I am part Hawaiian through my mother…from Hilo. 1960 tidal wave our home was on Banyan Drive where the golf course is …after the tidal wave they made everybody move away…they condemned all the land …gave us a quarter acre five miles from the ocean….so I grew up in Waikea. Went to Waikea Elementary, Intermediate School and then Hilo High. My parents…the people that raised me was Walter and Sadie Souza. Walter was born in Hilo. His parents were Portuguese immigrants who worked for the plantation. That one was the…let's see…what was that one called…Wainaku. Wainaku Sugar Mill, I guess. He was a painter. Sadie was born in Maui…Sadie Camacho. Actually he wasn't my blood grandfather. He was my grandmother's husband.

My grandfather…I don't know…skip with a motor! When it came time to roll it was because he was setting nets and he pulled the motor out so that he could stand back there and set the net. He was a net fisherman. Every kind of fish you could think of he caught…he'd also go night diving with a scoop net…and he'd have his little bamboo goggles

….two pieces of bamboo with a glass…And then a scoop net…a homemade net that he would make…a little bit bigger than a basketball rim maybe…yeah, about like a basketball ring with a short 2-foot handle. And he'd go nighttime all around Hilo Bay and he'd just scoop up all the red fish and the balloon fish. And I was the bag boy…so he'd be in the water and I'd be following along the shore…."Boy!"…comes one fish flying through from the water…grab 'em …throw 'em in the bucket…take it to the car. And then we'd cross net all over Hilo Bay…daytime we'd pae pae….he'd get up for work at HELCO and come home... "Tie it just right, get your stuff, you're coming with me!" Go down to the beach and it was my job…he'd set the net and then I'd have to go chase the fish…and then at night…certain nights…the right moon phase we'd go out and we'd set like six nets…500 feet long each net. He'd catch may a 55-gallon drum worth of fish - 55-gallon at least with six long nets. He knew all the paths…all those little inlets…holes between the reef that when you set the net from here to there guarantee that when the tide change certain kind fish are going to pass by there and we'd catch all kinds by the hundreds. We sold it…he sold them. So it was an endless supply of fish.

My grandmother…her ohana was…my mom was Hawaiian, so my mom's grandma is Camacho…but her name was Mary Daniels…she was from Kauai… she was from Niʻihau…she moved to Maui. That's my grandma's mother. My grandma's mother's name was Mary Daniels from Niʻihau. And then my mom's dad…the McGuire…is Hoe. Oahu…Manoa….some place in one of those valleys over there. Clarence Hoe is supposed to be a gourd man. He's supposed to be (?). My mom's dad was Abel Keonoono McGuire…and his mom was Keala Hoe…that's where the canoe come in. That's my mom's dad….my mom's mother and her dad…both Hawaiian. My grandma she never did talk about her family too much because she was the youngest girl…she was like the 'black sheep.' One of nine daughters…she was the ninth…she was the youngest girl in nine brothers and sisters. So she always lived with her dad who was one cowboy…Ulupalakua Ranch. Their family place…our kuleana land…was down by Peʻahi…that's Haiku side. 'Cause I remember my grandma would tell me about when she was one kid she would have to go…she lived with her dad….so they live in the valley…half way up from the ocean…but how she would have to go pick pumpkin…pumpkin and breadfruit…boil 'em…then grate 'em for go feed the shark…that was her dad's…even though her dad was Spanish/Hawaiian…he still…that was his kuleana to go and malama the shark. So my 'aumakua is the Mano.

[After high school]…get all kind different jobs….was an equipment operator for the plantation…did carpet laying…then there was no work in '78…like a big building slowdown…so I joined the Army. I served three years regular Army and almost seven years National Guard. Primarily I was in training…I went all over the United States…I went to Honduras…I went to Israel…Germany…England. Gung ho…that's why I went airborne…air assault…a lot of helicopters…I was one scout. [And after Army]…joined the National Guard. Came back to Hawaiʻi and joined the National Guard …let's see what was I doing…worked another bunch of jobs…worked up at the PX … took some management classes and courses with the PX Service and I was doing that for a while trying to get full time National Guard….because I was a shooter…I did a lot of shooting …I was the captain of the State Rifle Team….so I went to shooter competitions all over the mainland. The National Guard was supposed to have these fulltime jobs that was going to open up…and since I was a good shooter, I was the unit armor…I was active Army assigned to a National Guard unit for three and a half years. Then I quit. After that I started a small business…detailing and metal polishing. That was quite a bit of work. In Hilo. I also worked full time at one fertilizer store. I was the Sr. Warehouse Man. After getting married and getting divorced twice…I finally went and just said forget it! Quit working and went to the ocean…back to what I used to do…gather from the ocean…gather…picking maile…picking opihi…catching 'aʻama crabs. Since I went out to Kaʻū…I think I was thirty-two years old. Sometime in the early 90's I got out of the National Guard and the Army…joined in '79 and got out in '89….in '92 I went to Kaʻū. Peace and quiet. I need to be by myself because I was having problems with PTSD. So I stayed by the ocean for one month by myself…in the middle of no place …between Pahala and Volcano down by the ocean. After one month I learn how to talk to nature…I go ask for whatever I needed and receive…and that's about it.

That's when I started doing carvings. The first thing I ever went carve was a fishhook. I found a bone on the ground at that place I was hanging out by myself for one month…found one bone and took a couple pieces of rock and kept on filing … grinding…and made me one perfect fishhook. And when I finally was ready to be with people again I went to Punaluʻu…to the park…'cause I had picked opihi and I was going to go and sell them. So I went to the park to use the telephone and met some locals there…and first thing they asked me was, "Oh, picking opihi?" I was like, "Yeah. You guys like some?" They said, "Yeah, alright then!" And I gave them plenty…so they were pretty shocked. "You hungry?" "I did walk far." Took me like four hours for walk out…so they fed me and I made friends with them…stayed in Pahala…lived out there with those guys…in the beginning as an outsider. Learned about canoes and

the Hawaiian culture…learn how to protect the 'aina….that was the biggest **(?)**…watching everybody abuse Punaluʻu…watch the turtles…not to mention the locals. The few locals they would go fishing and forget about enough is enough…catch all that they can possibly catch…to the point take months for the place to come back. Once somebody go to the same place two or three days in a row that place is basically wiped out for at least two months.

So while I lived in Kaʻū I met an old high school friend who is a canoe builder…he live down at Punaluʻu. Made friends with him…hung out…helped him with his boats to the point where I had my own canoe…I started helping him operate…he had two canoes …one, double-hull, 25 footer…and one, single-hull, 34 footer…so I'd use the 34 …and I'd go to places like Puʻuhonua Hōnaunau for the cultural festival…we'd both go down and support the festival by giving canoe rides. So I did that for eight years for Puʻuhonua Hōnaunau…and then Puʻukoholā…for them seven years. Seven years. A cultural resource person …the canoe man! And in between that we'd get calls from different Hawaiian groups…the first kids to go from preschool to high school…when they were in the eighth grade we got to take them sailing from…well, they asked…the teachers asked us if we could take their class sailing from Kamakahonu…which is Kamehameha Beach Hotel…to Ninoli…total of sixteen kids….and that was probably in '92 or '93…one of the first things we did was take those kids. It was awesome because Nainoa Thompson came and I got to sail with him. And I've done just different events and a whole bunch of people…every year there would be a juggling festival in Kawaihae…it's like three hundred people for ten days…I gave canoe rides…did that for about eight years. Now discontinued. One of the canoes…the last year we did it…another non-experienced boat captain took a canoe out and got blown out into the channel and almost killed thirteen people. That was the end of that festival.

And in the year 2000 I had a kids program here…at this park [KBSHP]…was County sponsored…. I had canoes down here...I was teaching at the Waldorf School. I started teaching two periods one day a week…teaching them how to make pahu drums. They wanted to start a music class…but had no drums…so I taught them all to make coconut drums. The canoe I had at the time…I had an 18-foot fiberglass double-hull sailing canoe. We took my canoe and made a mold out of it…a copy of it…and then the kids started making canoes the same way I do now…all the strips of wood….we taught them how to make canoes out of strips of wood…and they used my canoe for the model. I think they did it for like four years…they had a total of seven or eight canoes at the school. So after I finished making the drums they asked me to stay on and teach …help with the canoe building…so I stayed on and then I had one whole day of teaching with seventh and eighth graders…per week until the Hawaiian Studies teachers got me one DOE job. So then I became the Hawaiian Studies teacher at Kona Pacific. I had two days a week…one day that I'd go through the whole from pre-school to eighth grade…one period every class…and since I'm not good in language…'cause when I learned how to be Hawaiian, the elders in Kaʻū told me you build canoes…you do canoes…you no worry about nothing else…don't worry about language …don't worry about anything else…your job is canoes…learn all you can. So for one school year was a Hawaiian Studies teacher. At the Waldorf. Actually I was with them for two years though because I went to the Teacher's Conference in Oahu.

And then we had…I brought the kids down here with the canoe…we had brought the canoes here and set up a beach site where on Mondays I'd go the school and I'd teach all the classes something… and then on Friday's the highest grade kids would come here…so we'd have fourteen kids come down here every Friday and we'd spend the day here at the beach. So that first job was clean the beach, malama `aina, then malama the heiau and the ohana…then I'd teach them some kind of hands on for forty-five minutes until their attention lost…and I'd teach them all kinds coconut patching for roofs…coconut baskets…and I can do any kind of weaving…I taught them rope making…taught them fishing…and then ocean skills. And what I did was with the other classes…the Monday class…I had that class support an event that we had here at the end of the year…we had like one "end of the year" blow out at the beach. First and second graders learned how to make rope…so they made line out of sisal…the third and fourth graders …the goal was for all those classes to produce a heʻe lure so that the oldest kids with the canoes could take it out here in the ocean and try it out. So the younger kids made rope…next grade made the hook and the shaft…and then fifth and sixth assembles the heʻe lure and then by the end of the year we had all the kids come down here…the older ones pushed the canoes into the water …got to try the lures that everybody else helped to make. So it was pretty cool.

We went with the parents…we made a little imu down there…we had nine kids from New Mexico Waldorf…the Waldorf School in New Mexico…they came as exchange students like. [It's not continuing] because during the summer break… after that whole event there was a summer break…my daughter called me up just before the end of summer and said, "Dad, you gotta come see your grandson." She lived in Maui. So I went on Labor Day 2001 … couple days later some dudes blew up…crashed some planes [9/11]…I'm just a Native Hawaiian with no ID….not part of the system…could not fly home. So I told everybody I'll be back in a week. I couldn't come back for three years till they finally figured out a way to get some kind of ID without signing. [It took] seven years! I just came back two years ago. Spent about nine months in Hilo and I've been back here for fourteen months now…I've been back…at the bay. I get no kind of nothing from no place. No VA benefits…I don't get no food stamps…I've been sovereign for twenty-four years…since I got out of the service I've lived with no idea no nothing…I'm done with the system. I go fish…I just want side jobs. Like this canoe here…I'm going to give this to somebody so he's paying me … every week he gives me a couple hundred bucks…he know he going to end up with this so he's happy.

# # #

Land Resources and Use. Land resources and use changes over time. Evidence of these changes is often documented in archival records. Cultural remains are also often evident on the landscape and/or beneath the surface and provide information regarding land resources and use. However, oral histories can give personal glimpses of how the land was utilized over time and where the resources are or may have been. The ethnographic consultants interviewed have a long history of connections to the project area and vicinity and some are very informed of its ancient history as well and share their mana'o below.

People of Nāpō'opo'o and Vicinity.

Nāpō'opo'o…quite the village…it was a wonderful village. It's really funny listening to people talking about the amount of people now using the earth and the sea and the land and the water over there…and how we have to build all these things…and do all this stuff to keep up with the building…guess what!...no matter what they do, it won't equal the amount of people that lived here…a hundred plus thousand people that lived in this village to begin with…that knew how to live with the surrounding areas … that didn't do the lasting type of damage that they're asking to do in order to go ahead and create the space that can handle the amount of people that are now coming! Isn't that funny! They haven't read or understand the history at all! Is this a funny interview for you…it's all circles! Nāpō'opo'o mean 'The head'…'The top village' as I've heard from my grandmother…Napo`opo`o…you know po'o is head…the crown… "Na" is plural…it's the top of the crown. Not the crown seat…the top of the crown. It's also in reference to what this held. Kealakekua. The Order of I'o sat here… the inner sanctum of that temple [Aka].

And my Tutu Kalae was also La'au Kahea La'au Lapa'au. But the thing they did first was Ho'oponopono…to determine whether or not …where these things are coming from…because everything happens in the spiritual world and it rolls out physically…everything happens in the spirit world and it rolls out physically. We try to do things that we can…it's only band aids…you have to deal with it on that side…and then they roll out pono…and then it rolls out good [Aka].

Some of em [children I walked to school with] were the Kahiwa girls, Emmaline Kahiwa, and there were the Kiaha family and then the Ege family a Japanese family. Then there were the Grace family and the Gaspars [Joanna].

Robert Leslie Sr. had a brother Henry, he had a brother Alexander, he had a sister Martha, and he had another brother Thomas; they're the only ones I remember. They're all deceased [Milton].

[Robert Leslie Sr. and Helen Perkins, when they came to Nāpō'opo'o it was] typical of a Hawaiian village, everyone spoke Hawaiian, there were still people walking around with malo. Everything was still traditional Hawaiian, values. Some of them had [bath houses]…there were remnants still there. Few of them were very Americanized already. They spoke the language and lived off the ocean fishing. Before he died most of them had converted or moved away. Where Puuhonua Ō Hōnaunau is now, they moved away and died. Bill Paris when they came, were one of the original ones who lived down there before. There's a picture of Hiram who built the church…on top the hill. Bill Paris comes from one of the first missionaries who landed here. Bill had a lot of fish knowledge of the bay here [Milton].

Nāpō'opo'o had pretty much people living down there…Gaspar, Grace yeh, no Lillian what was Nelson? When I was growing up they weren't there yet. But was Leslie, my sister knows the other families yah. My time only I remember the Gaspars and Machados. The Machados we were like one, it was two different houses but the one wall parted us, and every evening - they were Seventh Day Adventists and they would play the piano and we'd go over and they always had worship time but they were so much part of us. Aunty Margaret Machado, they were the ones lomi lomi. That was her daughter Yvette that I was really close to. When we grew up with her she was not teaching lomi lomi that was later on in life. You know, I never seen her do it. I never did. We grew up knowing them taking care of the store and the family but it was way later years later that she did that [Irene].

The only family I remember was Ackerman, Kahalepuna, Leslie, Yates, there was a Moku family, and Kanio family, I don't know what happened to them, the left when I was a little boy…Kaneao, Lanui family… the Lanui family was one of the originals, that's the pure Hawaiians….that's my understanding, three Lanui sisters married three Leslie; Henry's grandfather's wife was one of the Lanui girls, and his brother Fred married another Lanui girl, and my uncle Lloyd married a Lanui girl but he passed away in his early 30-40s and she passed away and has a son living in Honomu, Lloyd Leslie Jr. And there's Richard Leslie, Richard was the son of Henry had two sons called Henry Leslie III and IV. One son was raised by the Lanui family he was Henry IV, so he was married to I dont know Paiva and one time, and one of Paiva's brother married to Mary Leslie. Anyway she works for Hokuli'a by the gate. Anyway, Henry Leslie IV his first wife was Eleanor Paiva, they had a son Richard. I don't know when he died…because her brother married Mary Leslie [Milton].

My daughter worked part-time at Hokuli'a. She was laid off so she works 20 hours at the gate. Melvia, she was named after our cousin Melveen [Leed] that's the Place family ... all relatives. They arrived on the first and second ships at Honolulu Harbor. But they settled Molokai the Place family. They been in Nāpō'opo'o South Kona too….the mother is Place. She was born in paniolo country [Milton].

Yah right across yah right that empty lot right across the pier. Right now it's empty that was the store and their [Machado] home. When we were growing up Aunty Margaret never did teach lomi lomi I don't know what year that she started and that was years later, her daughters were in college and out already by the time she went and did that. Mom used to buy food from them and they had a charge where we could; I remember the store used to allow our parents or the people to charge and then pay it later at the end of the month. What you call that the people trusted. We knew that's what I always thought that people would trust our parents. They knew that they won't get paid until end of the month so they trusted them taking food. It wasn't only from them it was also from Ege Store that's in Hōnaunau. So a lot of things were they would charge and pay at the end of the month when they got their money [Irene].

Yeh, there's a heiau over here and there's a wall over here and I believe there's another wall in the back. See before my father was born, okay a Portuguese family lived there, which leads me to believe they arrived before my father. My father was 86 when he died in 2003. He told me the first wave of Portuguese came from Madera. So ___'s wife Medeiros was very typical of the era. When I was a little boy I used to see the Medeiros and another Portuguese family would go out and fish. Because the lot that we owned down there that was passed on through the generations was purchased by the DeGeer family. You know right on the ocean front, by the park, that property was purchased before my father died he gave me all the documents for the property, and his family purchased it from the DeGeer family. I thought it was from a native Hawaiian but no it was purchased from the DeGeer family. I had documents to show the easement. That was over here by the recreation area. That large home with the red roof. It was purchased by the DeGeer family. Till today they still have the Gasper family living there. Yeh, still get Gasper family for three generations. His father arrived right after St. Louis High School, he came over. My father told me that right around the turn of the century like 1900 [Milton].

DeGeers…I don't know but I know they were involved with ___ missionaries a generation or so ago. My understanding there were plantations of sugar, some fishing, a lot of ranching the Portuguese that settled here. Actually, the DeGeers are still around here from the initial migration. The original Gaspars are buried up by Nāpō'opo'o Catholic Church. The original Gaspars are there right there by the pier there's Lionel Gaspar that's 3rd generation. There's two kind of Portuguese arrived in Nāpō'opo'o. One was the fair and they're called ___; and you have the dark one with kinky hair they call Brabbas – they were a mixture of Jamaican or African from Portugal where they came from. You notice, you see them on Kauai some Portuguese are dark with kinky hair. And you get the fair ones... my grandmother and grandfather... if you look at the Gaspars the Gaspars married Leslies and for generations they still for example my cousin Jerome's side of Gaspar ... he passed away. At the time, there was shortage of women and you marry your own family. The Gaspars

they're hard working people like the Leslies over there, they all had to work to provide for their children. And they made a good, honest, and decent living. Lionel Gaspar [Milton].

There's Nelson, a haole guy I believe a German who lived in the bay and married one of the Grace girls. And there's Frasier, a German, he lived in Molokai on plantation then moved to Nāpō'opo'o with his wife and started a commercial fishing business ... down Manini Beach. There was a lot of different people living down the bay at one time but we all lived in harmony, of course we had our differences but Charles Perkins (mother's brother) was the real major ruler of the bay. He had five boys [Milton].

There were thousands of people living there when he [Cook] arrived. There were also a lot of people that come here to fish in the area, and there have been stories after stories after stories that Menehune went up the cliff and people were afraid of them. People while they're fishing, they were seen unexpectedly especially females with beautiful dress and all white the hair. I was afraid of that area when I was a young boy. I'd run every time I go there because of all the stories I was told about it [Milton].

Growing Up in Nāpō'opo'o and Vicinity.

The farmers, they would have a like where we grew up they had farmers or stores that came around like how the ice cream truck in Honolulu, they came around and they sold and the poi was from Sugai Poi Factory. But they came to the homes to all the homes and they sold vegetables and meat. Meat was like we hardly ate meat yeh. Higashi (Hōnaunau) and then Sugai (Keauhou). But it was so convenient because it was all through the homes that they came into [Irene].

Oh I remember we had that poi in bags. It was cloth bag and then to plastic came later, way later. And with that we used to what don't have to return them; didn't they make clothes out of that too? I think they used it for crabbing [Irene].

Activities down by the Bay area.

Let's see now, I think it was you know. This is yah we hung around this area. We never could just hang around and not do nothing. My mom had chores for us and actually we were the only family that was hardly ever hung around the streets. When we came home from school, we did our chores and we had to do our homework was yah and then the children had to sew lei so that we could sell to the kupuna who would sell lei…at the bay, and actually telling this. Actually before…well we used to do that, but then the Lei Stand was actually started by myself who had a pet pig, and Machado - Yvette Machado same age as me. She had a pet mongoose so we would hang out at the bay and we both had these pets and then the tourists started taking pictures of our pets. I would give anything to see those pictures. I guess then we started … oh and then we had shells and we started to sell the shells to them and then we started making lei, flower lei. So actually the first people who really started the lei business at Kealakekua Bay was myself and Yvette Machado. We were neighbors to the Machados [Irene].

Let's see, actually we never had a lei stand, we just went down and had the lei in our hands, but first was my pet pig and Yvette's mongoose. And then the tourists started taking pictures, we didn't think of making a business out of it but then they started giving us like 5 cents or whatever for those pictures. And she and I decided okay now we'll make lei and also we really didn't have a table we just stood down at the bay area. And then they would pick the shells or whatever and whatever they gave us we took. And the lei I forgot how much we sold it. I think we started out 25 cents and then we ended with a dollar because the tourists were telling us yah, plumeria flowers. The pig and the mongoose had ribbon, I mean the pig thought it was a mongoose and the mongoose probably thought it was a pig that's what amazed the tourists. They got along. Oh we did that for many years, we did that for I think up until she and I were about 4th or 5th grade. And then of course we're becoming teenagers [Irene].

Ekoa lei. It was just ekoa and then we sold it to Machado Store. We picked, from anywhere in the field and then we have to boil it until the seeds got little tender to sew [Irene].

Actually my mother-in-law, Mary Gaspar, was the first one that opened up this lei stand…she used to sell fresh flower leis. And then one day my husband, her son, told her why don't she make seed lei, that way she don't have to sew every day. You know she sew everyday…go outside pick the flowers late in the morning or late in the evening…so he thought about seed leis. So he taught his mother how to make seed leis. And then finally she sold seed leis. And then all her cousins…the Leslies…the Perkins…used to …cause they see her walk down in the morning to the park…"Oh, Nellie, your husband make plenty money and you're still selling leis to the tourists"…they used to make fun of her. But when they found out how much money she was making by selling leis…they started to want to come down to sell. But it wasn't over here where Aka is…it was under the big tree…the monkeypod tree…in the middle of the road over there…the one we call 'Okole'…that's where she started. And then after that everybody start on the walls like that…then my husband decided to make the mother one little shed like so she don't have to carry all her okana every time down, yeah, and pack it back home. He built her a shed, and everybody else started from this wall right here where the cars are parked…everybody had a stand…you had the Moku's…the Pali's …the Leslies…and the Gaspar's. Auntie Fern was the last to come and sell down here…because she was living in Honolulu too. The stand that's not open…that's a Pali stand… the children don't open…now they all got jobs and working outside [Verna].





Photos17 & 18. Only two of original 7 shacks/lei stands left (11/13/09 #5 & 11/5/09 #8)

The family has a lot of good times down here. We were selling leis to the tourists…. In the Forties used to have a lot of tourist buses. They come from Hōnaunau and they're all coming down here because of the bay. All the tourists' buses…they all come down here. And then slowly, slowly they didn't come [Verna].

The heiau, they used to tell us we used to go play on it but we were always taught to respect. Because we were never allowed to hang out on the streets, it kind of was a real big treat to us when they allowed us to go swimming. But we always had to do our chores. I think the ekoa lei they made us sew ekoa lei so that when the sun sets we cannot go but we kinda pretty much hung around mostly the bay area and the wharf [Irene].

So there was about 7-8 stands over there and the ladies sold mostly lei and bracelets made out of ekoa and Job's Tears seeds. They picked from the back the ekoa was boiled and they sewed everything; I sold seashells and if I made 25 cents that was a lot of money I could get a 5-6" ... so that was a lot of money, that was my objective to make money to buy me assorted stuff but it was commercial and the ladies at times would get into arguments and at times they would pull each other's hair over prices. One lady found out you were selling to tourists this particular bracelet for 25 cents ... 20 cents ... pulling each other's hair and fighting and saying we have to keep the prices same you're trying to etc etc. So in other words they were ___ among each other among family, even fishing…. Now there's two shacks. One was Fern Pule but I don't believe she had a grandfather

clause there. But there was a relative called Napaholokahi she was grandfathered in and adjacent to that there's another store belonged to Pali Pakiko…the other one was grandfathered to Emily Pakiko and I understand Richard Pali. Now Richard Pali's children occasionally they come there [Milton].

Structures/Features in Nāpōʻopoʻo and vicinity.

The Post Office was located down at the where the store and it was on the left hand when you go down. The post office was right there, it's still there. American Factors was right past that. The pier was on this side yeh. The Machados across there. American Factors was right next of the pier. Right next to the pier there's a parking but right on this side. There's a house over there. They say that's where the old post office used to be before they moved it to where it is right now [Joanna].

Okay just the pier is here its right here. There used to be an old store it's an empty lot now. This is the start of the pier. This was Machado's store. They lived right there in the house you know as you're going down there, there's a couple of ___ straight down to the pier where you go down to the pier that empty lot that was their house and the store. They lived in the back and the front was the store. And then we lived right next, we were like just a wall parted our families. But we could look over. They were so much a part of us our families [Irene].

There were 7 bars in this village you know during the day when they shipping cattle. One bar was right here, right in this property there was 2 bars by the Machado property, there was a bar here by the Hackfeld Store, one two three four oh golly I don't know where the others were now but according to dad there were 7 bars and they were rowdy at one point [Gordon].

Amfac at the time the lights when you leave the pier to go up to the intersection there's a big house on the right, that was a big, big building called Hackfeld's at the time, and in WWII they changed it to Amfac. But that was a hotel; downstairs was a post office for my ___, and upstairs I think when you refer to a hotel it's like a vacation ___. There was a Japanese family that managed the store, the bar, and lived upstairs as well [Gordon]. Photo 19. More recent white house (11/16/09 #298)



It used to be grandpa's building. And you know grandpa's building that's Henry Sr. the land he sold the land to a Bill Hodgings and Bill Hodgings built that house but I don't know who owns it now. As you facing makai on the right side…the house right on the right side…that's Lionel's [Gaspar] homestead. That used to be the post office property. That was the small house and his mother used to be the post mistress [Gordon].

Immediately makai side was where their property also [Milton Leslie]. Red roof white house yah. The gate is closed. That easement going to that beach in front of the house there's an easement for all the Leslie families. [House belongs to] his [Milton's] father. Still does. He still owns it [Gordon]. Photo 20. Milton's 'Ohana House (11/16/09 #297)



The grant number is 6245…Robert Leslie, Milton them. And the other grant this is grant 867, my great grandfather Captain Lonke. And this one is grant 4578, that's Bill Hodgings. This is the pier. Land Court. #424, I don't know who owned this, one of the ranchers used to own this land his name was Po. But he sold it [Gordon].

Nāpōʻopoʻo Road and this right here is Uncle Joe Gaspar, Lionel's father, Joe Gaspar all in here…#67. And this is my great grandfather's coffee mill right here. The first coffee mill in Kona…Lot 1 [Gordon]

Right here right here on the road there's a cement block, and the cement block according to Lionel's dad he died now; old Uncle Joe was 90. He told me when he was 12 years old his job was he would load the coffee on the flatbed that was mounted on the railroad track above ground going to the coffee mill, the second floor of the coffee mill. And he would load all the coffee bags on this flat cart that was on railroad wheels and his job was to push it; walk on the beams all the way to the coffee mill [Gordon].

The Catholic Church…one of these properties over here. This property right here. I was altar boy in that church. The church is gone but the gravesite is still there-that's all our family graves the Leslies and the Gaspars. You come down the road here you gonna see a little gate right across from Mana's house, Noe's [Hartman] brother, right across from his house there's a gate and you can walk in. We keep it all clean it's all manicured. Yeh right here. Mana's house is right here, right across the street from Mana's house [Used to be Kamakau's house]. When you coming around you kinda turn like that you going see plumeria trees [Gordon].

Well where the pavilion is, well this was all part of Amfac lumber facility. This is also where my brother died. He fell from a mango tree. Where Martha them were originally gonna build the existing pavilion it was 20 feet north of that and we told them we didn't want it there because that's where my brother died. When my brother fell he always wanted to become [dog barking; tape turned off]. Earl. Earl Makahanohano Leslie. Yah he fell from the mango tree and after he fell and died my uncle cut the mango tree down and then they poured the concrete slab over the stump. And that concrete slab became the pavilion. That old pavilion that was kinda everybody said that was better than what we have now but that was the reason why that pavilion was built. The slab was poured to cover the spot where he died. [The new one is] about 20 feet to the south of there. I told Martha I wanted to plant a kukui tree where he died. Martha went and got all the necessary approvals to go and clean out that place; I would love to do that [Gordon].



Photo 21. New Pavilion (11/15/09 #254)

Preston Cummings used to own all this land but he was married to Uncle Joe Gaspar's mother and that's where our family, my grandmother was a Kamakau, my second grandmother, my father's mother died and my grandfather married a lady called Susan Nawaa but she was actually a Kamakau. They were very land rich. So that's how he got a lot of land, through this marriage. And my grandmother Kamakau's sister was Kama'i. And like Uncle Joe's mother before she married Gaspar and she was married to Gaspar before Cummings and he took away all her land and stole a lot of land and then committed suicide… that's Lionel's grandfather and grandmother [Gordon].

I think there was that one house and then a lot of houses built for the farm. The farm was manager for the coffee mill, they called it the pineapple mill this one right here. I don't know what the pineapple mill was called. Pineapple Mill I think [now coffee mill co-op]. And the house, that's the house that Jean King was born in - you remember Jean King? She was born in that house. And she's part of the McFarlen family. Now that house that was back there it's probably today it's the oldest house in the village that still exists. It's where you go down to Manini Beach you know you pass my house going south on that road that you came in, when you go up the hill, it's right down the hill like that on the road that old house right on the right side. You saw that house, that same house that was back here they took it down wood by wood and they brought it there and built it the same shape. The old pictures that we have of the area have the house in there. And you look in the picture and you look at the house you know it's the same house. The Ushiroda's had brought it to where it's at right now. It's still standing. The foundation is still right in here [Gordon].

I did the carvings along the road there…I did that like nine years ago…sitting there with Uncle Kaeo Gaspar. He was the master fishermen of this bay in his time [Mac].



There was a prison, a jailhouse up there too. The foundation of the jailhouse and what I learned was not so much that it was used for prisoners that were shipped up here but more so for people who had leprosy. And that's where they would house em before they came in to take em away…. [They (leprosy patients) were] just from around this area, had plenty enough over there. Plenty of those buggahs died over there [Kalaupapa]. Lionel's brother died over there recently, but he was there from when he was a young boy [Gordon].

Photo 22. Prison and pond (HMCS 1890)

Cattle Drive in Nāpōʻopoʻo.

I remember them shipping cattle down there at the bay. The Humuula used to come in and they would drive the cattle down to the bay, run them in the water. Then they have the cowboys, the small boat would come in and they would tie it the neck to the boat and take it out and pull it up with the you know. They dock between Kaʻawaloa and Kealakekua Bay along the beach side of there. They bring the cattle down and then they drive them to the bay. And then they meet up with the Humuula [Joanna].

When you look at the pictures that Martha going show you, there's all kinds of stone walls along the beach there. And I think they might be more modern because they were shipping all the cattle out of here. And I'm not sure if this is all paddocks stonewall paddocks over here [Gordon].

Flora and Fauna of Park Area

All I know is that's where we go pick mango. There's plenty French mango trees in there. We just call em French mango [Gordon].

I know the mongoose around this temple is wicked though…they're living inside the rocks. This place is one community of mongooses…especially if you're eating tuna sandwich. They love the tuna smell! They all come out of the grass…they come running down the walls…they all standing all over…standing on their back legs looking at you… "Where's mine?" They eat anything but the smell of tuna, they come quick [Mac].



Photo 23. Heiau Mongoose (11/16/09 #252)







Photo 24 - 26. Various plants in Park area (11/15/09 #149, #150, #31).

Park Area Features

I know there's archaeological sites all over, this whole area is filled with archaeology. I was with Rob Hommon when they did the first [survey] in 1978-1979 and I worked in here as a volunteer you know carry their stuff so that I can learn but I don't know the features, what they reflect [Gordon].





Photos 27- 32. Various archaeological sites (11/13/09 #21, #22; 7/13/09 #216, #203, #235, #201)





This bay, okay you got the beach over there yeh? Okay in the back there was a mud pond, and I told you about the foundation of the Hackfeld & Company from way back. Way back before, this was when Cook arrived as you know, the ancient people had their *makahiki*, they planted all on the slopes taro and other food. There was a jail there, behind here there's a large wall [Milton].



Photo 33. 'Pond' (7/12/09 #149)

All I know back here they call it the great wall right here, this is interesting but you know what my interpretation for that was. Have you been to the wall? Huge yah? You know what I think it was I think it was Akua flood coming down destroying the pond. Because if you go on the mauka side of the heiau the dirt is thick and I think in those days there was a lot of flooding through there and I think the ___ built this wall for that. Before [Capt Cook's time] [Gordon].



Photo 34. 'Pond' (6/11/15 #110)

Simerson Lands/History

That is all the land that the state took recently. Simerson's land [Gordon].

Simerson was a captain, he was the captain for the Humuula. His wife was Kaluaapana. Kaluaapana was the sister of Konia, Pauahi's mother, and a cousin of Princess Ruth. May not be biological sisters but they refer to her as the sister of Konia. Konia is Pauahi's mama. When Kaluaapana died, her grave is at Kahikolu Church, Ka'ū side of Kahikolu Church right now. According to Jean

Greenwell's research there were 10,000 people that came to her funeral. And you know when the first trustees of Bishop Estate got together and started to form the school, and went to Konia and said to Konia give all her land to her daughter Pauahi and she was gonna get married to Bishop and then they went to Princess Ruth and they gave all their land, well they also went to Kaluaapana to give her land, all her land too. Mahaiula and all them at Makalawena that was all Simerson. She found ___ over here in this ahupua'a couple of them was hers. And when they went to see her, her husband Simerson told her, no way. They're keeping the land they're not giving it to anybody. But then the plague came through, the sicknesses, and they left Kona to go closer to the queen and they never returned. And so my grandfather owned half interest of all Simerson land but Bishop Estate took them to court and they lost by quiet title action [Gordon].

Kaluaapana's great granddaughter was Rose Simerson Reeves from Kuli'ou'ou in Honolulu. Grandpa and her were friends. So in the '40s she sold grandpa half of all of her interest in all of her land. Middle Ke'ei Road all the way going up 3000 acres and so grandpa had it for a long time. Remember I told you ... church, Bishop Estate took grandpa to court after grandpa spent back in the '50s $300,000 he lost all of the land. Sometimes in the '80s I told dad because I took over the land, the estate for the family, I said you know grandpa's deeds were all warranty deeds meaning they were ___ deeds. But he said don't go bother her, she old, no more money. But I did go bother her to find out what happened. And she told me the story that when they went to see her great grandmother her great grandfather told her no way, that they keeping the land for themselves. So she said when they went to court, Judge ___ who was the judge for Bishop Estate. He had a house on Bishop Estate land in Keauhou, the court was on Bishop Estate land in Kealakekua and he told them that he knew they owned the land he knew that was family land but there was a codicil in Pauahi's will that states everybody living on those lands had life interest and when they died that land went to Pauahi. She told me on her death bed that is true, for the land to go to Pauahi by Konia and Princess Ruth, but these lands of hers was never conveyed to Pauahi. And you know, we just never had the wherewithal to go and pursue that anymore. Well you know this guy from Property Title, Keanu Sai? Well that's his grandmother. And when he came to Kona, and was trying to do his research work the Kanuha's was trying to call me to go down meet with him. But I just couldn't. He called me and I told him about this and I said, bruddah, its 3000 acres and you guys own 1500 and we own 1500, and you know I never heard from him till today [Gordon].

All the land yah well, you know what his grandmother told me, if you go into the history to research the title, there's no signoff from the Simerson's to Pauahi. And that's why I brought it to his attention because I knew he knew how to do that... I'm sure he will know the Simersons and Kaluaapana, and Mrs. Reeves - Rose Simerson Reeves. So yah so we lost that land and this property here. My uncle who worked for DLNR ... so he had his allegiance to the State ... and he went give em the land ... that's 300 acres [Gordon].

Nama'e. His ___ died when he was 12 years old. But he's ohana of the Simersons [Gordon].

Ka'awaloa.

It's a long hike. You know my mother and her sister, walked the trail every day because Konawaena School used to be where the ___ library is today. And they used to walk all the way to there. Mama used to walk every day and when she came home from school she used to walk up the hill again with tutu man go sell fish [Gordon].

(Ha'alehua)[Hali'ilua?] in fact I think my grandmother's house lot is still there yeh. And you know back then my parents…. Oh wait let me see, she was let me see where's the monument area? Wait now, this isn't this the monument area because this is Hali'ilua. Where's the lighthouse on here? You know where the lighthouse is at? The sad part from what my mom told me that they owned the property they were on but their shop burned. I don't know if there's any way that we can go back all of the papers were burned yah. You wanna know where tutu lady's house was at is that what you wanna know? It has to be down here. Yah, yah this area [Irene].



Photo 35. Ka‘awaloa Flat, Lighthouse on Point (11/14/09 #209)

Advisory Committee. 1980 was when we first met we were appointed by the George Ariyoshi administration, and Martha Yent was the archaeologist... There was myself, Kane, Stender, John Papawa, Rose Fujimori, had some more I forgot already... we walked down to the monument... George Schattauer was married to a Paris girl [Margaret]. He passed away but I believe she is still living right here by the ... She has a lot of knowledge of the area [Milton].

Hali‘ilua. Right inside of the land in here it’s supposed to be Kapi‘olani’s rock but at first they said Kalani‘ōpu‘u’s house site. And then the last person to rule in there was either Kapi‘olani or Ka‘ahumanu ruled from this spot. Right here there’s a big O‘oma pōhaku wrestling rock. Mama them said that was Ka‘ahumanu’s. So this is Hali‘ilua [Gordon].



Photo 36. Capt. Cook Monument (6/11/15 #69)

Water Resources and Use. The Hawaiian word for fresh water is wai; the Hawaiian word for wealth is wai wai. This is because of the value the ancient Hawaiians placed on fresh water, which was crucial for growing taro, the staple of the Hawaiian people using the ‘auwai or irrigation system. Fresh water was also crucial in the lifecycle of stream inhabitants such as the ‘o‘opu and ‘ōpae, as well as some of the marine life that depended on the benefits of brackish water areas for spawning. The ethnographic consultants shared their mana‘o about various water resources in the project area.

Ka‘awaloa

There are a number of ponds in that area. What was the name of that song? There are songs of this particular area, spring…I guess…cold, cold, cold water right there. Very famous song [Hali‘ilua], but anyway it talks about that spring; right there where they took a bath, inside there, and it’s still there today….. [It’s in] good shape…seems like…unless if nobody pointed it out you really didn’t know the significance. Once somebody who is knowledgeable points it out, then you have a different look at it. I think this place just needs to be…it’s all there….it just needs to be taken care of…and it comes back alive again. And that was one of the hopes that we can not only malama but to act, like Tommy was saying, eventually once we identify and understand the area to make it truly a cultural and educational things for people to come and visit and see….bringing it back alive [Wally].

Hali‘ilua is most times it’s been known as Queen Ka‘ahumanu’s fresh water pond of course today it’s Ka‘ahumanu Bath it is fed through ___ fresh cold water pouring into that. Now at Hali‘ilua in the pond if you kinda look in the back of it Hali‘ilua pond is kinda like this is all ocean come like that and there’s a fresh water pouring into the pond here and this is all rock wall. Right here on the lava pāhoehoe get 5 piko pōhaku. And that’s all mama and her sisters. Tutu lady gave birth to them up here at Hali‘ilua [Gordon].

Nahaku/ Kahikolu ‘Armory’/Swimming Pool. What is also interesting to me is right about here by Nahaku right about in here there’s ... stonewall crossing to Kahikolu, it’s built at Kahikolu you know with the ___ and the rocks and the four walls are up but no more roof. Today, archaeologists will tell you that that was an armory. And that’s where the kupuna said that was not an armory; in 1824 when Kapiolani and Ka‘ahumanu embraced Christianity the missionaries at the time created their own laws, Christian laws. Wahine couldn’t bathe in the ocean anymore. No more than one partner. You couldn’t fornicate. If you were caught, you paid $15 fine which a lot of people never had, or few months hard labor working from Keauhou to Ka‘awaloa, modifying the ala loa and how they did that the ala loa going towards Keauhou they laid all this nice ala stones you know like most ala loa and what they did by modifying it they took they took all these stones and they laid them all on the side of the road so till today all these stones are all lined up on the side of the road there and this was all smooth. And they did that so that the missionaries can now ride their horse and carts from Keauhou to Ka‘awaloa instead of walking because for 4 years they had to walk every day. So today you hear of the cart trail? That’s where the cart trail came from. The cart trail is actually built on the ala loa and the pohaku is there on the side of the road. The old cart trail it comes all the way down here. All through Keōpuka you going see the ala built for the missionaries. So Kapiolani, for the wahine, there’s a book called “*A Nut Case is Made*” it was written in 1832 by Egal Farrell and he talks about this. For the wahine according to the kupuna mama them this structure was the ‘au‘au hale for the wahine over there because it was a swimming pool. The construction is a deep pond and it’s all lined with mortar and so my mother said that was where the wahine of the village went to ‘au‘au inside that building, and it’s still there. However, the missionaries then and the archaeologists today when I hear them talking about that building, they referred to it as an armory and the reason they did that is the Battle of Kuamo‘o. We don’t refer to that as the Battle of Kuamoo. We refer to that as a Massacre of Kuamo‘o because when that village of 300 something people you know all they wanted to do was practice their religion they didn’t wanna go Christianity and so they tried to convince Ka‘ahumanu to allow them to be practitioners and what the missionaries did was they brought the American ship in came all the way to Ka‘awaloa and loaded with 300 marines and all the ammunition. Apparently, that was the building that was the driest building they could find to protect their ammunition. So they used that building to store their ammunition before they went over

and attacked the village of Kuamoʻo. So what I've learned from the kupuna that's the only time this building was used for that was during that campaign against Kuamoʻo. But it's still there in perfect shape if you see it it's like a swimming pool [Gordon].

Kealakekua Ponds and Captain Cook

It was an aquaculture farm pond. It's about 2 1/2 acres inside. And according to my dad at high tide the water was 4 feet high. The ala stones that make up the walls of the pond and the ala stone on the bottom of the pond. When I was growing up there was a lot of turtles in there. It was also very muddy. However, I was going through George Gilbert's book, Captain Cook's Final Voyage, and you know he was a midshipman on Cook's boat. Have you read the book? The best account of Captain Cook. What I've read about Captain Cook's arrival and that everything that was ever learned about Captain Cook and his arrival in this bay up into the 1980s came from one or two resources, the journals or the logbook of the Discovery, and the people who read those books wrote their own story but we've also learned too that before those journals or logbook were released to the Queen of England and her subjects, it was edited by one of England's historians William Bigelow. And you know anytime you edit anything they taking out or putting in and we don't know how much of that was done. So the version that we got we learned all those years the jest of the story was Captain Cook came in the bay, the people thought he was the god Lono, and then when they realized he wasn't Lono, they got angry and they killed him. So in 1980 I started to interview the kupuna in the area and I started with my mama because her front yard was where he was killed. And so we were learning a whole different story and when we started to share that story, guys like Herb Kane would criticize us saying oh there's no written history to account for that or to verify that. In 1983, the story from George S. Gilbert was discovered. And the authenticity of the diary was proven in 1986. At that time they made it into a book, but they did not edit it. And so all the stories that we learned from our kupuna about Cook's activities had come from this book – all the beheading of the Hawaiian people, the Manini villages where they burned 35 grass shacks, homes in there; and all the massacre that went on is in that book. I have a couple of his books if you wanna borrow. Why I brought the story up is because recently I was reading, and in the book it's talking about this pond. And he said when they walked in the pond it caused the rock surface would pop up in the water, and I was thinking to myself wow that was what we used to experience in my day! And it happened in 1779 that they were experiencing the condition of the pond! He wrote about that. There was fish. They raised fish, aholehole [Gordon]

And then on the mauka side there's still ponds. On the mauka pond there was shrimp. Now you know this pond, this heiau is referred to as Hikiau Heiau. According to my dad, they only know this heiau to be Hale o Lono that maybe during the makahiki they refer to it as Hale o Lono and at other times as Hikiau Heiau. But what he knows from the *kupuna* they only call it Hikiau. And it gets its name when they go make shrimp in the pond you know the current that go in the back of the net when you pushing the net, that hikiau. Now another thing I learned in a National Geographic survey lingo you know they have haki you know the surveying things that they have a Hawaiian name, one of the pins the corner pin, is called hikiau. Now when you go on the heiau when you look on the TMK the regular map you're gonna see the word hikiau right next to one circle. That hikiau is that pin. They're not referring to the heiau, they're referring to the pin as hikiau. And so where they have the pin is where they have the Kamehameha sign and so sometimes I wonder if when they went there to put the sign and saw this word hikiau and so okay this is a good place to put it; and they put it there. But when you go and check the book on Hawaiian transfers the geographic survey terms that they use for different pins, you gonna find one of them is called hikiau. The benchmark is called the haki [Gordon].

There was a mud pond in the back of it in the bay and the manager who worked for the company lived back there and you can see the foundation of his home. I'm still an advocate of seeing these rocks removed. In the back here you will see the foundation of the manager of Hackfeld & Co. Hackfeld & Co if you drive down to the right, to the left you gonna see a home___, okay there was a large two-story building [Milton].

Not too far say maybe about 10-15 yards. The mud pond was covered by some person they were going to develop the area again the park was partly destroyed because the bay was not protected when the developers wanted to take it to the bay. It was an ancient ʻōpae pond. When I was a little boy I used to go down there, it had walls to preserve the pond. You'll see pictures in the Kona Historical Society. When I was a little boy there was millions of ʻōpae in the season. People planted the ʻōpae. I would go down there with my net, scoop enough to put in my bucket and go out with my spindle to catch papio. So the pond is gone, the ʻōpae is gone. I recall when I was a boy they came with a bulldozer and that was the end of the pond. You'll see old pictures of many Hawaiian children on their outrigger in the pond. There were retaining walls that support the pond and the edge had very muddy water but it had millions of opae. Some people would eat it boil it until it turns red. But I would use it primarily for bait for fishing. And it was the pond that every year the ducks from the north way up north would make their with the wind current they would fly wherever they were going and they would always make their stop there in that pond. We're always ready for the ducks. Nice ducks. They came from miles away and circle [Milton].

Stones…the rock wall there was a rock wall right around [the pond]. Rectangle. Just because it's modern yah. Different what they got now. This is…see when the tsunami came in it not only took out all the big rocks and covered the big places it also covered on the beach and covered the pond, filled up in the pond. At the time Greenwell was proposing to build a rock wall on the pali and bring a cable car down to the beach. So they also had a bulldozer in that and when they went in to the pond to clear that the bulldozer got stuck in the [Gordon].





Photos 37 & 38. Ponding in back of rocky beach (5/8/11 #748; 754)



Photos 39 & 40. (spliced) South side of pond with rock walls (5/8/11 755; 756)



Photo 41. Road in back section (7/13/09 #279)

[They wanted to build a hotel] on top the pali and they were gonna run a cable car up because of the beach yah. The pond was more space so the road that goes into over here there's a road that enters over here, okay the pond parallels that road. Comes above here, not in this picture ... I didn't bring it though. It comes up to here and goes right across like that and down to this point... but it's all filled up now. We have a family picture of my grandma Kaleo Kamakau who was married to my grandpa, she and her friends were in a *koa* canoe on the side of the pond paddling the canoe... this is all mud and part of the pond today as it was back then [Gordon].

Yeh there's a mauka one right there's a pond right when you go there now there's a stonewall and mauka there's a pond. But as it turned out they used tin roof to line the whole pond that was supposed to be used the water to ship up ... but I think that stuff needs to come out; I don't think that's ___ stuff. And we know that as the shrimp pond. Now when you take this to access and go into here back in here had a big development of houses. The Masuhara family also lived back there because they were weavers [Gordon].





Photos 42 & 43. 'Pond' much larger this year (6/11/15 #107, #101)



Photo 44. Pond or wetland (6/11/15 #102)

Marine Resources and Uses. The sea can be a great resource to people with access to its bounty. Kahului Basin was part of a coastal environment settlement, the former inhabitants fished and gathered there, but they were also connected to the mauka lands. It was also a place of recreation and continues to be, with the many beach parks in the area. However, its biggest contribution to Maui since the 1800s is the Kahului Harbor. It continues to be a resource commercially and for the private sector, especially the canoe paddlers, but not without issues as expressed by the ethnographic consultants below.

Kealakekua Bay Recreation

Every Sunday was our time to swim [Joanna].

The bay…this was all sand when I grew up, this was all sand yah. So for us going swimming was a treat we weren't allowed to until later on as we got older but we weren't allowed to just hang out and go swimming [Irene].

The two boats...they're both *Kaawaloa*. I built the boats in '79. The state gave me a revocable permit in 1979 to operate a tourist glass bottom boat and I operated it until 1984 and then they stopped me and revoked my permit because they changed their minds, they didn't want commercial activities from the pier. Then in 1997 I went back to them and said there is nothing but commercial with all the kayaks and all that. So I rebuilt the boat again and now I'm going for my permit to operate. So for the last 3-4 years all I do is family and school groups. And I don't charge... universal donation in Kailua yah. So if we have 50 [people] I would drop 20 up here; and if 40 would come, I would take 40 and I have Alec with the ___ take 20 down and in 3 hours it's all done. Go to the park and go back and forth [Bay] and them bring them here for shave ice, all 50 [Gordon].



Photo 45. Gordon's boat (11/13/09 #43).







Photos 46 – 48. Boogie-boarding (11/16/09 #294); Swimming (7/12/09 #137); Snorkeling (7/13/09 #408);



Photo 49. Kayaking (7/12/09 #116)



Photo 50. Various boatings (7/13/09 #454).

The bay was very important to us, very enriching for us. It provided our staple diet. We looked forward to that every year; but then the rocks were removed, or washed away from the tsunami in 1950, and I had been an advocate of removing the rocks…. All those rocks, because the sand is underneath and the rocks are on top in the bay right here. I'm an advocate of removing all that rocks so the sand can come back and be restored. If not, my children will never experience what I have experienced in the bay. But it's become restricted in terms of ... and local the life how the bay should be managed. If not it would be tragic. So I'm an advocate and very few people living by the bay lend their support, I did, in terms of removing the rocks [Milton].

Kealakekua Bay Fishing.

I have noticed a significant drop in the fish. When I used to come here ten years ago, 2001, wasn't uncommon for there to be thirty tons of mackerel in this bay…a cloud of fish bigger than the all the houses put together down here. Two months ago I saw the same school of fish…it looked like one bathroom area rug…like one of those three by fours …that's it [Mac].

O'io still get but…the o'io used to run in schools now they run in…they call them 'little packs'…like three or four of them where there used to be ten or twenty [Mac].

Long-line fishing. My dad was a commercial fisherman. Long-line fishing for whatever fish was in season but mostly was long-line for ahi, marlin, and mahimahi, ono [Irene].

Henry Sr. was the wharf manager and commercial fisherman…Long line…he learned I know from the Hawaiians. He knew akaka, he knew opelu fishing, all kind day and night opelu fishing, kaili fishing, long line – we were the only long line fishermen on this island; in Kona at least [Gordon].

I also was a fisherman with my family too prior to military and even after military. I did everything. Everything that the family did – opelu, kaili, akaka, ko'a, ahi and long line fishing. Our family my brothers and I started you know they talk about Seamount fishing people who go up Seamount, we were the pioneers for that. We did the cross-Seamount; Chuckie can tell you more about that. For about six years before people realize what we were doing and then other people started to travel up and fish. But Chuck can tell you more about that. He is the fisherman of the family [Gordon].

My dad was raised in that house. My grandfathers in Nāpō'opo'o here, and that was completed on June 12, 1912. They turned it into a fishing [business], they had sampans, they were the first local long line fishermen on this island. At one time grandpa had 11 sampans, and that's why today we still have our moorings, which were grandfathered in [Gordon].

Long-line is always outside of the bay at least 10-15 miles offshore we fish and as much as 30 miles we fish. Usually my father and his cousin do long-line fishing. And then we lay our lines. Straight up and the lines drift with the current [Milton].

Majority of the farmers there were fishermen; my father was a fisherman and so were his cousins, and the economy was fish. So we sold our fish, we had fish markets along the road and sold our fish in the back of the truck. Fishing was the mainstay of the economy down there. Primarily opelu and long-line fishing, which was tuna and mahimahi. At one point there were six long-line boats based out of Nāpō'opo'o owned by my father and his cousin, which is Gordon's stepfather. So opelu and long-line was the mainstay of the community…. My father was the only boy that remained back there. He didn't have an education, so he stayed back and carried on his father's legacy as a long-line fisherman [Milton].

Surround Fishing. My dad, Henry Jr., was just a commercial fisherman. He died the first so on his tombstone is at Kahikolu [Ka'awaloa]. His last akule school surround at Nāpō'opo'o the day before he died was 43,000 lb. the most ever brought up in the bay [Gordon].

Seasonally, every year they would surround akule in the bay with netting. I don't know what year that (year of Governor Tom Gill) I don't know what you call that surround fish in that area? Grandfathered because even to this day up until the last surrounding my dad did I guess we got more people in the area and the new people would call DLNR to report my dad. Our family we worked as a family and everybody whether they were young we would put a tent up in the wharf area and it was something that every year all of us kids looked forward too because we would help and we'd go swimming and my mom and my sisters and myself did all the cooking to feed all of the workers. And hiring the divers would be Gordon and all of my brothers. Hiring would be people in the area, he would hire. Gordon, Rachael, her husband, Mitchell Jr. and Sr., Sonny my brother and his son-in-law, and his son, and that sometimes would take a whole week yeh. It would take a whole week because there's a way of that they did it where they caught the fish alive in the water yeh. As the order came through, they would go out and get what they needed but it was caught alive. In fact I think we have a video on that yeh? Yeh. That was so unreal the video the way they surrounded the fish, and that the way they surrounded they never used outboard motor. They had people with the oar and as they oar they throw the net in the water when they did the surrounding. My dad always made sure that every house in the area had fish. Everything we had they had a share to take home. They had a paid crew they had a set crew, there were outsiders but then that was paid. People in the area came to help we packed everything on the pier, we packed them in boxes for shipping. And whoever came to do that were paid; everyday they came everyday they went home with fish. So my dad never forgot any home, every home had a bucket of fish whether they were helping out or not. Before it was even sold, he made sure every house had fish [Irene].

We used to opeluku a lot when I was a little boy but that's all outlawed now in the bay. Opeluku is when you surround ... you see the mouth over here by ... awa ... set a net out there ... hit into the gill net and then we go down and roll the net and bring all the fish up. And while we're doing that we used to go to the ___ and fish, we'd come over and before we leave shore the women are back there with all the hibachis and the charcoal burning already with a big pot of rice and poi with onion all ready, and when we'd come back and all go to the fire and cook. Life was difficult at that time, we didn't have much money, so we cleaned all the fish and what fish we don't want we threw it back in the water but our favorite was manini, kole, they used ___ for poke, my mother used to love to strip that and make poke sometimes she put lemon juice inside. And we eat that with a large bowl of poi, with rice, and onion. Hard not to eat onion when you eating poi with charcoal manini and that big Maui onion eh [Milton].

They [au'a/ opelu] are so smart but they stay on the [fishing] ground. The natives, like my father before his generation when it's off season, they feed the grounds. They feed those fish, they don't catch them. They keep em on the grounds, they don't want those fish to leave the grounds, so they just feed the grounds, so the au'a stay on the grounds. When you have a new school of fish come in and unfamiliar with the grounds, the venue, the topography, when the new fish come in and see the au'a and they swim to the au'a. The au'a bring the new batch of fish to us. The au'a know we provide nourishment for them. We've done that for three generations yeh. A lot of superstitions when fishing opelu. Of course, today's modern-day fishing they don't believe that. Today there's all high speed boats, but the methodology is still the same…fill the net [Milton].

Oh another thing they talked about is maybe once a month or maybe more maybe twice a month I think when they knew it was time for us to go get fish we would go over to the monument and we caught we all went my mom and my dad went it was just our family. And then they would set us all up in different parts where they would set the net and then we would swim out towards the net and start hitting the water. In fact I was just telling me kids I said oh man we need to sit down and really talk until we got to the net ... and then they would tell us when they see there's enough fish then okay that's it. And we only caught enough to eat. All kinds of fish yeh... but they were very sure to tell us we gonna go in and you would not believe how much fish oh so much fish. And then when we went we they made sure we would get I think my dad told us okay that's enough and then we came home and clean fish. Our actually our most of our life fish was our staple food. We ate fish every way you can think of every boil fish, dry fish, now that I have my family I'm thinking times

was really I mean we were really had hard times but yet my mom and dad always made sure we had food on the table. I never did see them having to cry 'Where is our next meal coming from?' [Irene].

My mother sewed nets also. My dad also sewed. It was cotton. Yah they made it from scratch. I'm sure they bought it in spools yah they bought it in spools and then made the nets. Not until way late in life that I started to see them use nylon. He made throw net, opelu throw net, the nets we used to surround was all handmade [Irene].

He [Robert Sr.] was a smart man but he never gave his son an education. And I think I know why. His other children had education, his oldest son Robert Jr. was kept back to be a fisherman and never got an education and when I was old enough, I reflect back and I think the only reason why he never gave this son an education was this son was [kolohe], so he kept him, by the fifth grade he was out of school. So my father by definition today was a dysfunctional…. But he was a very talented man, he knew what he had to do, he understood the currents, he understood his fishing, he could make opelu net using his fingers and toes and count with his eyes, he would carve his canoe, I mean he did things that was amazing for a man without an education. He knew what he had to do to survive [Milton].

Scoop Net Fishing. The fishing grounds, we fished for opelu in the bay and outside of the bay. We also fished for akule but that was primarily my uncle Henry, he was the akule fisherman. We didn't do as much akule fishing as my uncle Henry, that was his forte. Ours…opelu and long-line – opelu within the bay because opelu came into the bay, they spawned in the bay. Opelu was brought into the bay by the large fish we called po'a (sp?). This big fish chases the opelu into this zone here and as a result a law of restricted fishing in the bay, but the provision allowed us to fish opelu and akule within this zone here. You see, opelu was not a fish but a species that spawned in the bay, theoretically the opelu released their eggs millions of eggs that go miles and miles in the deep current, and then they hatch and come back and soon after the big fish chase them beyond the current. So often times opelu colonize this area in the season, but we also catch opelu outside of the bay…. we used net. It was a scoop net, shaped like a funnel; and the top half of the net was created just like a funnel with the nylon rods at the top and they were bent to form around the net and the net was held by reins going out to the boat the net would drop with a sink at the bottom and it would go down. And then you see the fish and we kinda pull x number of fish away from the scoop as the scoop passes by and you feed them until the fish is ready for the net and then we drop the chum into the net and we go with the net and we pull the net up. This is a very ecological method, no chemicals are used. We never fish the ocean. Only rest until next season when we can bring in per canoe 400 lb. a day sometimes more. The season for opelu is usually between June or July until about oh September, but you don't get a good day every day because of the ___. We normally sold the fish fresh to the market or to the fishermen for bait. Or we'll cut it, salt it and dry the fish and sell it by ka'au to customers by ka'au. Ka'au is 40 pieces. That's how Hawaiians sold their dry fish because there was no refrigeration, only ice so they sold it by ka'au. So if you ask you want buy one ka'au or half ka'au – one ka'au is 40 pieces, so they come in different sizes. Half ka'au is 20 pieces. I supplement my income here from this home as a commercial fisherman for 25 years, fishing this whole area and Kealakekua Bay. Nine years ago I stopped fishing; I still retained all my screen boxes. I stopped fishing in 1954 but I fished 25 years commercially as a seasonal type of fishing. The very trade that I ran away from Hawai'i I came right back into it [Milton].

You'll never fish the ocean. In my estimation, every season there's millions and millions of fish that come to shore throughout the Hawaiian islands. We harvest about 10% of the population. We can catch more but there's no market for it. Opelu is not like anchovy that you can surround them; they are a very fast moving fish. It's probably a mackerel family [Miton].

I couldn't go near water for about ten years and it just made my life miserable because I love the ocean, anything ocean, I'll do anything in the ocean, go get opihi, run, fish, whatever. That was my young days. I used to love go holo holo in the ocean. All kinds of fish we catch, whatever in the net…what's that fish…..Gordon and I used to toss the net over there…can't remember the name of the fish…I haven't seen it in a long time. Oh, akule…the last place we used to get akule over here

it was like gateway (?) area. When you go fishing, for parties like that, everybody got their area…they don't go like say the Nāpō'opo'o family will not go in the Honaunau family to go fish. If over here its real, real rough and you cannot…then you used to ask the old folks…'Oh, Auntie, can I go fishing cause our side stay rough?'…and you're going to make fish for parties or something… then they would go. Honaunau and Nāpō'opo'o all the same. They used to respect each other's area. It's not you just go and do what you want…they had respect for each other [Verna].

I have a back problem I'm okay now I'm 100% recovered. I don't think I'll go back except for commercial purposes or for home consumption. I'm doing now for the opelu fishing, I know all the ko'a, I understand the methodology, the rituals, everything that comes with it. I'm very knowledgeable in opelu fishing, outrigger fishing the entire Kona coast from Honokaa Harbor to Milolii, me and my friend Omia that's my partner. The sad thing is that the legacy of fishing among the Leslie family is coming to an end, three generations is coming to an end. None of the children are interested. My three sons have college degrees, my daughter is a therapist. On my part, I intentionally steered them away from being fishermen because there's a lot of sacrifices, very painful; however, if they wanna go back to fishing the ocean is there for them [Milton].

Over here it's ideal for fishing opelu because of the topography of the ocean; you just go out fifty yards and the ocean us [sound] very deep. The fish comes very close to the shore. Especially on the leeward side. It's usually calm over here with the rocks and when in season they usually come right up close to the shore. Very exciting when catching this fish. But also, very difficult at times. You don't catch this fish every day. There are days we go without fish, the days are never perfect. I'm very familiar with fishing opelu, salting them, and frying them. I'm very good at that. I won't pass on my secret to the next generation unless it's to my children [Milton].

Pole/Canoe Line . Pole fishing is different because there's all kinds shore fish [Irene].

Uncle Kaeo Gaspar was the master fisherman down here. But when I met him he already lost his legs to diabetes…he was on the scooter already…ride around on his little scooter…have his little beers. But he'd always talk about the old days and how he used to go fishing. And then one day he said, 'Eh, why don't you go catch menpachi, aweoweo for us?" Okay. So he showed me how. He showed me how to tie the hooks…how for make the line…told me where for go in the bay…what landmarks to use…so as far as fishing in this little bay here…in the traditional Hawaiian way of kakale…dragging one bunch of hooks in the back of your canoe or your boat, or whatever…. Lot of menpachi and aweoweo. That's mostly what I went for. I'd go out at night by myself. And then daytime, with other people, I would always be the boat captain, and take the boys with the canoe and they do the diving and I do the driving. So we caught all kinds then [Mac].



Photo 51. Pole fishing (11/14/09 #93)

Diving. My father could go 400 ft. free dive with a rock around his waist. He dove old style where they take the kukui nut oil in their mouth and you tilt your head like this…and you let the bubbles come up your mouth…run the line of your mouth…up your nose like that…and as it hits right here…open the eyes and so the kukui nut oil would coat the eyes and that's how they could see under the water. That's how the deep sea diving of the ancient Hawaiians was done…and how we did it without glass. Not just spilling the oil on the water for make 'em clear to see from the top…but for opening your eyes when the bubble would get right here...get into that pocket. Isn't that amazing! [Aka]

I'm also knowledgeable of the bay and all the spots. As a little boy growing up I free-dived the entire bay and I know all the lots for holes, even outside of the bay. There are menpachi and u'u and ___, I know where they are. This was taught to me by an old Hawaiian guy they're still there. I showed a friend once from the outside, and I'll never show anyone again because they come with

nets. I will take these secrets with me. Growing up I used to pull the floaters around there, pure Hawaiian man who catch fish with my father, I learned where all the holes because I used to swim over there and pull the floaters. But I'm a diver, so I know where the lots are there. I haven't gone in the ocean for a while. It's been nine years since I've been in the ocean [Milton].

Night Fishing. My mom and dad were I think by the time we grew up was I remember just sitting talking story but they also went night fishing for opapalu [Irene].

Octopus. Uncle Kaeo used to tell me the reason one of those poles over there is an octopus is because Uncle said this bay was once famous for he'e…octopus….because of the sandy bottom and the relatively big size of this bay. You can have one pretty big community of octopus out there. Now not so much [Mac].

Fishing Protocols. When you go to the grounds, the normal protocol before you board the canoe. First when you get up there should be no profanity no contentions; my father was a very superstitious man, you are not to say anything before you board the canoe. When we got to the grounds the family protocol is that you turn your outboard motor off, and you need to call every ground where the opelu colonizes during the season. There's a few fish that stays in the ground you call au'a, they're smart opelu, they stay in the ground. They're there because they've been in the net and they know what the net is like and you can catch them but they're waiting there for them to eat so my father gets to the grounds every morning... when he gets to the boat [tap tap tap...] he's calling the au'a. He says don't do anything, let's call them first [Milton].

My father was a very superstitious man. When we fished in the seasons, if it becomes very difficult, his father would kalua a pig - it has to be a black pig. They put the pig in the imu, and the head has to face the ocean. When the pig was cooked, we get together and have a feast, no arguments, and anyone passing by it doesn't matter who it is, he invites them to join in the feast; and the remains, the bones, they would be gathered in a burlap bag and we'd take it to the park where the fish would come in and we would deposit it for good luck. He always believed that before the season, every fishing season, a pig had to be cleaned with papaya and put into the imu to kalua, and it had to face the ocean. The tradition no longer exists. Every year, twice a year they would kalua pig before the fishing season and during the holidays. They also believed that every year on New Year's they would take two mochi and the he'e what you call that the ika with a bottle of sake and they take this for good luck. He felt if they didn't do that, he was gonna have bad luck for the rest of the year. Very superstitious man [Milton].

Opelu Aumakua. My father's aumakua they call opelumano that's the barracuda. The barracuda was the protector of the opelu. My father says certain times of the season the opelu would come like a wall under the water under the ocean ... Hawaiians call kawili, and they did kawili ... and the barracuda would swim and the opelu would swim near the barracuda and my father told me that his father called it the opelumano because it was the protector of the opelu. Opelu is an incredible fish. I love it raw, cut it up and put salt. Rinse it in water and put limu on it, hot chili pepper sauce inside with some poi and onion and you're ready for a meal [Milton].

Zones. I believe in the '70s they created this zone to protect and preserve the resources in the bay. And they created a zone that it was illegal to fish within this zone. The only thing that was legal was for the Leslie families to continue fishing for opelu and akule because that's something that spawn and act and out in the deep and swim to the shore. So it was zone A was completely outlawed. I believe zone B is okay, but zone A is completely outlawed. I believe they allow pole fishing because the bay itself, when I grew up was all sand. That sand was removed from the tsunami in 1950. So when I grew up it was all sand. And we looked forward to the season when the halalu [baby akule] came in, and the api, baby papio, and the oio, and the oama [Milton].

Ocean Gathering

Wana, 'opihi, kaala, haukeuke, pipipi, and kupee…I think you go in the night and kind of the 'ili'ili area yah, and limu yah, and crab – 'a'ama. We had a place where we got limu kohu …it was if I can find where's the um this is Kaawaloa, this is the boat landing, wait let me see. Hmm where the lighthouse is at, it wasn't too far from Ka'awaloa Point - the south end of the Point probably here. Yeh, probably here where we went to get limu kohu and that also we got so much and we don't over-harvest [Irene].

The bay was like a refrigerator to us. Besides opelu, there was pipipi, kupee, manini, maiku, he'e, uwawo …there was everything and lots of it. We never starved. We only took what we needed and whatever we could gather only for home consumption. We were very superstitious, that was passed down by our family. So, it was very kapu that we respected the bay, we didn't destroy the bay. We maintained an ecological balance of the bay; we treated the ocean with respect, and we expected the ocean to provide nourishment for our bodies [Milton].

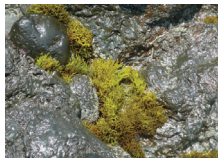



Photo 52. Limu (7/12/09 #162); Photo 53. Crabs (7/12/09 #163); Photo 54.Pipipi (11/16/09 #44)

We did a lot of harvesting of local resources along the bay to feed the family, like opihi, manini and āweoweo and whatever we could gather only for home consumption. We only took what we needed. We were very superstitious, that was passed down by our family. So, it was very kapu that we respected the bay, we didn't destroy the bay. We maintained an ecological balance of the bay; we treated the ocean with respect, and we expected the ocean to provide nourishment for our bodies [Milton].

Mainly we harvested limu kohu. My mother loved limu kohu. She would clean it, salt it, and mix it with poke. That's the only limu we harvested. We never picked anything other than limu kohu. Outside of Kealakekua Bay, there's only one particular rock that I know of after a heavy winter season where the limu kohu is. That's the only place that gives enough [Milton].

All that kind stuff is wiped out! [limu and opihi, and stuff like that] It's wiped out. Actually along the Pali still got opihi…underwater kind….not much shoreline kind…but the big koele ones still get…which is good because once those gone the ones on the shore are going to disappear. Limu…I don't know of any place, actually, that get any kind of good eating limu anymore in here. Outside of the bay, get [Mac].

Dolphins, Dolphin Aumakua and Dolphin Pilikia

The dolphin population…you know, they seem to be the same healthy numbers … the same numbers that they've always been because they travel in different packs. They're not the same dolphins coming here every day…or when they come in, it's not the same group of dolphins [Mac].

Wayne Leslie, of the Leslie's…. he would talk about how the dolphins are…that's his aumakua…that's his family. That rock out there I'm sure it's some families' sacred rock … especially being here…can see that dolphins were probably viewed as aumakua because this is one of their favorite places…all the families live around here…royalty…so I'm sure that that rock is

special to some family…. I haven't seen him [Wayne] for awhile to have him come and take a look at that…because if he comes and he sees…and that's something in his ohana, he gonna know [Mac].

The dolphins were here for years that I can remember but we never swam with dolphins. They were just part of our life when we fish whenever we left the bay or entered the bay, the dolphins saw us leaving or coming in they would chase us in the water, very playful. They were always in the bay always there during the morning hours... and we enjoyed them. They were just there whenever we're paddle ___ or go to the monument they were always there that's all, that's all we did. Now people come to swim with the dolphins. Personally I don't like that, I don't mind them going in the water but not get close to the dolphins. There's a lot of people come out and I believe there is some kind of state statute or federal statute about the dolphins [Milton].

I remember them so much the dolphins and I think that's why today when I see them taking tours it really angers me because my children cannot even go diving or fishing because this area being rezoned. Yah, they can't even go spear fishing or anything and yet they sit there and watch people coming down and going out swim with the dolphins. I call DLNR but they always say we don't have enough workers. I went to a DLNR meeting and I told them about we were born and raised here and we're not even allowed to do that and yet these people sit back and let them I mean it's even on the internet that is advertised come and swim with the dolphins. It was a big no-no that we remember growing up there were so much dolphins in that area and now I hear it's not as much yah between Nāpō'opo'o and Ka'awaloa (near Manini Beach), some of them came by the pier area yah. And they would just come and play. More from Kealakekua Bay you know - the middle yah. Yah they would come, more in the middle but I remember that I grew up with my parents telling us leave the dolphins alone, and nobody was ever seen going and bother them it was part of our life not to bother them. Once in a while [we see turtles]. It was mostly dolphins [Irene].

Turtles

Turtles? No. I don't know maybe but you know with all the sand that was there I never did see turtles [Irene].

Kealakekua Bay Tsunami/Hurricane

Well, the rocks being the shoreline today that was all Sam's when I grew up…up until 1960. The tsunami was generated off of Chile, and it came over Manini Beach Point wiped out about 8 houses and hit the pali. The waterline when it hit the pali the next day was 35 feet high the wet mark on the pali. When it bounced back and brought all the ala stone from inside the pali and laid it in the water in front of the sandy beach. And then that same year we suffered Hurricane Nina. That hurricane took all the rocks and covered the beach. It's been covered ever since [Gordon].



Photo 55. Nāpō'opo'o Beach 1800s (HMCS)



Photo 56. Beach today (11/16/09 #282)

But the rocks came from the pali. When the wave came over Manini Beach it wiped out all those houses, it hit the pali and when it bounced back it brought all the rock and laid the rock in the water in front of the beach. When we would go swimming, the beach was all there but wasn't enjoyable to swim because was the beach was covered with rocks. That year we were hit by Nina. And Nina took the rocks from the water and covered the beach. It also destroyed the pond in the back there [Gordon].

The tsunami [1960], exactly where it took about nine homes over here. A lot of local families lived here when the first wave hit before the first wave hit you see the water receded, I was ten years old at the time, when the first wave hit the impact was great. When the second wave hit it went it must have just by judging the water spout it must have went 30 feet above and then it came that backwash came moved toward the cliff and came up and flushed everything out. We were saved by the cliff, the ___ up at the cliff. There was a restaurant over here at that time and there was home right there ... and we were saved by that this restaurant and this home by this point on top of the rock ... because there was a restaurant over here and when I got up in the morning the jukebox was over a hundred yards away from the restaurant and there was fish all over the road. Very devastating [Milton].

One in the morning. We were aware. We were given at least 24 hours advance notice that there was a major quake in South America and we were to expect a tsunami. We were all out already. We were right there right ... by the bay ... pier, right under the light with our food and everything. That pier over there was once covered with buildings for storage and all that ... but you couldn't find the homes the next day. The second wave was very devastating. The first wasn't as bad but the second was rough. The ocean kinda like just rising and just…. There was Gasper, there was Grace, oh there was a Japanese man over there I don't know his last name only Fuji. I know Gasper and Grace was living there at one time. Manini Beach. There was Pali, a Hawaiian family Pali they owned up there. Now Manini Beach is like a park owned by Bishop Estate where people would go and picnic [Milton].



[Small section of beach near Hikiau Heiau exposed sand after March 11, 2011 Tsunami.]
Photo 57. Sun bathing on sand (5/8/11 #730)

http://www.bigislandvideonews.com/2011/03/11/raw-video-kona-tsunami-house-washes-away-floats-in-bay/
RAW VIDEO: Kona tsunami – House washes away, floats in bay March 11, 2011

http://www.hawaiinewsnow.com/story/15919079/special-report-tsunami-aftermath-kealakekua-cleanup
SPECIAL REPORT: Tsunami Aftermath, Kealakekua Cleanup HAWAII NEWS NOW
Posted: Oct 31, 2011 1:54 PM HST







Photos 58 – 60. Some of the damage from 2011 Tsunami (5/8/11 #820, #824, #825)

Pier/Wharf [Photo 61. Views of Pier from Nāpōʻopoʻo (7/13/09 #299); Photo 62. from Manini (11/16/09 #105).]





My grandfather also was the wharf manager, he was in charge of the pier. The pier was the shipping port of Hawaiʻi at the time up until the ʻ30s – ʻ40s. [He was] Overseer. It was operated by Amfac at the time. As an example, like the name Nāpōʻopoʻo people talk about Napopo and today they talk about the whole entire village. But Nāpōʻopoʻo was actually just by the pier but makai side of the pier in the water area they called Nāpōʻopoʻo because they said when you come in from the ocean all the lava rock heads are sticking out of the water where people swimming. But because when people came to pickup the cargo or ship the cargo the bill of lading was Amfac Nāpōʻopoʻo, the name to ship over. But there the pier was built for the Steamship Navigational Company [Gordon].

The "Humuula" used to come in here to pickup and discharge cargo. That's where the Greenwell's had their cattle driven down to the bay and tied to the sides of the boat so they swam them out to the "Humuula" for shipment. They would anchor out in the bay. The cattle swam ashore from Kealakekua Bay but they used Nāpōʻopoʻo Pier to discharge and pickup cargo. The village there had a very important part in the commercial aspect of it. Even coffee was brought down there to be loaded. The pier was destroyed by the tsunami in 1950. Oh they had everything you could think of at this commercial pier. There was a large two-story building that was owned by Hackfeld & Company, which today is called American Factors. And the shipping died when the first airplane arrived in Kealakekua Bay. Sikorsky. Part of my grandfather's responsibility when the plane arrived was the last plane that arrived in the bay was when I was two years old, so I remember that. Part of my grandfather's responsibility was to go out in his outrigger to pickup the mail and passengers. If you look at the promotion poster of Hawaiian Airlines, you're gonna see a Sikorsky plane in Kealakekua Bay and you're gonna see an outrigger. You're gonna see a man with a big lauhala hat in that lobby scene. You go to the airport or in any promotional brochure you'll see him, that was my grandfather's responsibility, to go out and pickup the mail and the pickup passengers in his little outrigger carved out of koa [Milton].

Leslie Beach/Pond

Going to the beach…it's a private landing, it's own pa, it's own awa, there's sand there for the outrigger canoe; there's sand there twelve months of the year, and it's own pond. The pond was important to my grandmother. The pond was there when you bought the property? The pond over there is all sand. It was very important to my grandmother. She told me that whenever you get sick, you come down and you go into that pond. Let the salt and the sun nourish your body. That pond also provided a lot of nourishment to us. We fished with the season in that pond; when high tide all the fish the uhulo and everything would come in there, and we would catch the fish. So that easement today is recorded in the Bureau of Conveyances that allows me, my brothers and my sisters and their children access to the beach [Milton].



Photo 63. 'Leslie' Beach (11/13/09 #50)

Kealakekua Bay

And you know there's that song "Haliʻilua." Makaha Sons of Niihau originally with Peter guys, they have a song on one of their tapes called "Haliʻilua" and it's about this area and it talks about Kaawaloa. In the song it refers to **Kapukapu**, according to the kupuna we used to talk with, the bay was called *Kapukapu*; the bay is now called Kealakekua [Milton].

You can walk only to a certain point. I used to walk there all the time; it was a checking point, checking the water. You go oh 200-300 feet and then you back on shore again. I've been there before but it's dangerous because the rocks fall. I did this many times as a boy growing up I would swim along there with my bag and pick ʻopihi, and step in the water for another 50 feet and back on shore [Milton].

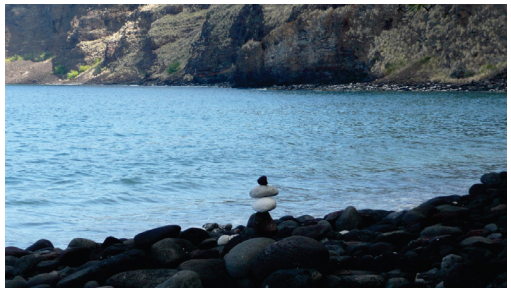

Photo 64. Rock slide area across waters (7/13/09 #461)

[The recent earthquake land slide] It was right there by the cliff by the deep part, very deep part yeh. Very dangerous, very dangerous to go there. I believe the monument the DLNR established a ... so people who kayak across to the monument would have to stay within a specific area and not go out of it because of liability of getting hit by the rocks falling off the cliff [Milton].



Photo 65. Monument area (11/16/09 #211)

Keakalekua had it's own canoe club called Nāpō'opo'o Canoe Club and the state championship was held in Nāpō'opo'o Bay in 1956 when the bay was still all sand and they won 9 of the 10 races. I was 9-10 years old at the time and the speakers were on the heiau I still remember that [Milton].

Ka'awaloa.

Now, if you take the entire island the big island, if there's only one safe landing on this island that is protected from any storm that came through here that would be Ka'awaloa. I don't care what it is, tsunami or anything, when the tsunami hits this place is untouched because of the deep water. That's the only place I know of that's got ___ in there. And if there's any place in this bay they should have built a landing for harbor, for commercial, for fishing…its Ka'awaloa…. It was always protected from the high surf. My father and his cousins built the dry dock over there the dry dock for fishing boats. When my father grew up they also used the monument area over there even when I grew up it was a safe refuge from the storm [Milton].

We spent a lot of time going there to Ka'awaloa. I went to Ka'awaloa only when … we did go okay. When I grew up was mostly to go and get upenakuu, wana. Upenakuu is like a net that they use like a surround net. But you swim and kind of kapeku yah, which is hitting the water we have to make sure to swim fast because the one who is last they say okay they say kick on because what we would do is drive the fish in the net. And it was always around by what part of Ka'awaloa that we did mostly but it was mostly mauka of the monument. There's a name for it. I forgot. But you know going there and doing that was nice, it was a family thing and it was a treat to go [Irene].

The queen's bath is more mauka of that, here. Yah. You see the mooring you see here. This is the Point here, the boat mooring yah it's actually in here. Inside there is the queen's bath. Yah the pond is on land. It's really, really cold. We used to take baths. Later on as we grew up my family we went we would take our drinks and put it in there because we didn't have ice and it was ice cold. I think the water was coming from underneath the Pali… mostly I remember the queen's bath and as far as going explore I think for us it was not being niele yah. My mom told us all about there but we actually I think I really didn't explore or go around until I was grown up yah [Irene].

But when we went to Ka'awaloa when I went they always went for fishing I mean to catch to surround for food and then went home but as far as just going in the back... I know she told us about how my grandfather would go out fishing and when he came home she was the oldest of seven and so he would whistle and they would know he was coming in and she would go down I guess with my I guess with my grandma to pull the canoe up and so my grandpa's father was a fisherman also. When they my grandpa would go and she would go with my grandfather up Ka'awaloa up the trail and then they would sell fish and trade sometimes trade fish for meat or butter or what they needed. They did a lot of trading. But also she said my grandfather never over-fished he caught so much and he came home. He was a really good fisherman [Irene].

The Lighthouse…when we were growing up, it was still running [Irene].

Leslie Amor. This place is special to me because when we have storms, we use to take all our boats over here for safe entry. Well one day my dad and I were fooling around our boats and I'm gonna share this, there was this big pohaku and it's kinda white and he said you see the stone over there? I tell him yah. He tells me that's your maddah. Yah they were there safeguarding their boat, she was there fishing, he went swim ashore and she went scold him whatsamatta wit you? You see me fishing over there? You gotta come this way! Yah I don't know if my brothers and sisters know this story. But he and I were on the boat when he went tell me [Gordon].

Cultural Resources and Use. This category includes traditional Hawaiian cultural resources and practices and other ethnic resources and practices. Cultural Resources can be the traditional wahi pana or sacred places, any cultural gathering place, or the tangible remains of the ancient past. One of the most significant traditional Hawaiian cultural resources is the heiau or place of worship. Other places of great significance for all cultures are the burial places of loved ones. There are no known heiau, shrines or burials in the project parcels. However, cultural practices continue to take place in one part of the project parcels and in the vicinity as noted below by the ethnographic consultants.

Hale Mua

Hale Mua is really about perpetuating the Hawaiian culture…I don't know the exact mission but it's about the perpetuation of the Hawaiian culture…whether it's through the arts…whether it through educational programs…it's also about helping to support other cultural entities that maybe are not the 501(c)(3)'s…so we can act…we try to act as their financial…their fiscal agent…but our whole area is about perpetuating our Hawaiian culture [Wally].

It's a totally arm's length organization…we're on our own 501(c)(3)…it's made up of members of the Royal Order, however. But the services that we provide is not limited to the various chapters in the Royal Order….we go out and support other Hawaiian groups that may not be, like I said, non-profits but meet the causes and the mission of Hale Mua…we're go in and support them so that they don't have to do their own 501's and all of that. We were involved in the very beginning with Ka'awaloa and the Order…where the initial seeds were planted. So the Royal Order and Hale Mua just try to work together [Tommy].

Yeah, I think the initial seeds for Ka'awaloa were really started by the Royal Order O Moku Kona. And that's a dialogue, but because of the way the Order is structured and everything they needed to…and because of how the Order was looking at raising funds to do some of the initiatives, that's how then Hale Mua became involved. But the initial movement was really the Royal Order of Kamehameha [Wally].

Ka'awaloa

Thirteen point something acres. It's basically….you know where the monument stay. In that area…and what we have done…what Hale Mua has done is then have an MOA with the Royal Order of Kamehameha o Moku Kona…to help us along with the community in taking care of cleaning the area…mālama the area per our agreement … basically its mālama the area over there right now. Well, I think this is where we…basically, I think, DLNR decided they were looking for somebody to kahu and look after that area …at the beginning point [Wally].

I think the cultural and historical significance of Ka'awaloa speaks for itself. You know, one, from when Kalani'ōpu'u…the arrival of Captain Cook…henceforth to Kamehameha's time…that area ….even pre-Kalani'ōpu'u…was a I would say like a County seat…it was always populated by the ruling Ali'i of the west side …that Ke'ei area…Ka'awaloa….Nāpō'opo'o. The importance of it is the cultural significance…the cultural and historical significance. Secondly is that a great number of the old sties in the area are still intact…a little crumbed here and there …but it's still there and it can be preserved. And really that's the bottom line for the area is preservation…preservation … some degree of restoration…and then to be used by the community for educational, cultural, and practitioner's kind of events [Tommy].

Well, there're various sites…certainly the most, I guess, from a western perspective the most important....most notable one is the Captain Cook monument. But you go further in, I think there's Queen Kapi'olani's bath…she has a huge bath inside there…so there are some other historical spots in there…in the surrounding area. The other thing is I think they wanted us to because of where it's at - a lot of the tourists …they get the tour boats come in…the drop off….they go swimming …or

kayakers come…and so it's to try to malama that area so that the people respect the area. I don't think the kayakers supposed to be going on top the area…and they kind of go over there and desecrate [Wally].

I think of because of what Tommy just said too…as far as the Royal Order …its part of our kuleana. This is Ali'i over here…and we see it as our kuleana to come forth to take care… all the Ali`i…it doesn't stop or begin with Kamehameha….just goes back [Wally].

The other importance of the area is that there are numerous burial sites in the Pali and, as you well know, the burial sites are very sacred to us. And over the years there has been desecration and we wanted to be part of, I guess, a system to protect and preserve the iwi there…because they are of our ancestors…there are numerous burial sites within the area…both above ground and below ground. There are a number of heiaus in that area [Tommy].

[We're] not there all the time…we were for awhile. We had an individual bring us over - Gordon Leslie - on his canoe. I think there was one or two times we came down. So we still have to work on that…how we can get more…. For awhile we were there quite a bit…present cleaning it up. I think we had an awa ceremony there with some family members from the community. Peter Young, when he was DLNR was there…to kind of rededicate that area. But then since then the challenge has been…I mean there were some youth groups that went down…various groups to help not only…first of all to learn about the area but then to help malama the area. But one of the issues became a consistent mode of transportation…the easiest way is to come across through the water…but then getting boat…a canoe to bring us is one thing. There's a road that can come down but that's more of a challenge, it takes awhile. And I think more recently we've been looking at trying to get some other access…ground access inside there so we can become a little more consistent in our work there [Wally].

I think that for the times that I've been there and what I…it's really about how we can monitor and preserve Ka'awaloa…in our area…but all of Ka'awaloa in that sense …of not being misused by primarily the tourists. And I'm not saying only the flats…the land part…but also the water…the surrounding waters there. For that matter…the whole bay…because again…it's being misused…it's being trashed. So access by the kayakers and tour boats….I think we went to one meeting a couple of years back and we shared things with them [Wally].

I don't think people see this place…and we have to educate people again. This is a wahi pana this is a sacred place here…but they come and they only see the monument…which disturbs me sometimes because it's, one, it says 'Captain Cook' … whatever…'The first discoverer of these islands', J__ C__! That's a slap in our ancestor's face! That's a slap in our ancestor's face. So people come there thinking that…and I think we need to…it's our kuleana…need to educate them that this is a sacred …what came first basically [Wally].

Kaleomanu. Down here the Kaleomanu I got a picture of the first Kahikolu Church down here was by Kaleomanu. I have a picture of that grass shack with the church people in it. But also this trail would come down here and come across here like this. Came down to here. And somewhere down here when I was growing up when you talk with George he will probably know because he was raised over there. There's a big hula halau over there and a hula heiau. And when Aunty Iolani Luahine got married and she when broke her kapu yah, they brought her over here to this heiau to oki that. I remember that because I think that's important stuff. And mama's 5 brothers that died it was right in here. Right in this area. There's nothing to show it but this trail comes down like this, something like that. And it ends right here. But today there're only some big boulders because of the tidal wave; unless you know where, you don't know there was a *heiau* there. And back in here is where 4 of mama's brothers that died are buried and I know where that is. And one of them [the 5th] is buried at Lanakila … at Kainaliu, the Kalawina Church up there [Gordon].

Puhina O Lono Heiau. This is interesting right here. Puhina O Lono Heiau, apparently there's a time when Captin Cook's remains, his bones were buried in here and I think in the 1920s somebody removed all the bones and shipped them back to England. Now what was neat about that heiau, in the heiau there's another gate like an English style gate into the heiau; but there was a ___ that was not symmetrical. This was not symmetrical to the ___, and it was up there long time and about 10 years ago it kinda fell apart. So when you look at the old lithograph of this heiau that same shape of cross is in the lithograph is the same shape of a cross. Now the pieces of this ruin, I buried it in the heiau. I just took some stones and covered it and it's still there. Well, according to what I hear from the kupuna up until 1824 it was kapu only to ali'i. Ka maka'āinana wasn't allowed here. That's why the missionaries they have to come after sunrise and leave before sunset because it was very significant to the ali'i that allowed them. [From before Kalani'ōpu'u] Keaweaumi was in there. Keawe's son was there [Gordon].

But the bay has all these burial grounds, Cook's monument etc. In the back by the heiau and all that. I'm assuming they're not touched. No one really activated it outside of here. I'm assuming there must be a lot of burial sites over there until you start digging. I served on the first advisory committee who were the architects in the planning of the bay. I liked that plan. I don't think it has ever been implemented [Milton].

Heamoa Cave Burials. Well of course there's the burials over here. Right next to this Heamoa right here right in here my grandfather was not even married yet and we have coupla old pictures when you look at this cave and you look at the pictures you going see all haole you know my grandfather was very haole looking and Heinrich was with him and this guy Bill Maerten and they brought the contents out from inside the cave and there was a huge ___, bronze casket, they brought em out in the light and they went open the casket and inside the casket was a mummified person. Huge guy. Skin completely covered his body a puka over here huge hands, 'umi'umi and nobody knew who that was. He was in a bronze casket, and I wish I brought the pictures; I have the pictures at home. And in 1933 the year that my daddy married mama; the kupuna over here asked them to seal it up so they filled this cave up with concrete and that same year a big landslide came and covered that burial site; but the bronze at the time, it's really a mystery. They say that Keei Beach 400 years ago a Spanish galleon went aground and you know what they say? That koko of the people in this area still carry Spanish blood [Gordon].

Night Marchers. Well, mama always told me because of the proximity to the trail here and when she was growing up they would often hear Night Marchers coming down. The Night Marchers would come right here, come on this trail, go to the heiau, stop. She said sometimes they pounded kahiko, sometimes auana, but whenever they came, tutu man made them lie on the floor [Gordon].

Ka'awaloa Light. Let's talk about the light down south when we took a Catholic priest on a fishing trip one time, and I think it's like you know we lived in you know it's like religion, in a fishing place you're ... if you have faith, and you have to believe that these things happen in our culture and have experienced, but I have never seen that. But mama folks would not make up stories. She's not like that. Mama is a lady of few words. I was very fortunate, my brothers and sisters will tell you that I'm in the times in the '80s to go and talk to her all the time. And she had respect for me when I was doing research and not just being niele. So she would talk to me but she would talk to the other kids, no bother that boy like that you know. Mama was the kind of person when she told you a story she told you that story a thousand times [Gordon].

Ali'i Burial Cave. Mama would tell me about that cave up there; uncle used to take care of the contents in the cave. And these military ships would come in and the sailors would climb up; at the time the caves were more accessible than today. And she started to tell about this guy who got up there and throw all the bones outside, and he went get stuck. And the Captain begged tutu lady and tutu man to go up there and bring him down. She said finally tutu man did go and the last time she told me this story before she died and this was a broken version and she said you no can blame tutu man you know that's our ohana. She said tutu man was angry because the sailor went up to the cave and threw all the bones out; and he got stuck and couldn't come down. In the past that happened

and they would ask him to go up because he knew a way to get up there. She said tutu man never like go up there to get this man. You no can blame him, they're our ohana. And so I asked her and she said yes they are our ali'i... to lift that. And it wasn't until after mama's death that we discovered our genealogy. And you know Tutu lady and Liliuokalani are on the same page through Aikanaka and Kamae's sister [Gordon]. [Clarence Mederios has this genealogy].

Hali'ilua. There are a lot of sites over there [Ka'awaloa]…my own personal attachment is to Hali'ilua….which is the fresh water pond right there on the side of the ocean. I had so much experiences in there….so much experiences. I was in there one time…floating…it was so gentle…I mean truly floating because you never have to worry about the water going back and forth like the ocean. And all of a sudden…cause you could hear the birds and stuff like that….all of a sudden I heard…it was almost like a shift….and the way the birds sounded….I kind of opened my eyes and all of a sudden the trees were gone…there was no trees there…all these *hale*s were out there…I look over to the side of me like that and there were these three canoes…it was like everything shifted and like I was in that time…in that space…and I sat there looking at all these people walking around…and these old ones…all them during their work…it was like the whole village opened itself up for me…that one crack…and it was from Hali'ilua….from Hali'ilua that happened to me. I told Poni…I took Poni over one time on the canoe to that place and he started talking to me…and then all of a sudden he started chanting…he started chanting and he started crying and crying…. It was just a beautiful…in my vision and the things that I seen…that they allowed me to see…it was just the beauty of it all…the purity of it. And I don't think I ever saw my cousin…he was always so strong…I don't think I've ever seen him so affected then what happened to us at Hali'ilua. And you knew him…you know…. They [Kupuna] activate things in your koko…you know what I mean. It's the same over there…if I ever even think that I need to know any answers, the answers come immediately. They show me…with pictures…like a picture show [Aka].

Kealakekua Park Area: Hikiau Heiau





Photos 66 – 71. Hikiau Heiau: various views (11/16/09 #215, 11/15/09 #263; 11/16/09 #204; 242; 11/20/09 #192; 202)





Kūkailimoku. It was clarified the Hikiau Heiau…the (wetlands?) that were in the back there…all of that were very extremely important sites…and Hikiau is where Kamehameha on his return from O'ahu after uniting the islands went to put Kūkailimoku. So, it's important. It's the one they get in Bishop Museum. It continued on [Tommy].

Pule/Kapu Kai. The power of prayer is a…I never ever forget that because, number one I'm a "Pule" girl…that's my last name…that's my maiden name. So I never ever, ever forget…it's like my grandmother them…they were powerful healers…my Aunt, Poni's grandmother them…our tutu's were powerful, powerful healers…powerful healers…and you know what…they never said that! We can, because we're looking back at them. Others could because they were looking in at them. They never did…they never did…and they'd say, 'No. Our job is to keep what we do…our communications and our responsibilities…pono. Our things and our body are kino clean and clear.' They'd always go do kapu kai…kapu wai…they'd always go cleanse themselves. Hikiau. This is one of the things that we do and I was instructed very young…I used to go with Auntie I'o. I started doing this work with Auntie I'o. I would kapu kai in front of Hikiau. Hikiau was the beach where we would wash at…then we would go all the way out South Point to Palehemo [Aka].

Kahu. The responsibilities as I've understood it by watching Auntie Io and then by being present with her during a lot of the different ceremonies and always with protocol. She never approached it without protocol and neither do I….I do it the same way…there's a reason why they lay it down. And the majority of my growing up…in that faction of it…was makana ka iki…by doing, I learned. By being a part of it I learned…I learned about the forest and what was the sacred plant to Laka…because I would help Auntie Io to go and gather the kuahu to Laka. I learned all of these things in that way. Later on I realized what a gift and what a blessing it was to know what was the kinolau…the differences between the plant…and not just any time of the year…when the plant would change…when the lapa'au was present…because a plant you can't hold it all the time only the specific time when it would change then the medicine was there. During Auntie Io's time…I remember my grandmother talking to her…because the land was still my grandmothers at the time and Auntie I'o wanted to go back home…she'd come back and …it was always the family's land…even though one was chosen to hold it during their time…it was always for the rest of the family....and the one chosen was the one that would ensure that all the family was able to use it….not just the one that would be going, "Oh no, this is mine! You guys get away!" It was the one that was raised knowing that…that land was for the 'ohana. And so, Auntie I'o wanted to come back home…at that time my grandmother was deep into the translations for the Mormon temple and the genealogy…the genealogical research facility there…yeah, that's what she did…that's what she was very involved with doing that time. And so, she said, "Okay, you can go back home. You go." And when she realized that Auntie I'o was going to stay here, she went ahead and signed the paperwork…a portion of the paperwork over…all four of the sisters held a portion of that land....there was only four of them…my grandmother [Matilda] being the eldest…. Auntie I'o was the one that would come back and forth…so Tutu Ko'o…the one that was watching 'em for my Tutu Kalae…which is Auntie I'o's grandmother…my Tutu Kalae was the caretaker for almost eighty years…all the way through the time of…I mean, she's the one that had to deal with Bingham, when Bingham came and tried to go through the caves and stuff like that over here.
She was the tutu that Bingham sent Max Freedom Long over here to come and see because of the power that emanated off of her…that's in his books [Aka].

He [Max Freedom Long] "created" the huna…you know, it's always their perception of what they think it is…you know what I mean? We always talk about perception and a lot of people unless they do a lot of cleaning and clearing and looking at what their own part of it was…not a lot of their perceptions… even their equaled…was able to equal in any sense what the tutu's saw…because most of those tutu's seen into all the worlds…the different worlds…not just this world. I know that the ones who each held a temple…all had that sight…that ability to see into the spirit world and to be able to converse. I also know that I was born with it…so my grandmother them pretty much took over my raising from when I was very young…even though I knew my mom was my mom…I wasn't really raised by her…I was raised by my grandmother, my Auntie I'o…in the house I was always referred to as "Auntie Io's baby"…that's why I'm Haliakaliolani ….I'm named after Auntie I'o too [Aka].

Hewahewa. So we had ties to the temple for a long time…there's always old ties…we have an old chant that my sister Kalae taught…that was kind of like a rhyme but it always kept us very straight and it was a source…and the core of it was: Hikiau Naheau Kekahuna Hewahewanui

Lonoikamakahiki Ke Ali‘i Nui Ke Ali‘i Nui. That was one that she had created so that the children would never forget…Hikiau Naheau Kekahuna Hewahewanui…so a lot of people always thought that Hewahewa …this is their belief…other people thought Hewahewanui was a relative of Pa‘ao and he wasn’t…he wasn’t. His genealogy was banded about because nobody knew it….because nobody knew it…and, you know when people don’t know it, right, it leads to a lot of other things [Aka].

Kāne/ Order of I‘o Heiau. I do know that Hikiau was first dedicated and dedicated to Kāne, but it wasn’t a luakini to begin with…only during Pa‘ao’s time…in the short time that he was here was it was utilized as a luakini….which is almost like a real slap to the Hawaiian people. I guess during Pa‘ao’s reign that’s what he wanted them to superimpose his power over their source of power…which for us the sacredness of life was so pronounced. It’s so important that of course he returned and used that same thing to say, “Because of the sacredness of life…”, of course the only thing that our gods would want is the life…which is how the temple became used as a luakini…there are no other luakini’s that I know of in these islands that can actually say that they honor Kāne, the Life Giver, Lono, Kū …but I’m going to tell you something special about this heiau too…this heiau, including one that you’ll probably run into in your own studies on Kauai…is the only two heiau’s that had the Order of I‘o attached to it….which is where my family comes out of…Na Koa was the ones that watched over our family [Aka].

Hewahewa Nui Hale and Burials. Hewahewa did have his house in the back of there. I know where the house was too. We’ve had highways and stuff like that in those areas…and there are a couple of graves in the back there but I was never ever, ever, given permission to ….it was important for us to know where it was but it wasn’t important for anyone body to know where it was…. The burials I’m talking about are not in tombs. The ones that were entombed weren’t as old as the ones that are behind there…that are tucked into the sides and are now covered by rocks. The place will always keep them safe. I know that. [Those were the more ancient burials] It wasn’t just up on the top over there…see Hewahewa Nui was around for a long time…it’s really funny how some Hawaiians will take the perceptions of written history …which is like the people that came with Captain Cook that was writing…because those guys…one of them was a French [Freycinet] Something like that…and somebody else…but they had made reference to Holoae…the priest that came out to greet them and how down the line the Holoae became the high priest… And Holoae was just an apprentice actually during that time …. because any person that understands how the kahuna ranks were…knew that the Kahuna Nui did not go out to greet…they sent…I mean, this is Poni…this is Poni…right here. ‘They never would have gone out there to greet anybody….they sent their underlings out there to greet them’ [Aka]

There’s a grave over there with a tomb or headstone with a long Hawaiian name. So it leads me to believe there was the burial grounds over there. It’s still there that graveyard. A little boy ... it’s still there. You have to go over the wall and you going see this large headstone over there. I forget that person’s name, yah [Milton].

Helehelekalani Heiau/Hale O Papa. That one is never ever, ever, to be opened [uncovered] back up. The Tutu’s went put that to moe moe. This is the story came down from my grandmother as the hiapo in the house...also the one that was raised by Tutu Kalae…she was raised by her grandmother Tutu Kalaeli‘ili‘i, who was the caretaker of Hikiau for almost eighty years…in her life span…’til she passed away in the thirties. Helehelekalani was a Hale o Papa run by female priestesses. The ceremonies done there opened the door…I mean, no ceremonies was done up on Hikiau unless the ceremonies at Helehelekalani was done first…they initiated it and when the signs were favorable then they gave permission…and then the temple, Hikiau, was used. So you have the ones that are watched over by the male and the female…but the male ones…the ceremonies, like I said, the ceremonies up on top wasn’t done unless the Hale o Papa wasn’t taken care of first…so Helehelekalani…like my grandmother said…and I’m going to tell ‘em to you exactly the way she said it to me because that’s the only way I can share this. Helehelekalani is never to be reopened again. The reason for that is the people of this area could never ever handle the power of that one opening back up. Because if they open it, it activates the tomb and once they get activated together

the things that we take as common everyday place won’t be happening around there…and they won’t have…. I never took it as a threat either, I just took it as that’s the way it is. They won’t have the understanding that’s needed in order to go ahead and maintain the activation of those two working together. So the back one was put to sleep…they did ceremonies over it…I know in my lifetime, sister, I’ve gone through a few pot keepers down here and every time anybody got close to that one in the back there…the pot keeper they had like twenty years ago…he just started rolling back the vines clearing the top of it…got about halfway done…boom! What happened? This other park guy come down, ‘Oh, brother, you got to make a phone call!” Call from the mainland…his son or his daughter got into a bad wreck in the mainland. “What” He ran up to go check on that….when his wife found about that…they’re rushing to try and do whatever…to get airplane flights or whatever…she has a heart attack…so he ended up rushing her to over there and yet he’s got the boy, I think, because the boy….no, it was the daughter…that’s on the mainland in the car wreck….and then he’s trying to get his son to go because he’s trying to make sure that the wife is alright because she has a heart attack at the same time…same twenty-four hours. When she had that and he’s dealing with that…the daughter is fighting for her life on the mainland…and he’s getting the son to go over…as the son is rushing to the airport he gets into a car wreck…three of them…only one left standing was that pot keeper…he retired [Aka].

Helehelekalani Kapu Nui. My sister…Helehelekalani is never…I mean…it’s like…it’s one thing to want it preserved in time… but I’ll tell you something; this is the thing with the State and the Federal laws and how everything is to be adhered…and I know you know what I’m talking about when I share this. When they opened that area up and turn it into the park that it proposes to be, they have to by right put down pathways to make it handicap accessible… you know what my grandmother said about stuff like that, ‘If they build it, they will need it.’ And it was just very…there is no other temple complex like this in the Hawaiian Islands…none….that’s why this place is special. It’s not because of the fact that King Kamehameha became king there…because that was only a short stint of history and then how things changed for the Hawaiian Islands after that…not just because Captain Cook was killed there either…or the fact that the first Christian ceremony was done there either. There were other things there…that name was in place long before all of these instances happened. Kealakekua….and it’s not about the pathway of Kua, the shark …it’s about the path of God. And if you talk to anybody that knows any of the old history of this area…and really pay attention…if you went right up this line…the way this pathway…the way this mountain runs…this is the last arm of Pele. Those birds that come out of this Pali Kapu o Keōua …the only other place on this island that you’ll find them is in the volcano…in Kīlauea…the only other place. If you guys don’t want to kill anybody…you guys don’t want that place to be opened up. I’ve gone through seven park-keepers in just my short time here…my short thirty-one years…the park-keepers and their helpers…some of them were just the helpers that were sent down because the park-keepers weren’t there….weren’t able to. But I feel the immense mana that’s behind there…I always say aloha…I never go niele…I never felt the need to…I always felt good sitting in the back there just meditating amongst the trees and the bushes and the quietness of it. You should join me in the back there one day [Aka].

Other Significant Sites

Kamehameha had like this little apartment…a little room site down there…whenever he was in the vicinity. You know that he was the Paiea, first of all…Kamehameha…that was his title. You know Paiea’s mother [Kekuiapoiwa] was sent over to Kohala…to her father’s place … Alapainui …who was my eighth great-grandfather on my father’s side… She was sent over there…. was to hanau …because they kept trying to kill her…certain kahuna’s from the (?) islands had foreseen the coming of this boy….this man…this chief that was going to go ahead and wreak havoc with the Hawaiian Islands…and they sought to kill her. Sort of like ‘The Terminator’…the movie. My eighth great-grandfather was Alapainui…that was Kamehameha’s grandfather. Hewahewa Nui was on my mother’s side. Hewahewa was also related to Kamehameha…did you know that? In the old days, sister, they never awaha…talk too much about who was connected to who….to draw attention…they never did that….they never called their daughters U‘i or Lani…to draw attention from the spirits…that’s why we always say to our babies as pupuka… ugly [Aka].

Pali Caves

There's pictures of that I've seen…black and white photos…people actually going into the caves…these are old…from the Fifties, I believe…maybe even the Forties. Knowledge of the caves and what's was in them, dates back to that…so over the years continued unchecked access has resulted in the loss of the artifacts [Tommy].

Kealakekua Bay

Kapau kapu. That's what our tutu's used to do over here…they'd take care of the mano over here…Kapau kapu is where they would go and scrape the bottom…scraping clean the barnacles. At our old place we had barnacles this big…that came off the bottom of that mano…the old mano…I know the name but I never ever called the name unless we need him. It is the guardian of Kealakekua Bay…and it's so massive…it's huge. And it's so old it lost its stripes years ago. I remember going out with Auntie I'o …and where we go out…we'd have our lava lava's on …her wraps…and see the wrap floating…and she went out there to go get the wrap…and I look around and look around and can't see Auntie anywhere…and she'd be gone for hours. Hours! [Aka]

And then in the fifties they started going out and hunting all the sharks…I mean thousands of them, they killed. Kohala was the shark region, that's why Maui could never take Kohala…when tutu man was the ruling chief. They would send a mano out…mano would take out the boats before they could even reach shore. That I learned from my grandfather them side…my father's side…it's so funny how the family is wrapped together…of course the Luahine which ended up on this side and just the mixes and the meshes of the lines that came in together [Aka].

The bay is so rich, over the years I've seen mahimahi come in I've seen marlin come in I've seen tuna come in I've seen whale come in I've seen carcasses of shark drift in [Milton].

Kealakekua Beach

Education. The only thing that I know of this place is what I've learned from the local people around here, and from Auntie Kalehua who is the caretaker of the heiau. Like this area from the temple to that Pali, as far as I know, was one place of higher education for the kahuna [Mac].

Canoe building. Well, I was supposed to come back here and build canoes….well, ___…the agreement that I made with everybody that I learned from …'cause I had no one teacher …I had to "niele this guy"…. "watch this guy"…. "try this" … "try that" … one of the agreements was that I would give back…That canoe out there is the bargain basement no more money model. That's what you can build if you have no job, no money, and a few friends. That is made out of store bought Douglas Fir. That is made out of regular construction lumber…nine pieces of 2x6x12…nine dollars each…and two months of work. The rest of the stuff is a little bit more. Two months of work. And that is the eighth one [canoe]. That is definitely seaworthy…I've taken a couple hundred people out on it already [Mac].



Photo 72 Mac's canoe (7/12/09 #125)

For many people….that canoe sitting over there under the beach…I open the sail, not for myself, but I open the sail up and leave it there on the beach so that all the people can come…not just tourists…but the locals and the kids can …because I never ever saw one sailing canoe when I was growing up. I never even knew what the heck a sailing canoe was [Mac].

This one is going to be the first one out of native wood. This one was … I've been waiting to do this canoe…I had to make sure that I was ready for the challenge. Native wood…lot harder…this one is thicker…smaller pieces. And it's made out of koa. This wood…when I decided I was going to make this out of koa, I went back to Ka`u and I went to the kupuna's…I went to my teachers and I asked for permission to go up to the mountain and go get wood…so I went to Kapapala …and this was …the wood for this canoe is part of one ….a tree limb tree…one limb had fallen off…it was like three different trunks….and so one had split off and fell right next to…right on the side of the road…so we cut it up and threw it in the truck. Brought it back and let it sit for two weeks…then I took it to somebody with a saw mill…he cut up the boards into planks for me…the logs into planks…and now when I need…I take the planks and I cut them up into blocks…one inch by three-quarter inch thick…and the pieces are one inch wide [Mac].



Photo 73. Koa canoe (7/13/09 #196).

That's what this place needs, you know, if there's a continuation of building here…because I've already taught…when this one is done I'll have taught three people that live here in this area…adults…so that they can continue. There is enough demand as far as kids and others that want to paddle canoe…but everybody's afraid….nobody like get in trouble. Here I am? Plenty kids went learn [from me]…but adults this last time was just terrific. The three that I taught…so I'm sure that they can continue on [Mac].

Pōhaku. After I cleaned all those rocks from where the canoe is now...in the sand came one perfect ulu maika…one ancient ulu maika…you can tell it's one very old, very used rock…very weighty…got only a 'thumb' spot on it…you know, to help fling that thing. I've found all kinds of stuff and just keep putting them back [Mac].

The first day I came back here, I took a walk on the beach and I found one canoe anchor. So when I found that anchor I knew I guess I gotta stay…'cause my reason for coming to Kona didn't quite work out the way it was supposed to be…'cause I had one job…live on a coffee farm…well, the guys with the coffee farm, they didn't get the land…and the job …I took too long to get back because I had fallen off the cliff picking opihi in Puna. So I figured I'll just come and spend a month or so hanging out with the guys and figure out what next. And then I found the anchor and I knew…I guess I gotta stay [Mac].



Interesting Pōhaku and Coral found on Kealakekua Beach.

Photos 74 - 80 Shaped coral, shaped/colored rocks (6/11/15 #86; 87; 7/26/06; 7/12/09 #406; 414; 142; &119)

Project Concerns

Change often meets with resistance, especially change of lifestyle brought about by outside entities. People who grew up on the lands often don't want to see it changed, especially if it provided resources, recreation and respite. They also understand that things don't stay the same, and change could occur from natural disasters or by outsiders with cultural sensitivity or without. But there are sacred places where it is more than just about the change that's offensive. The consultants shared their mana'o about the project area; some of their thoughts and concerns and the proposed project are stated below.

Project Area

Helehelekalani Heiau. Do not open…you open it you're going to have to create all the other things that the "law" says that they have to supply as a park. If you leave it covered up…if you leave it enclosed and covered and blanketed and protected…it would be best for everything around actually [Aka].

And Helehelekalani was always…that was a place that was sacred to women….all the park keepers have been men [Aka].

Preservation/Education. I'd like to see the bay preserved. I'd like to see the resources preserved. I'd like to see the rocks removed and the bay restored like when I was a little boy. We enjoyed the bay when I was a little boy we enjoyed the bay we didn't have too many places to go. I would like to see people who enter the bay learn something about the fishes of the bay and why it's important to preserve it. There's lotta fishes in the bay. When I was 18-19 years old I went into the Navy and was based in Alameda California we went down the coast and we stopped at Monterey Bay. It was very interesting there. A lot of Portuguese settled there. There was a very vibrant industry there, cannery there in Monterey ... haven't been there before. There's a Monterey Bay Aquarium. For whatever reason, they're not charging ... So what they've done was made that a preservation area, there's a large museum, there's a large aquarium, the people can learn all about the resources and its importance to Monterey Bay and the people that lived there, what they did, and why it's important to preserve it, it's open to the public, they have access to the beach, they can swim, they can snorkel, they can do everything but the area is preserved for future generations. I'd love to see the locals enjoy our bay as well as the visitors. I have no objections to removing the rocks. I know there's other people who object to it because it's part of our economy. It's a mainstay of our economy. People come here from thousands of miles and just enjoy this. The bay was one of the top beaches in the world when the sand was there. I'd like to see the people come there and appreciate the sun and going into the nice warm ocean and enjoy. And learn about the fishes in the bay and why we preserve it. It's very important. I'm against any commercial development. Maybe up in the hills somewhere but not in the bay [Milton].

Flora. You know, the whole idea is you know how much hundreds of years it's been there before these little seedlings ['opuma] started to take root? You know what I do like about the 'opuma is, number one, it's a legume…and as people use cars in and around this area…which there is an immense amount of…and we have vog…the one thing I like about…that I always tell people to plant is legumes…because what do they do?...they absorb carbon dioxide…they take in the poisons of the air…they put it down into the earth as nitrogen….nitrogen fixes it and put it back out into the earth as clean oxygen…so you guys are cutting out the plants that actually create oxygen….. The old ones [kupuna] knew that there was a purpose for every plant and they honored all of nature….period...period! When they came into charge of this in this area it doesn't matter about what is alien and what is not alien…what is native and non-native…what is endemic and what isn't….. But there shouldn't be any depiction about native or non-native plants within the vicinity…and the reason why I say that is that if you were to look at it through my Tutu's eyes every aspect of nature had its medicine. Some of these medicines, you know, sister, was used specifically for the earth….to keep the earth safe and cool and to replenish that which is needed. Some of these trees…like I was just telling you now…was used for that **Lameamea** …the Goddess of the

Wind…could continue to be cleansed…they all worked in unison in some shape or form. And who are we to say that these aren't useful? We're not seeing the big picture and we're not being Hawaiian in that look…so I'm asking for more people to really pay attention to the Hawaiian mind set when referring to this [Aka].

Like you know people go out there and say, 'Well, we gotta pull out this ekoa so we can use 'em….' You know ekoa is a very important plant. It helps to clean the air of all the stuff you put in it….driving by with your car or your truck or your this and your that…it helps to create soil that is needed out there…all the a'ā's and the pāhoehoe…it helps to go ahead and set nitrogen back into the earth which is so important for all the organics of the earth, or the creating of good soil, and it puts oxygen…pure oxygen… you know in this day and age, sister, don't cut one tree…don't cut one tree. In this day and age with global warming the way it is…we gotta think outside of our box…the box that so much people are trying to create. We Hawaiians…we only like traditional plants …okay…that's good but how much of this…three quarter of this you're going to clear out to make that point. You're going to make the park hotter… you're going to heat up the ground…it's going to kill off all the natives that are there because all of a sudden none of their shade plants are there that helps to grow them and to shield them…you're going to dry up the water source….you're adding to global warming because you're taking out the trees that are so needed…so needed! Don't cut one [any] tree! Don't cut one [any] tree! [Aka]

A lot of these guys they get so gung-ho and so into … 'No, it has to be our way…our way!' Okay, brother, show me your koko…let me see your birth certificates …let's start there before we cut out and pull one weed…one non-native plant…let's start there. Who are we to say our lives are more important than theirs. What do we do that's global on a scale that these guys [plants] do…they give us air…life…they help us to sustain life …what do we do that's equal to that? We consume! Sometimes when I hear that word; I like cry [Aka].

I don't have any problems with that I studied Round-up and I don't have any problems with using it as long as you follow the label law and you do it right [Gordon].

Kuleana. So even though our kuleana is over here [Ka'awaloa, but one cannot look only…you got to look at the whole picture. And I think for us…the way we have to look at this is that everybody has their kuleana, but I think the Royal Order, and Hale Mua, is what is happening within the whole bigger picture….ahupua'a or whatever…that geographical area….always the well being of everything…cause everything for us connects [Wally].

I think in some ways we have reached out to Gordon Leslie and some of his ohana there…or Kahu Wendell Davis through Kahikolu Church; there's roles that we've played with them to reach out. I think for us you can talk, talk, talk but you gotta go there and hana. At the end of the day that's what it is. So we gotta make sure we do our kuleana too. We can malama but, like Tommy's saying, get an archaeologist so that we can get the kind of clearance that is necessary so that you can go after funding [Wally].

Pond. I know that this is a rock lined pond so to destroy shouldn't be too hard … there's rocks on the bottom…the lining…clean out the mud until you reach those rocks and stop. And if it's done by hand, can't go wrong. Hard to mess up when you do it by hand, do it by machine easy to mess for mess up [Mac].

Burials. So let's take it in its totality….as important are the burial sites in the Pali …those should be cared for…those should be sealed, closed, and protected. While the archeological surveys are being taken care of on the flats, along with Hikiau Heiau, which is still part of the entire complex [Tommy].

Caves. Whether it was Bishop Museum or some other guys …they went get the cables for go down…and with the last earthquake that happened…some of those caves are exposed again. But I strongly feel that our ancestors there…we need to listen to them what they've left behind by

understanding the history and developing a plan…by starting with that it will better help guide how then to address some of today's needs and issues along the way…cause we're giving back respect. Maybe by understanding all of this here, it will give us a better plan of how to handle some of the critical issues that is before us today. One kupuna said, 'Always remember our ancestors had these things zoned already. Don't create your own zoning now, 'cause they all jam up!' So let's look at what the zone was over here and use that as we go forward. I think it would definitely help us address some of the issues today and for tomorrow [Wally].

Restrictions. Unfortunately Charlie; remember Charlie who was working down there? I tried to tell him no do that because people don't know if going be modern or old. But he would build platforms…. Portion of that okay yah that's the one yah. But I told her we do all that but she needs to get the approval. I took out the old toilet remember the old toilet? Even that I had to get approval from them. All of the work we did down there is all volunteer [Gordon].

Pier/Wharf Issues. Well, I think you guys…you probably got an earful from the community on the kayakers at the pier…and the inaccessibility…lack of parking…some of the issues the community is facing…rentals and all of that…I think we see the same thing too [Wally].

Visitor's Center. I think that to have or envision a Visitor's Center, at this point in time, is good, but as far as selecting a site for it, at this point in time, I would stay away from that, personally. Because there are so many significant areas within this whole complex that one Visitor's Center would not be able to, I guess, adequately address what's here…we're talking about Visitor's Centers [two]. Let's take care of the 'āina first. Let's do what we need to do to preserve what we have here [Tommy].

Cultural/Lineal Descendants. And make sure we identify all those things that we need to identify**…**so that once you start going in to mālama the area you know where things are at…and that is, talking to the cultural and lineal descendants and all of that [Wally].

Ka'awaloa

I think trying to keep it as…I don't think we had a real in-depth discussion on it…but I think it's trying to keep it as much in its natural state as possible. There's some major kiawe's inside there…one has to be very careful of course if you start pulling things …you don't want to disrupt any historical sites. I think there was an archaeologist or whatever to really look at everything so that if and when these things happen it's done properly. I don't think putting up any modern structure…maybe a hale compatible to that…so that if kids come down they're out of the elements…but keep it as much as can in its natural state [Wally].

We were working very closely with the State archeologist, Parks & Recreations, Mary Ann Maigret, I understand she's no longer there though…but with her assistance, our initial plans for the clearing and the taking care of the area…we would work with her to pick a selected site…cording it off…go through the process of cleaning under her guidance because a lot of that particular area there has not been any kind of archeological survey, inventory, or even update mappings done. So this in itself provides somewhat of a hindrance for the Order to move, and because we need to have all of these surveys done before we can actually go in and start doing the cleaning and restoration work. And there-in lies the problem with funding…because it is State land, technically, and all of this kind of work needs to get completed before we can go in and actually start doing the physical stuff [Tommy].

That was the initial plan with Mary Ann…was to pick the section. She was very familiar with the cultural and historical significance of the area so we wanted to work with her so that we wouldn't have to invent the wheel once archaeological surveys were being completed and mapping …and all of this kind of stuff. So working with her, picking an area, clearing that particular area, having her do what she needs to do as far as the archaeological requirements are. And then when that's pau we can move on to another area. But understanding that the area that we just finished we can clean and

keep clean. We could continue to just maintain it in that state. So these kinds of plans were already in motion, so that's what we're doing. And reaching out to different community groups, and of course Gordon Leslie's involvement bringing various organizations - Hawaiian organizations in to help clear and maintain the area. One of the reasons we became involved early on in this is that earlier visits to the area we saw that the land was not being respected. There was rubbish everywhere, people was using the area as a toilet. Toilet paper…everything was just strewn <u>all</u> throughout the bushes …throughout the trails. This kind of saddened us…that this would happen to sacred lands such as this. And, as again, Wally just mentioned this kuleana…and that's important [Tommy].

Continued free access to the area will only lead to more deterioration of the sites that are there now. We don't want to lose what we already have or have it desecrated even more than it's already been. So…and the name of the song is 'Hali'ilua' [Tommy].

It's not in keeping with this. Because is the recreational park in a wahi pana or wahi pana in the park…. If the park can fit in there, fine, but it might look different than what we think about it today. And if we treat it as such, as a wahi pana, then like Tommy's saying, we make sure there's either no access/limited access…and if there's limited access then how are we going to take care of the people coming on top the sacred lands over there. Or should we have kayakers inside this sacred bay? Maybe that's the wrong kind boat they're using! And yet I think it can be very good for economical purposes too….maybe if they knew that they don't want to ride one kayak…they might ride a little more authentic…make it real…like a canoe…opelu size canoes…make it real. Make their experience genuine because if we look at this as culture and education…not economics…don't put the economic side first…put culture and education to respect our ancestors there. And if you do it properly you're not going to make a million dollars but maybe you make some money because people still would like to come…but you're honoring what comes first [Wally].

I think that the State has an opportunity now to look at Ka'awaloa in a different perspective…actually by identifying it as a culturally significant area this would, maybe, perhaps lead towards the drafting of legislation that may protect the area. Whether there be a clause in it that after a three year period it will be addressed to revisit again…but I think initially in the beginning before any further damage is done that it be **closed**…and that the State understand that this is a culturally significant area and that it is also their kuleana to realize that and to care for it. It's not only the Order…it's all our kuleana to take care of what is there [Tommy].

Ka'awaloa… I know that's the place of royalty…over there is sacred and should not be trampled on in anyway…we're supposed to be saving that resource there [Mac]

Archaeological Surveys

And I think that before we embark on any expenditure and funding … planning is one thing but expenditure and funding…monies should be sent towards taking care of what's there first…as far as the archaeological issues are concerned. There's numerous unmapped sites that we are aware of that are still within the State's property …State's boundaries…that have not been recorded or mapped. I think it's important that that be the first step [Tommy].

I guess sometimes it's what comes first over there. Because for me everything is so sacred inside here and the significance…as Tommy was talking, we should have a cultural plan for this area over here. Don't even talk about kayakers and everything right now. So what comes first? Doing the inventory. What's our cultural thing? If we start with that then maybe our other things can compliment. Culture cannot complement the western thing because it's backwards…they got to compliment the cultural side…then we can talk…otherwise hard for talk….and that monument will always stick out as that's the most important thing [Wally].

Master Plan/Cultural Plan

If we were to prioritize recommendations I would recommend very strongly, like Wally says, that a cultural plan be developed as part of the master plan [Tommy].

Or maybe the master plan could be part of…. Yeah, master plan got to part of the cultural plan…Yeah, the 'cultural-master plan'…I think got to be…and then things can fit in there. Once we do the cultural plans and everything that… that will encompass all of that, yeah…the burial treatment plans and everything because this is all one package [Wally].

We need to look as we're talking about today this particular area is really how this all connects all the way around…that's what we're trying to do…and malama. But really it's not for us…it's really seven generations already from now…that's what we're planning…that's what, I think, the ancestors are saying for us…our kuleana is for plan them out seven generations already. So we sit down today and we started about our kuleana at a portion of Ka'awaloa flats…it's this but push 'em out…push 'em out. Yeah, then there is an enforcement issue. But to me you can enforce…you can say that…but why are you saying that? If we can designate like how they designated the bay…a preserve…no fishing in there. What are we designate the 'āina part over here? And that's it…kapu. Why? It's all wahi pana stay in here. Pau. 'Cause otherwise why are you saying, 'No' ….it's still land that's why [Wally].

I think the master plan should start with a statement of direction…as far as what are the goals…what are we trying to achieve…do we recognize the land and the cultural significance of the area and being the primary focus at this juncture. So that energies that are focused on putting the plan together and/or any kind of future work in the area is being guided …it's being let by some sort of direction. From my personal perspective is that if we open the master plan with that kind of statement, it would erase all doubt as to the State recognizing and identifying the historical and cultural significance of the area. I think we need to be very clear and very up front [Tommy].

Preservation/Education

The signage is terrible…. You know because of the financial constraints that the government is in right now, there are things that can be done and things that cannot be done. There are things that we can enact immediately and is within their jurisdiction of powers to say no and etc. etc. …and I think this should be explored, prioritized and the list come up with what's going to happen first….and then we look at implementation… but the most important thing is to preserve what we already have…don't let it deteriorate any more. We're fortunate on the Big Island…more so on the Kona side…is that the historical sites and heiaus…wahi pana's, etc. are still intact. If you look at the other islands …a lot of them are no longer there…bulldozed down or whatever. But we are very fortunate because we have these structures and areas still intact…but we do have a tremendous opportunity to look at it from a perspective of preservation…restoration and preservation because with that comes education…we educate our people… we educate our visitors as to the importance of our history and our culture. And we use these areas as the tools…as the means. Hawaiians never had books…never had palapala … everything was word of mouth…so they say a picture is worth a thousand words … preserve it….restore it…you have a picture that's worth a thousand words…and that will live on through more than seven generations [Tommy].

If we can do that and get the people from this community…that came from here…there's those that did…the kids involved….so that they can live beyond our time and they can carry on that. But for me, like Tommy was saying, he touched on education…hopefully education, if done properly, can be used in a sense to hopefully help sustain itself…we still need money to maintain some of this so you can control how this area is better utilized. But what is its focus though? Right now there is no focus…the focus is whoever…Helter-skelter. "My focus is kayak!" "My focus is this!" What is it? Then that way you're going to get…if it's limited to access but it would be those that truly want to learn about cultural things that other people might not…fine. But if you want to learn this kind of thing, you will have access under the guidance of…Curators….like that. If there would be a fee to

come inside here that would help sustain this thing over here too. But make no mistake…this is the focus of this area over there. That's the focus. And so I believe there is an economic engine to this thing over here that can be used …you're not going to make millions but you can make money to sustain. And there will be both local people as well as visitors that will want to come and meet (?) at this type of thing. But we got to give it its focus…to me the focus is our ancestors already [Wally].

Yeah, this would be one beautiful area to have little areas where craftsmen could come … like canoe builders…could hire carvers…people that do the pohaku…. That [insurance] would be the only thing that they would need…they would be lucky to sell the stuff that they make. They get somebody making coconut hats…and making coconut stuff…and then you cannot sell nothing in the park because it's against the rules. That wouldn't work. No one would want to be part of a living cultural center [Mac].

I'd like to see the community of Nāpō'opo'o take over…care…maintenance…and use of this place. Would have job for the young kids…everybody could be useful…say, like the church, Kahikolu Church come in and they'd be the oversight…but some Friends of the Park… or the Nāpō'opo'o Community…something. And be able to do canoe rides…cultural demonstrations…like for myself, I could put on workshops every weekend …I could teach rope making…wood working…fishing….weaving…and that's just me! But they don't even allow that kind stuff because we cannot make any kind of … you cannot charge…if I said I was going to do workshops or classes…you know, rope making class…ten dollars donation…Scotty would get rid of that…shut the whole thing down as soon as one person said, "Oh, yeah, I gave him ten dollars for that class." Be done… you would never be allowed to do it again! You know, it's just a shame [Mac].

So I'd like to see more activities in the bay and Monterey can be a model. We could set up for example we could go to Victoria and ... a large museum; learn about the area, there's activities, programs, Victoria has 3Ds there; thousands of ... the areas and the environmental changes. There's all these possibilities. Unfortunately it will take somebody from the outside to come in and do it. And only through education the bay for the locals will be preserved and enhanced – only through education. The current generation now, they don't have the education so they don't have the vision. They just don't have the vision. There's a lot of federal moneys out there they just need to go after it to help preserve the bay like at Ho'okena there's Kupa, federal moneys helped set up a concession; but that was very difficult, it's very difficult to bring people together sometimes [Milton].

Park Pilikia by Mac. It would be nice if you could get one living cultural center here…craftsmen…because the State…everybody spends money to get the tourists to come to Kealakekua Bay…one of the big attractions is coming to this Bay…millions of dollars spent promoting this place and then when people come here…that trail we walk down if I never fix those rocks you wouldn't be walking down here… Nobody fixes that. The park care takers …their responsibility is the whole park…they only walk to the last rubbish can and that's it. They never come back here. The regular caretaker, Louie, he'll come back here and do stuff…but nobody else.

The supervising…after one big storm…with small craft warnings…high surf advisory or whatever it is, but there's big waves…normally if you are responsible for one bunch of ocean side parks…I would think that you'd go around to the parks and see if there's any damage after a big surf….nobody comes. When the surf is big, nobody cares if the people get hurt while they're here…right now that sidewalk is going to end up in the ocean soon. I'd like to go and take rocks from the beach and fill up that hole over there so the people don't fall inside.

All those rocks on the beach can be a resource…plenty building material. Can be used to…make halau's…you could make platforms for hula performances…you could make walls…you could do a lot. You could make little picnic areas….little spots where people could go. But I do understand that those rocks are also a blessing to this beach. Because no one takes care of it as it is…I usually go pick up the rubbish every morning….if there was no rocks and there was a hundred people come here every day ….this place would be big [trash].

The park staff that take care of the bathrooms in the park…those guys not into working. Two of the four people that work at this park, don't work…two of them work and the other two don't work. [They don't rat] because no can do nothing. The union is so strong, nothing ever going to happen to those guys. Even us, we try to make complaints… oh, those guys they're just sitting in the pavilion…they drive over here the first thing they do is sit down in the pavilion…wait till 11:30 and then eat lunch till 12:00 and then, maybe, go clean the bathroom…turn on the water faucet…I watch these guys broke the lawn mower so they get something to fix! They take the lawn mower apart…nothing wrong with the lawn mower…he take 'em apart and then he cannot put it back together…so the grass goes uncut for a month.

For three months I had Friends of the Park…trying to organize the people that use this place and on a daily basis… "You guys can give one hour once a month" … so the third Saturday of every month, one hour. And you know the supervisor from the park, she see me over here…she don't even tell me, "Gee, Mac, thanks for trying to help out?" So I gave up. It's like we're the enemy…local people are the enemy…the people that love this place…and we always use 'em but we also take care of 'em. It's just a weird way of…I was talking to Lokahi, you know, we work together….but no more any working together down there. It's all a matter of rules.

Oh, yeah, [outsiders] that's most of the trouble. About three weeks ago I had somebody… while I was working on the canoe….I had three kids that I've never seen before…they was talking in Spanish when I passed them…so can believe they might be Mexican. They were there for like ten minutes and within that ten minutes they had swiped somebody's bag…a girls bag…from the beach! Snuck in front of the rocks…got back to where they were…left…jumped in the car and ran away. And some tourist saw this happening and instead of saying something, she watched until after they were gone… and the person had already been on the beach for five minutes…then she walks up to the girl and says, "Oh, excuse me, some kids stole your stuff!" "What, what!" She gets up and looks around, "Shit, my bags gone!" "Oh, you were still in the water when they took this." It was like five minutes ago. If she had said something, could have stopped it right there. "Hey, put that back! Get out of here." And that would have been it. Or you call on the cell phone, "Hey, got some kids driving out…block the road…call the cops…they just stole somebody's stuff!"



Photo 81. Cultural practitioner checking out driftwood (7/7/07 #68).



Photo 82. People in tree next to heiau (7/16/09 #156)

CIA SUMMARIES AND ASSESSMENT

This cultural impact assessment (CIA) is based on two guiding documents: Act 50 and Environmental Council Guidelines (1997) [see Appendices A & C].

Act 50 [State of Hawai'i 2000]. H.B. NO. 2895 H.D.1 was passed by the 20th Legislature and approved by the Governor on April 26, 2000 as *Act 50*. The following excerpts illustrate the intent and mandates of this Act:

> The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the "aloha spirit in Hawai'i. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.
>
> Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.
>
> The purpose of this Act is to: (1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and (2) Amend the definition of "significant effect" to include adverse effects on cultural practices.

Summary of Findings

The following summaries are based on the information presented in the previous sections: the traditional (cultural) and historical literature background review and the ethnographic data and analyses. References are not cited unless it is new information and not already cited in the text above. These summaries condense the information above, but also serve to focus on a few significant individuals and events in relation to the project lands (e.g. Kealakekua, Nāpō'opo'o and Ka'awaloa), as well as give a broad overview of land, water, marine and cultural resources and uses in the general area, as they reflect cultural resources (properties) and practices and access to them.

Summary of Significant People and Events.

According to traditional and historical material, the Project Area has been witness to the comings and goings of many significant people over the span of more than ten centuries. These people contributed significantly not only to the history of Hawai'i Island, but the rest of the Hawaiian Islands. There were several people and events noted in the traditional oral histories and later recorded by explorers, missionaries, native Hawaiian scholars and ethno-historians, regarding the project area and its cultural and historical significance.

Mythical/Legendary Entities

There are several mo'olelo or stories about the legendary entities (e.g. gods, goddesses, deities) connected to the project area such as major gods Kāne, Kanaloa, Kū and Lono; the shark god Kua; the wind Goddess Lameamea and various gods used in high ceremonies such Kūkailimoku.

Ali‘i Nui

One of the first legendary people or families who impacted the history of Hawai‘i was the Nanaula family who settled the southern Hawai‘i islands around the 6th century along with other families from Tahiti and/or Samoa and brought their Polynesian traditions. They peopled all the islands for thirteen or fourteen generations, but acknowledged that another group had come before them. During the 10th century the Paumakua family arrived from Tahiti; they are tied to the Hua family from Lāhainā, Honokahua and Hāna, who were on Maui at least a century before. These people are the ancestors of many of the families of all the islands. During the 11th century the Nanamaoa family from the Society Islands established families on the islands of Hawai‘i, Maui and O‘ahu. During this period the descendants of Paumakua: Haho (who started the Aha-ali`i), Palena, Hua, Hanala‘anui, Hanala‘aiki (twins and progenitors of Maui and Hawai‘i Island ali‘i nui), and Mauiloa, were well established on Maui and Hawai‘i Island. The Nanamaoa families were shortly followed by Pa‘ao and Pili who came (some say from Society Islands, other say Samoa) after Kapawa, grandson of Nanamaoa, and appear to have changed the religious and social structures of the island chiefdoms, bringing with them concept of ali‘i nui, and the Kū cult which included human sacrifice. Around the beginning of the 12th century great voyages took place to and from the southern islands, but stopped abruptly around the end of that century, during the time of Wakalana around AD 1175, right after the arrival of white foreigners, possibly from Japan. Most of the islands were ruled by the southern families who were descendants of the ancient Nana‘ulu - Ulu lines, with the exception of Moloka‘i (Kamauaua family) and parts of O‘ahu (Maweke family).

The Hāmākua polity was dominated by Waipi‘o until about early to mid-A.D. 1300s and held the political power on Hawai‘i Island. The Waipi‘o rulers of that period include ‘Olopana, son of Maweke (O‘ahu ruling chief) – ‘Olopana left Waipi‘o after a severe flood and went to Kahiki; Kunaka (he adopted Kila, son of Mo‘ikeha, ruling chief of Kauai and younger brother of ‘Olopana); and Kapawa who was the first to be born at Kūkaniloko, royal birthplace on O‘ahu. Kapawa was the grandson of Nanamaoa [line] who’s son Nanakaoko and his wife Kahihiokalani built Kūkaniloko; chiefs born there were considered to be “born in the purple” and entitled to all the distinction, privileges and kapu it conferred. However, the oral histories also illustrate a continued interaction and relationships between the island polities: the granddaughter of Kohala’s ali‘i nui married the son of O‘ahu’s ali‘i nui; Kunaka of Waipo adopted Kila, the son of Mo‘ikeha now ali‘i nui of Kaua‘i. It is in the Kila mo‘olelo that the Waipi‘o heiau Pāka‘alana is first mentioned – it is claimed to be both a pu‘uhonua (place of refuge) and a luakini (human sacrifice) heiau; Kila is also credited with establishing the ko‘ele tax (working in the taro fields for the ali‘i one day a week) for his father ali‘i nui Kunaka.

Famous chiefs and long voyagers were (1) ‘Olopana, his wife Lu‘ukia and his brother Mo‘ikeha; (2) Kaumaili‘ula, Kaupe‘a; (3) Ho‘okamali‘i, Haulaninui-ai-ākea, Kila (sons of Mo‘ikeha); (4) La‘amaikahiki, friend of Mo‘ikeha - he brought the kā‘eke hula drum, a new god and the outrigger; (5) Kaha‘i-a-Ho‘okamali‘i – brought back breadfruit; (6) Pa‘ao – who brought new religion and priesthood and became the keeper of Kūka‘ilimoku, Pili – first ali‘i of the new ruling system; (7) Kaulu-a-Kalana – brought back edible mud to Kawainui; (8) Paumakua (he brought white men); (9) ‘Olopana II, Kahiki‘ula; (10) Keānini, Ha‘inakolo; (11) Kamaunu-a-Niho, Humu, Kalana-nu‘u-nui-kuamaomao; and (12) Kamapi‘ikai who made four voyages, three were two-way.

It was during the A.D. 1400s-1500s of this period that descendants of the Pili line consolidated the Hawai‘i Island polities and unified the island under one kingdom: Pili (ca. A.D. 1320); Koa (ca A.D. 1340-1360), ‘Ole (ca A.D. 1360-1380), Kūkohau (ca A.D. 1380-1400) [the last three may have been siblings or sons of Pili]; Kaniuhi (ca A.D. 1400-1420); Kanipahu (A.D. 1420-1420) who was usurped by Kama‘iole; Kalapana (A.D. 1440-1460) who brought down Kama‘iole the son of Kanipahu; Kaha‘imoele‘a (A.D. 1460-1480) son of Kalapana; and Kalaunuiohua (A.D. 1480-1500) grandson of Kalapana. Both Kalapana and his son Kaha‘imoele‘a had their royal residence in Waipi‘o.

The following were ruling chiefs ca A.D. 1500-1600: Kūāiwa who appointed his junior son Ehu as chief of Kona and another junior son Hukulani as chief of Kohala and was succeeded by his oldest son Kahoukapu as ruling chief of Hawai‘i Island (A.D. 1520-1540); his son Kauholanuimahu (A.D. 1540-1560) was the next ruler who sometimes resided on Maui on his wife’s lands; his son Kihanuilūlūmoku (A.D. 1560-1580) [The mo‘olelo ‘Kiha Pu’ is about this Kiha, not Kiha-a-Pi‘ilani of Maui] followed - he lived and reigned in Waipi‘o as did his son Līloa (A.D. 1580-1600) who ruled next; Līloa’s junior son ‘Umi (A.D. 1600s) usurped Līloa’s oldest son Hākau (A.D. 1600-16??).

During the reign of Hawai‘i Island ruling chief Līloa, high chiefs were appointed by him to the districts of Hilo, Puna, Ka‘ū, and Kona. Līloa also made regular journeys around the island checking on his people, farmlands and heiau - rededicating many of them (e.g. Kūkuihaele, Waikoekoe, Kapulena, Kawela and Pā‘auhau in the Hāmākua District; Paka‘alana in Waipi‘o was the main heiau, ancient even in his time, and under the care of the Pa‘ao line of kahuna pule who looked afterLīloa’s major god Kūka‘ilimoku and Lono during Makahiki. His royal residence was called Kahaunokama‘ahala, located just behind the sand dunes along Wailoa Stream and adjacent to his heiau Paka‘alana.Līloa’s highest ranking wife Pinea was his mother’s youngest sister from the O‘ahu line with whom he had Hākau his successor; another wife Haua was a Maui chiefess; and from his union with Akahiakuleana of Hāmākua, he had ‘Umi-a-Līloa, who inherited Kūka‘ilimoku uponLīloa’s death. Hākau’s reign was short-lived due to his supposed abuse of his priests; ‘Umi and others plotted and executed his death.

‘Umi had several wives including Pi‘ikea, daughter of Maui ruling chief Pi‘ilani. The end of this period ends in the death of ‘Umi followed by the death of his successor son Keali‘iokāloa. Warfare broke out between the chiefs because one group of chiefs favored ‘Umi’s younger son Keawenui-a-‘Umi and another group of chiefs favored Kūka‘ilani, the son of Keali‘iokāloa, who was still a child. Keawenui-a-‘Umi defeated the opposing chiefs who either died in battle or where later executed. Keawenui-a-‘Umi had many residences; his primary court was in Hilo, but he had a major residence in Nāpō‘opo‘o at Kealakekua Bay where his son Lonoikamakahiki was born to Haokalani (O‘ahu chiefess – Kalona-iki or Ehu line); another residence was in Waipi‘o, Hāmākua District. Upon the death of Keawenui, his eldest son Kanaloakua‘ana became regent/king until his younger brother and Keawenui’s heir, Lonoikamakahiki had passed certain tests. Lono and his wife Kaikilani-Ali‘i-Wahine-o-Puna (daughter of Keali‘iokāloa, oldest son of Keawenui) traveled throughout the islands and were subjects of epic mo‘olelo. After the death of Hawai‘i Island ali‘i nui Lono-i-ka-makahiki, his children did not succeed him. Instead Hawai‘i Island was divided into smaller divisions. This was not a peaceful period. The battles between the Hawai‘i Island families, factions and district chiefs continued during the later part of the Proto-Historic/Historic Period (A. D. 1650-1795) up to the time of Keawe, Alapa‘inui, Kalani‘ōpu‘u and Kamehameha I.

Significant Ancient Events, Practices and Resources

Hawai‘i Island and then Maui Island were the first two Hawaiian islands born to Papa, the earth mother, and Wākea, the great sky god. The first human settlement (ca AD 300-600) on Hawai‘i Island occurred on the windward side - Hāmākua District (Waipi‘o, Waimanu). For over 500 years after the initial settlement, permanent settlement spread out from Waipi‘o and Waimanu into the wet areas of Kohala, eastern Hāmākua to Hilo Bay and into the wet areas of Puna with Waipi‘o and Hilo becoming the dominant polities during this early phase.

Certain practices were universal Polynesian customs which the Hawaiians brought from their homeland; such as the major gods Kane, Ku and Lono; the kapu system of law and order; pu‘uhonua (place of refuge); ‘aumakua (ancestral guardian) concept; and the concept of mana (supernatural or divine power). The distinct natural phenomenon of Hawai‘i Island were most likely obvious to early settlers – the snows of Mauna Kea and Mauna Loa, the lava flows of Mauna Loa, Kīlauea and Hualālai and the probable earthquakes and tsunami. Ceremonies were likely developed to appease the deities connected to these places

and events; oral traditions mention volcano gods prior to the arrival of Pele and her family. Other than ceremonials sites (for bird-snarers, adze-making, heiau and smaller ahu or small shrines; often cairns or single or multiple uprights, sometimes platforms or pavings), burials on the summit was a very significant practice in ancient times, with the burial of the goddess Līlīnoe being the most famous.

During the Developmental Period (AD 600-1100), changes occurred bringing about a uniquely Hawaiian culture, documented by the material culture found in archaeological sites. The adze (koʻi) evolved from the typical Polynesian variations of plano-convex, trapezoidal and reverse-triangular cross section to a very standard Hawaiian quadrangular-tanged adze. A few areas in Hawaiʻi produced quality basalt for adz production. Mauna Kea on the island of Hawaiʻi was a well-known adze quarry. The two-piece fish hook and the octopus lure bread-loaf sinker are Hawaiian inventions of this period, as are the ʻulu maika stones and the lei niho palaoa. The later was a status item worn by those of high rank, indicating a trend toward greater stratification, although evidence also indicates that the "ancestral pattern of corporate descent groups" were still in place.

Early dates from temporary habitation caves along trail corridors linking Waimea and Hāmākua with Kona range from A.D. 800-1000. The windward populations kept growing along with their political power; oral histories document the rise of power in windward lands dating to A.D. 1200-1300s with multi-tiered political organization and the first reference to a major political heiau (Pakaʻalana in Waipiʻo, Hāmākua). Competing and combined polities were now evident in the oral histories -- two Kohala groups (Niuliʻi and Kūkuipahu) united, and a third Kohala group (Waimea-Kawaihae) all competed with the Hāmākua polity which was dominated by Waipiʻo until about early to mid-A.D. 1300s. This was also a period of great long voyages from Hawaiʻi and new migrations from Kahiki (mentioned above).

During the reign of ʻUmi-a-Līloa the island of Hawaiʻi was divided into six moku or districts. ʻUmi was the first to move his court from Wapiʻo to Kona where he first built his heiau Ahu-a-ʻUmi on the plateau between Hualalai and Mauna Loa, in the ahupuaʻa of Keauhou and resided in Kailua and Kahaluʻu where he built several more heiau. It was said he wanted to be near the fishing grounds of Kona. With ʻUmiʻs royal court now in Kona, Kona became the power center of Hawaiʻi Island and the "Pili line of rulers eventually become known as the Kona rulers or Kona chiefs.

The aliʻi and the makaʻainana ("commoners" or people who looked after the land) were not confined to the boundaries of the ahupuaʻa. Not only did the makai (ocean direction) and mauka (mountain direction) people share seafood and produce by lighting a fire when there was a need, they also shared with their neighbor ahupuaʻa ohana. However, there were certain resources especially noted to be controlled by ahupuaʻa konohiki such as bird feathers and bird meat. And while there were a few high-quality quarries on Hawaiʻi Island, the major source of the fine-grained Hawaiite basalt only came from Mauna Kea (11,000-12,000asl) in the Kaʻohe Ahupuaʻa, which was quarried during the summer months. It has not been determined that only Kaʻohe people used the quarry or if access was given to others by the Hawaiʻi Island ruling chiefs. Volcanic glass was another restricted resource with Puʻuwaʻawaʻa cinder cone in North Kona having the highest quality. Numerous trails allowed access to the summit to connect areas in Kaʻohe and Humuʻula as well as collection areas (basalt for adze and other stone tools) and forest resources from the lower zones of Mauna Kea.

Another significant event, according to moʻolelo, happened during the time of Kahoukapu, King of Kaʻawaloa. Seven foreigners arrived at Kealakekua Bay in a painted boat, with an awning over the stern, but without mast or sails. They were all dressed in white or yellow clothes, and one man had a pahi (a long knife or sword) by his side and a feather in his hat. They were treated kindly by the native people, married native women, and were made chiefs. One theory is that they were from the Dutch ship *Hope* ca. 1600.

Historic People and Events.

In January 1778 Cook landed in Waimea, Kauai; he left an English sow and boar on Niʻihau and observed chickens on Kauai. Cook left Hawaiʻi for several months, but returned later in the year. Kalaniʻōpuʻu was fighting Kahekiliʻs forces in Wailua, Maui on November 19, 1778 when Cookʻs ship was sighted on his return trip to the islands. Kalaniʻōpuʻu visited Cook on the *Resolution,* while Kahekili visited Clerke on the *Discovery*.

When Cook sailed into Kealakekua Bay on January 17, 1779, Kalaniʻopuʻu was still fighting Kahekili on Maui. At this time Kahekiliʻs brother Kaʻeo-kulani was ruling chief of Kauaʻi; Ka-hahana was ruling chief of Oʻahu and Molokaʻi; Kahekiliʻahumanu of western Maui, Lanaʻi and Kahoʻolawe; and Kalaniʻōpuʻu was ruling chief of Hawaiʻi Island and Hāna, Maui. On January 25th Kalaniʻōpuʻu visited Cook again at Kealakekua Bay, presenting him with several feather cloaks. Kalaniʻōpuʻu had his royal residence on Kaʻawaloa; later others had residences there too such as Keohokalole and Kapiolani. At the time of Kalaniʻōpuʻu, the major temples (heiau) of the project area were well established.

By February 1779, Cookʻs scheme to kidnap Kalaniʻōpuʻu as a hostage was thwarted and Cook was killed at or near the Hikiau Heiau, following a skirmish over a stolen cutter. Some of his remains were taken to Kaʻawaloa [a monument there now commemorates Cook]. During this period young Kamehameha was under the wings of Kalaniʻōpuʻu and had quarters in the back of Kealakekua Beach. However, the off and on warring between the Hawaiʻi and Maui forces continued, and Kalaniʻopuʻu was aging. Kalaniʻōpuʻu schemed for peace by having his son Kīwalaʻō by Kalola, sister of Kahekili go to him; Kahekili in turn had the battles cease.

After the death of Kalaniʻōpuʻu, Kamehameha I had gained enough control of the island of Hawaiʻi (1790) that he could leave to join the war parties on Maui. Kamehameha also had at his disposal western weapons, and an armed schooner. Kamehameha brought the cannon from the *Eleanora* along with the expertise of Isaac Davis and John Young, who were now advisors and aikane punahele (favorites) of Kamehameha I.

On his second voyage to Hawaiʻi in 1793, Vancouver counseled the chiefs to stop making war on each other. He gave Kamehameha some cows and sheep (at Vancouverʻs advice Kamehameha put a ten-year kapu or restriction on them). Vancouver went on to visit Kahekili in Lahaina and made the same request; then on to Waikīkī to Kalanikūpule. When Vancouver returned in January 1794 on his third and last visit, he gave Kamehameha three bulls and more cows and sheep [horses came later in1803 from Captain Richard J. Cleveland]. By 1794 at least eleven post-contact foreigners were living on the island of Hawaiʻi; these included American, English, Irish, Portuguese, Genoese, and Chinese - most likely holdovers of the sandalwood trade. By 1796 Kamehameha had conquered all the island kingdoms (with the help of western advice and technology), except Kauaʻi. In his early reign, Kamehameha traveled periodically to the various royal courts on Hawaiʻi Island – the established centers of Waipiʻo in Hāmākua; Hilo Bay in Hilo; Hōnaunau, Kealakekua, Kahaluʻu, Hōlualoa and Kailua in Kona; and Kohala and Puʻuepa-Kokoiki in Kohala.

In 1810 Kaumualiʻi ceded his kingdom of Kauaʻi, Niʻihau, Lehua and Kaʻula and gave his allegiance to Kamehameha (his biological older cousin) and the Hawaiian Islands were unified under one rule. At this time the sandalwood (*Santalum sp*) trade in Hawaiʻi was flourishing. Sandalwood came under the personal control of Kamehameha I, who had become a fervent consumer of high-priced western goods. The sandalwood industry, discovered by Euro-Americans in 1790 and turned into commerce by 1805 was flourishing in Hawaiʻi by 1810 to the point where the subsistence level fell apart, as farmers and fishermen were ordered to spend most of their time logging, causing famine to set in, and resulting in a population decline. However, Kamehameha did manage to keep some control on the trade.

In 1815 John Palmer Parker, an ex-seaman, made his home at Kawaihae where he began hunting cattle that roamed the slopes of Mauna Kea. By this time the Vancouver's cattle of 1793 had increased to destructive numbers and Parker was hired to thin the wild herds. By the mid-1800s ranching became a flourishing economic factor in the Kohala, North Kona areas with South Kona following shortly after; with cattle being shipped out of Kawaihae and Kealakekua.

The ancient villages of Ka'awaloa, Kealakekua/Kahua and Nāpō'opo'o radically changed as western practices were introduced by explorers, whalers, voyagers, missionaries, merchants, cattlemen and others.

Summary of Land and Water Resources and Use

Various resources and use-patterns are physically evident as well as recounted in the literature. Usually the ancient physical evidence remains in the form of stone ruins that are fortunate to have been preserved relatively intact. Clues regarding function and use can sometimes be extrapolated from the stories, songs, chants and ethno-historical observations that were also fortunately recorded, as well as from the cultural remains identified during surface and sub-surface studies. Several ancient sites in the project area are in various stages of preservation, most just ruins; as are some of the early historic sites. Several studies and surveys have been conducted documenting these sites. [See above pp 54-100].

Summary of Marine Resources and Use

Kealakekua (Kupakupa) Bay has always been a bountiful resource for people living here as well as for outsiders. There are several marine species that thrive in the bay or seasonally come into the bay. Some are caught or harvested for food, while other species are not. The following table lists the various species and fishing methods mentioned by the ethnographic consultants, for both personal and commercial use.

Table 4. Marine Resources of Kealakekua Bay (Ethnographic Consultants)

Resource/Practice	IWD	HPD	JG	TH	AJ	VK	WL	GL	ML	DM
Fish										
Ahi	X							X		
Akule	X					X		X	X	
Api									X	
Au'a Opelu									X	
Aweoweo										X
Baracuda									X	
Halalu									X	
Kole									X	
Mackerel									X	X
Mahimahi	X								X	
Manini									X	
Marlin									X	
Menpachi/U'u									X	X
Oama									X	
O'io										X
Ono	X									
Opapalu	X									
Opelu								X	X	
Opelu Mano									X	
Papio									X	
Po'a									X	
Tuna									X	
Gathering										
'A'ama crab	X									
Haukeuke									X	

Limu Kohu	X								X	X
Kaala	X									
Kupe'e	X								X	
Opihi (koele)	X								X	X
Pipipi	X								X	
Uwawo									X	
Wana	X									
Other										
Dolphin	X								X	X
He'e									X	X
Honu	X									
Shark		X							X	
Whale									X	
Fishing Methods										
Akaka									X	
Au'u-opelu									X	
Canoe-line (kakale)									X	X
Diving		X							X	X
Kaili								X		
Kapeku	X									
Ko'a								X		
Long-line	X							X	X	
Nightfishing	X									
Opeluku									X	
Outboard									X	
Outriger									X	
Pole	X									
Sampan								X		
Surround Net (akule/opelu)	X							X	X	
Scoop Net (opelu)										
Throw Net	X									
Upenaku	X									

Types of recreation/activities observed/mentioned at Kealakekua Bay area throughout the years:

- Boating (private, commercial)
- Boogie-boarding
- Canoe
- Exploring
- Fishing
- Gathering
- Hiking
- Kapu Kai
- Kayaking
- Selling/Buying products
- Snorkeling
- Sunbathing
- Surfing
- Swimming
- Tree Climbing
- Visiting

Summary of Survey Findings [Cultural Resources (Places or Properties) & Practices]

Cultural Resources (Places or Properties). This category entails sites or places associated with significant events and/or people important to the native Hawaiian patterns of prehistory; embody distinctive characteristics; or are likely to yield information important for research on the prehistory of Hawai'i. It also includes sites that yield resources important for native Hawaiian Cultural Practices, past and present; and items that are part of a cultural context. Wahi Pana or sacred places are important cultural resources to native Hawaiians regardless that the original sites that may have been there no longer exist. Often it is not the lack of interest but the lack of knowledge of whereabouts or more likely, lack of access that prevent native Hawaiians from visiting these sites.

Cultural Properties/Practices. This category includes activities or practices that have cultural value to either native Hawaiians or other ethnic groups. This category may overlap Cultural Resources.

Table 5. Cultural Properties/Practices of Kealakekua Bay State Historical Park

Cultural Place	Cultural Property	Cultural Practice
Nāpō'opo'o		
	Burials-in back of Park	Burials, Wahi pana
	Ahu/Shrine	Ceremonial/Ritual
	Akua/Aumakua connection	Ancestral practices
	Caves	Burials, Wahi pana
	Helehelekelani Heiau	Hale O Papa/Mana Nui, Wahi pana
	Hikiau Heiau - Wahi pana/	Kūkailimoku Connection
	Hikiau Heiau	Kāne connection
	Hikiau Heiau	Order of I'o connection
	Hale foundation site in Park	Hewahewa connection
	Hale foundation site in Park	Kamehameha I connection
	Enclosures	Ancient
	Kapu Kapu/Bay	Shark cleaning practice
	Kealakekua Bay	Ash Scattering
	Kealakekua Bay/Hikiau	Kapu Kai – Spiritual cleansing
	Kealakekua Bay	Home of Shark god Kua
	Kealakekua	'Path of God'
	Kealakekua Beach	Gather Pōhaku/stones
	Kealakekua Beach/Park	Various artifacts
	Platforms	Ancient
	Ponds	Loko wai (Opae/'O'opu)
	Spring	Wahi pana
	Walls	Ancient/Historic
Pali Kapu O Keōua	Caves	Ali'i burials
Ka'awaloa	Land/sites	Wahi pana, various practices
	Haliilua	Fresh water spring/ponds, Wahi pana
	Heamoa Cave	Burials, Wahi pana
	Hula Heiau	Spiritual Connection, Wahi pana
	Queen's Bath	Ali'i Connection Wahi pana,
	Puhina O Lono Heiau	Spiritual Connection, Wahi pana
	Night Marcher Trails	Ancestral Connection
	Trails	Huaka'i

General Concerns Regarding the Proposed Project:

Table 6. General Concerns of Ethnographic Consultants

Concerns	IWD	HPD	JG	TH	AJ	VK	WL	GL	ML	DM
Helehelekalani Heiau-Do Not Open		X								
KBSHP Burials-protect				X						
Ka'awaloa Burials-protect				X						
Pali Kapu O Keōua-sealed, protect				X			X			
KBSHP preservation/education							X		X	
Flora/Don't remove trees		X								
Kuleana/everyone care for Park				X			X			
Consultation process a formality										
Desecration of Iwi Kupuna										
Ponds-Hand clean so don't destroy										X
Identify Cultural/Lineal Descendants							X			
Visitor Center – WAIT on it				X						
Pier/Wharf Issues							X			
Restrictions								X		
Ka'awaloa – keep in natural state							X			
Ka'awaloa – need arch survey, mapping				X			X			
Ka'awaloa – trash disrespectful				X						
Ka'awaloa – Restrict Access				X			X			
Ka'awaloa – CLOSE draft lege to protect				X						
Ka'awaloa – sacred/Ali'i don't trample										X
Ka'awaloa – Develop Cultural Plan				X			X			
Cultural Plan part of Master Plan										
Cultural Plan – seven generations forward							X			
KBSHP – is a Wahi Pana NOT recreation							X			
Use Canoes instead of kayakers							X			
Master Plan – start with Statement of Direction, Goals				X						
Master Plan – Recognize Cultural Significance				X						
KBSHP – signage is terrible				X						
Preserve what is there now				X						
Educate locals and visitors				X			X			
Focus now is Helter-Skelter							X			
Focus should be on the Ancestors							X			
Have Cultural Practitioners in the Park with permission to sell products										X
Have Cultural Practitioners conduct workshops in the Park										X
Have Community involved with maintenance										X
Use Monterey Bay Cannery as model for Park									X	
Go after Federal monies for Cultural projects									X	
Need better Park supervision/caretakers		X								X
Need better Park security/theft control										X

Environmental Council Guidelines Criteria in Relation to Project Lands:

According to the Environmental Council Guidelines, the types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, religious and spiritual customs. The following actions were taken to meet the EC Guidelines Criteria for conducting this cultural impact assessment based on the SOW:

1) *conduct historical and other culturally related documentary research*;

Documentary research, particularly on identifying traditional and cultural uses of the area, was completed. Much of what is known about the traditional and cultural uses of the area comes from written records that tell of its prehistory (e.g. mo'olelo; 19th century ethnographic works; and missionary journals); the stories associated with early coastal and upland area uses by early Hawaiians; and scientific studies (i.e., archaeological, marine, botanical, geological, biological).

2) *identify individuals with knowledge of the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua'a; or with knowledge of the area potentially affected by the proposed action* [*e.g. past/current oral histories*];

The project lands have been in continual use since ancient times, however, not in exclusive *kanaka maoli* use since Contact. The interviewees were selected because of their use and knowledge of the project area.

3) identify and describe the cultural resources, practices and beliefs located within the potentially affected area;

Archival research in Cultural and Historical Background Review and ethnographic research (Ethnographic Data Review and Analysis) produced the data utilized to identify and describe the cultural resources, practices and beliefs located within the potentially affected area in the *Summary of Findings* above. The cultural resources, practices and beliefs were also illustrated in Tables 4-6 above.

4) and assess the impact of the proposed action on the cultural resources, practices and beliefs identified.

Cultural Impact Assessment

The undertaking or proposed action includes the 1) Environmental Impact Statement and 2) an updated Master Plan. The ethnographic consultants would like to see a Plan that reflects the cultural attributes of this area which some consider to be very sacred. It is also the ancestral and/or childhood homeland of most of the consultants. Project concerns are listed above. Without a list of specific planned activities it is difficult to assess 'cultural impact.' However, based on 'concerns' the following areas would be impacted:

Ka'awaloa

- The Hale Mua/Royal Order would like to see the area closed to outside access until a Cultural Plan is developed.
- They feel that visitors are trampling sacred places, trashing the area, desecrating the area with urine and feces, and desecrating the Queen's Bath.
- They also feel that removing any vegetation without a Cultural Plan in place would potentially be more harmful.

Pali Kapu O Keōua

- The Hale Mua/Royal Order would like to see all burial caves sealed and protected.
- They don't want Visitor Centers near cultural areas. However, they see a need for one or two Visitor Centers (maybe at the Pier/Wharf area).

Nāpō'opo'o/Kekua – Beach Park

- The Kahu of the heiau is adamant that the Helehelekalani Heiau NOT be disturbed in any way (e.g. removal of any vegetation, or exposed in any way) – it is a Hale O Papa heiau that has been 'put to sleep' (Kapu restrictions as opposed to "Noa" in which restrictions are lifted) and restricted from public access.
- Kanaka Maoli burials especially ali'i and kahuna burials should be restricted from public access.
- Other consultants feel that the ponds be restored using hands rather than any machinery.
- Removal of any tree is considered a negative impact as the trees are helping to clean the Park air due to the vog and constant flow of vehicles and their exhaust fumes.
- The rocks on the beach from the earthquake and past tsunami are a detraction from cultural beach experience and should be removed so the sand can return to its natural state.
- Current Park restrictions prevent cultural practices from taking place; there is a desire that KBSHP be a truly cultural park with cultural practitioners having an active role in the Park.
- Having a Cultural Plan is paramount prior to any undertaking activities.

Kealakekua Bay

- The current MLCD Zones are impacting cultural fishing practices by restricting certain areas.
- The current MLCD Zones are impacting cultural fishing practices by restricting certain fishing methods.
- There is a desire to restrict non-traditional boaters (e.g. kayakers, yachts, tour boats) and allow traditional canoes for visitors to have a true cultural experience.

Nāpō'opo'o – Pier/Wharf

- Since the pier/wharf is more historic than cultural is has been suggested that more modern activities take place there.
- Visitor Center/Museum/Restaurant
- Create a safe way to board/launch traditional canoes

Recommendations.

1) Form a Cultural Advisory Group
2) Identify Stakeholders and Meet with them
3) Develop a Cultural Plan
4) Update Inventory Surveys and Mapping
5) Develop Master Plan after Cultural Plan
6) Help organize a 'Friends of KBSHP'

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APPENDIX A

A BILL FOR AN ACT RELATING TO
ENVIRONMENTAL IMPACT STATEMENTS
[UNOFFICIAL VERSION]

HOUSE OF REPRESENTATIVES H.B. NO. 2895 H.D.1
TWENTIETH LEGISLATURE, 2000
STATE OF HAWAI`I

A BILL FOR AN ACT
RELATING TO ENVIRONMENTAL IMPACT STATEMENTS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAI`I:

SECTION 1. The legislature finds that there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawai`i's culture, and traditional and customary rights.

The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the "aloha spirit' in Hawai`i. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.

Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.

The purpose of this Act is to: (1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and (2) Amend the definition of "significant effect" to include adverse effects on cultural practices.

SECTION 2. Section 343-2, Hawai`i Revised Statutes, is amended by amending the definitions of "environmental impact statement' or "statement" and "significant effect", to read as follows:

"'Environmental impact statement" or "statement" means an informational document prepared in compliance with the rules adopted under section 343-6 and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic [and] welfare, social welfare, and cultural practices of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

The initial statement filed for public review shall be referred to as the draft statement and shall be distinguished from the final statement which is the document that has incorporated the public's comments and the responses to those comments. The final statement is the document that shall be evaluated for acceptability by the respective accepting authority.

"Significant effect" means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State's environmental policies or long-term environmental goals as established by law, or adversely affect the economic [or] welfare, social welfare[.], or cultural practices of the community and State."

SECTION 3. Statutory material to be repealed is bracketed. New statutory material is underscored.

SECTION 4. This Act shall take effect upon its approval.

Approved by the Governor as Act 50 on April 26, 2000

APPENDIX B

Guidelines for Assessing Cultural Impacts
Adopted by the Environmental Council, State of Hawai`i
November 19, 1997

I. INTRODUCTION

It is the policy of the State of Hawai`i under Chapter 343, HRS, to alert decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making.

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

II. CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants, including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access to gathering areas would be included in the assessment. An ahupua'a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua'a and the geographical extent of the study area should take into account those cultural practices.

The types of cultural resources The historical period studied in a cultural impact assessment should commence with the initial presence in the area of the particular group whose cultural practices and features are being assessed. The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs.

The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural, including submerged cultural resources, which support such cultural practices and beliefs.

The Environmental Council recommends that preparers of assessments analyzing cultural impacts adopt the following protocol:

1. identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua`a;

2. identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;

3. receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;

4. conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;

5. identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and

6. assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

Interviews and oral histories with knowledgeable individuals may be recorded, if consent is given, and field visits by preparers accompanied by informants are encouraged. Persons interviewed should be afforded an opportunity to review the record of the interview, and consent to publish the record should be obtained whenever possible. For example, the precise location of human burials are likely to be withheld from a cultural impact assessment, but it is important that the document identify the impact a project would have on the burials. At times an informant may provide information only on the condition that it remain in confidence. The wishes of the informant should be respected.

Primary source materials reviewed and analyzed may include, as appropriate: Mahele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

III. CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

1.A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.

2.A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.

3. Ethnographic and oral history interview procedures, including the circumstances, under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

4. Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular

knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.

5. A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.

6.A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.

7. A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project.

8. An explanation of confidential information that has been withheld from public disclosure in the assessment.

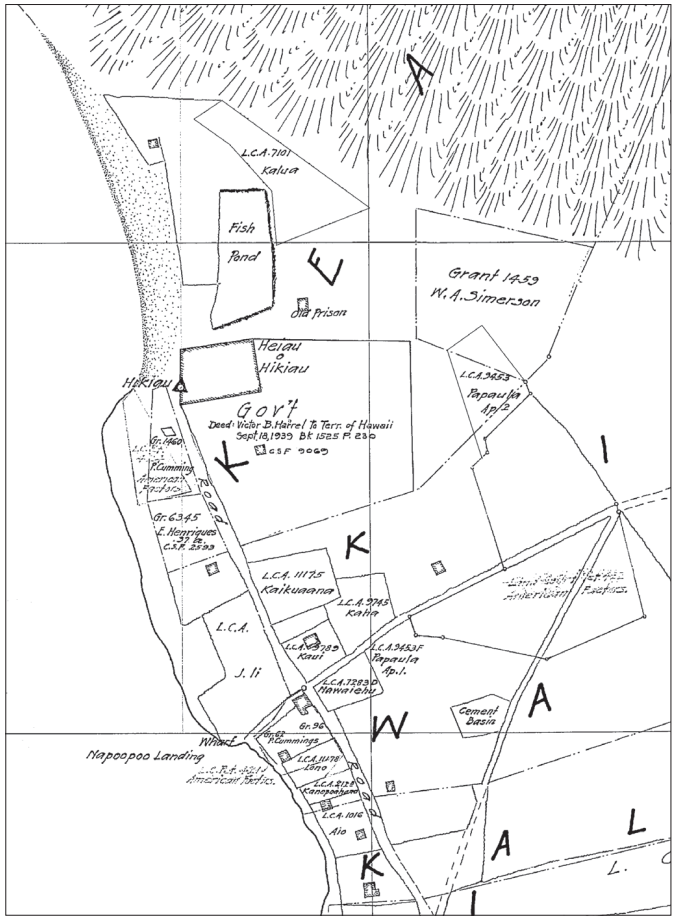
9. A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

10.An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

11. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

The inclusion of this information will help make environmental assessments and environmental impact statements complete and meet the requirements of Chapter 343, HRS. If you have any questions, please call 586-4185.

APPENDIX C
Nāpōʻopoʻo LCA Map



Portion of Hawaiian Government Survey Map by S. M. Kanakanui 1892

Appendix D

Agreement to Participate in this Cultural Impact Study/Assessment

Project Title: **Kealakekua Bay State Historical Park Cultural Impact Assessment**
Kaʻawaloa, Kealakekua, Pali Kapu O Keōua, Nāpōʻopoʻo

Interviewer: Maria Orr, M.A. [(808) 375-3317]
Kaimipono Consulting Services LLC
kaimi@lava.net

You are being asked to participate in a cultural impact assessment [CIA] conducted by an independent interviewer contracted by *Belt Collins Hawaii, Ltd.* as part of a Master Plan and Environmental Impact Statement they are conducting for DLNR State Parks Division. The interviewer will explain the purpose of this CIA process, the procedures to be used, the potential benefits and possible risks of participating. You may ask the interviewer any question(s) in order to help you to understand the study or procedures. If you then decide to participate in the study, please sign on the second page of this form. You will be given a copy of this form to keep.

I. Nature and Purpose of the Study

The purpose of this cultural impact assessment is to gather information about the project lands of Kealakekua Bay State Historical Park, through interviews with individuals who are knowledgeable about this area, and/or about traditional and historic information such as cultural practices, legends, songs, chants or other information. The objective of this study is to facilitate in the identification and location of any cultural resources and cultural practices in the area mentioned above, in accordance with applicable historic preservation laws, regulations, and guidelines, including: *Act 50 HB2895* (A.D.2000), *HRS Chapter 343* and *State of Hawaii Environmental Council Guidelines.*

II. Explanation of Procedures

After you have voluntarily agreed to participate and have signed the consent page, the interviewer will tape record your interview and have it transcribed later. The interviewer may also need to take notes and/or ask you to spell or clarify terms or names that are unclear. Data from the interview [ethnographic research] will be used in the CIA report.

III. Discomforts and Risks

Foreseeable discomforts and/or risks may include, but are not limited to the following: having to talk loudly for the recorder; being recorded and/or interviewed; providing information that may be used in reports which may be used in the future as a public reference; knowing that the information you give may conflict with information from others; your uncompensated dedication of time; possible miscommunication or misunderstanding in the transcribing of information; loss of privacy; and worry that your comment(s) may not be understood in the same way you understand them. It is not possible to identify all potential risks.

IV. Benefits

This study will give you the opportunity to express your thoughts (*mana`o*), and your opinions will be listened to and shared; your knowledge may be instrumental in the preservation of significant cultural resources, practices and information.

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record." In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the interviewer of your desires. The interviewer will ask you to specify the method of protection, and note it on this form below.

VI. Refusal/Withdrawal

You may, at any time during the interview process, chose to not participate any further and ask the interviewer for the tape and/or notes. Please note that you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

VII. Waiver

Part I: Agreement to Participate

I, _____, understand that Maria "Kaimi" Orr, an independent interviewer contracted by *Belt-Collins Hawaii Ltd.* will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of *Kealakekua Bay State Historical Park*. The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.

I understand I will be provided the opportunity to review my interview to ensure that it accurately depicts what I meant to say. **I also understand that if I don't return the revised transcripts after two weeks from date of receipt, my signature below will indicate my release of information for the draft report. I also understand that I will still have the opportunity to make revisions during the draft review process.**

_____ I am willing to participate.

Signature **Date**

Print Name **Phone**

Address **Zip Code**

Email Address

MAHALO NUI LOA

Part II: Personal Release of Interview Records

I, _____, have been interviewed by *Maria Orr* of *Kaimipono Consulting Services LLC* (KCS), an independent interviewer contracted by *Belt-Collins Hawaii Ltd.* I have reviewed the transcripts of tape recordings of the interview and agree that said documentation is complete and accurate except for those matters specifically set forth below the heading "CLARIFICATION OR CORRECTIONS."

CLARIFICATION OR CORRECTIONS:

I further agree that KCS, Belt-Collins Hawaii Ltd and/or Hawaii State Parks may use and release my identity and other interview information, both oral and written, for the purpose of using such information in a report to be made public, subject to my specific objections, to release as set forth below:

SPECIFIC CONDITIONS TO RELEASE OF INTERVIEW TRANSCRIPT:

Signature **Date**

Print Name **Phone**

Address

Zip code

MAHALO NUI LOA

APPENDIX E
Ethnographic Survey
Basic Research Instrument for Oral History Interviews

This research instrument includes basic information as well as research categories which will be asked in the form of open primary questions which allow the individual interviewed (Ethnographic Consultant) to answer in the manner he/she is most comfortable. Secondary or follow-up questions are asked based on what the Consultant has said and/or to clarify what was said. The idea is to have an interview based on a "talk-story" form of sharing information. Questions will NOT be asked in an interrogation style/method, NOR will they necessarily be asked in the order presented below. This research instrument is merely a *guide* for the interviewer and simply reflects general categories of information sought in a semi-structured format. Questions will be asked more directly when necessary.

The Consultants were selected because they met one or more of the following criteria:

- Had/has Ties to Project Area/Vicinity
- Known Hawaiian Cultural Resource Person
- Referred By Other Cultural Resource People
- Referred By Other People

[NOTE: Introduction of Kealakekua Bay State Historical Park CIA Project is done before the Ethnographic Consultant signs the Consent Form, usually during the initial phone call to make interview appointments.]

[NOTE: This part of the interview, #1-4 is mutual sharing and rapport building. Most of the information for research categories "Consultant Background" and "Consultant Demographics" come from this section, but not exclusively.]

1. *To start please tell me about yourself…Name? Where/When you were born?*

   [This information can be addressed in a couple of ways. After the interviewer first turns on the tape recorder, the following information will be recorded: Day/Date/Time/Place of Interview; Name of Consultant (if authorized by Consultant); Name of Interviewer; Initial Questions: Have you read the Agreement to Participate? Do you have any questions before we begin? Will you please sign the Consent Form. The interviewer will explain again the purpose of the interview.

   The interviewer will then ask the Consultant to "Please tell me about yourself--when/where were you born? Where did you grow up? Where did you go to school?" This general compound question allows the Consultant to share as much or as little as he/she wants without any pressure. Some of the information for #1 may already be known to the interviewer.]

2. *History: Your 'ohana/family background; Hawaiian connection (if any)?*

   [Much of the information for questions #2, 3, and 4 usually comes from the "monologue" answer to Question #1. If it does not, then these questions will be asked. The answers in this section usually establish how the Consultant meets the criteria; how the Consultant developed his/her information base, etc.]

3. *Youth: Where lived? Grew up?* [This may have been answered in #1]

4. *Schooling*? *Where? When?* [This may have been answered in #1]

   [NOTE: The next part of the interview, #5-7 reflects information sought for the following research categories: Land, Water, Marine, Cultural Resources and Use as well as Significant People and Events. The questions are open-ended so as NOT to "put words in the mouths" of the Consultants.

   The answers will help in assessing if any cultural properties or practices (or access to them) will be impacted by the proposed project.]

5. *Please tell me what you know about the lands of Kealakekua Bay SHP?*

   [NOTE: Generally when people share information about a specific topic/place, they usually state where their information came from. If it isn't volunteered, it is asked as a follow-up question(s). A map of the project area should be available to confirm that interviewer and consultant are talking about the same place. Photos would also help if a field trip is not possible. The best scenario would be to be "on-site" at some part of the interview…although this is not always practical.]

6. *What are your recollections and/or personal experiences of this area?*

7. *Do you know any stories/legends/songs/chants associated with these areas?*

   [NOTE: Possible follow-up questions if information not in their answers:

   - How are you or your family connected to the lands of Kealakekua Bay SHP?
   - What year(s) were you and/or your family associated with these lands?
   - What was this place called when you were growing up or working here?
   - Can you describe what the area looked like--natural and/or man made things?
   - To your knowledge what kind of activities took place in this location?
   - Do you know of any traditional gathering of plants, etc in the area?
   - Please describe any other land/water use? Resources?
   - What was the historic land use? Ranching? Agriculture?
   - [Have map ready for marking.]
   - Do you know about any burials in the project area? [last resort question]
   - Do you know of any cultural sites in the project area or vicinity? [last resort question]

8 *Is there anyone you know who can also tell me about the project area?*
[NOTE: Usually in the course of the interview, Consultants suggest other people to interview.]

9. *As soon as the tape of this interview is transcribed I will send you two sets. Please review your transcript and make any corrections and/or additions, then sign both copies of the Release Forms thereby allowing the information to be used by the interviewer, Belt-Collins Hawaii Ltd. and Hawaii State Parks. Then mail one set back in the enclosed stamped-addressed envelope.*

10. *If your revised transcript is not returned within **two weeks** of date of receipt, it will be assumed that you are in concurrence with the transcript material and your information will then be incorporated into any draft reports. However, you can still make changes during the draft review process.*

MAHALO NUI LOA

APPENDIX F
Signed Consent Forms

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record." In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the interviewer of your desires. The interviewer will ask you to specify the method of protection, and note it on this form below.

VI. Refusal/Withdrawal

You may, at any time during the interview process, chose to not participate any further and ask the interviewer for the tape and/or notes. Please note that you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

VII. Waiver

Part I: Agreement to Participate

I, Irene Wainani DeBido, *understand that Maria "Kaimi" Orr, an independent interviewer contracted by* Belt Collins Hawaii, Ltd. *will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of* Kealakekua Bay State Historical Park. *The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.*

I understand I will be provided the opportunity to review my interview to ensure that it accurately depicts what I meant to say. ***I also understand that if I don't return the revised transcripts after two weeks from date of receipt, my signature below will indicate my release of information for the draft report. I also understand that I will still have the opportunity to make revisions during the draft review process.***

✓ *I am willing to participate.*

Irene W Wainani DeBido 11-16-09
Signature Date

Irene Wainani DeBido 808-960[illegible]003
Print Name Phone

83-3682 Mapookoo Rd Capt. Cook Hi 96704
Address ZipCode

Wainani42@Hotmail.com
Email Address

MAHALO NUI LOA

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record." In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the interviewer of your desires. The interviewer will ask you to specify the method of protection, and note it on this form below.

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VII. Waiver

Part I: Agreement to Participate

I, Harriet Halekaiolani Pule Dooley understand that Maria "Kaimi" Orr, an independent interviewer contracted by Belt Collins Hawaii, Ltd. will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of Kealakekua Bay State Historical Park. The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.

I understand I will be provided the opportunity to review my interview to ensure that it accurately depicts what I meant to say. **I also understand that if I don't return the revised transcripts after two weeks from date of receipt, my signature below will indicate my release of information for the draft report. I also understand that I will still have the opportunity to make revisions during the draft review process.**

X I am willing to participate.

Harriet Halekaiolani Pule Dooley — Signature — 11/17/09 — Date

Harriet "Halekaiolani Pule Dooley — Print Name — 936-0738 — Phone

P.O. Box 434 Honaunau, Hi — Address — 96726 — ZipCode

Missionalcha@gmail.com — Email Address

MAHALO NUI LOA

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record." In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the interviewer of your desires. The interviewer will ask you to specify the method of protection, and note it on this form below.

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VII. Waiver

Part I: Agreement to Participate

I, Joanna J. Gaspar understand that Maria "Kaimi" Orr, an independent interviewer contracted by Belt Collins Hawaii, Ltd. will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of Kealakekua Bay State Historical Park. The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.

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I am willing to participate.

Joanna J Gaspar — Signature — 11/16/09 — Date

JOANNA L GASPAR — Print Name — 323-3540 — Phone

82-1035 Kinue Rd Capt Cook — Address — 96704 — ZipCode

Email Address

MAHALO NUI LOA

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record." In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the interviewer of your desires. The interviewer will ask you to specify the method of protection, and note it on this form below.

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VII. Waiver

Part I: Agreement to Participate

I, Tommy Hickcox *, understand that Maria "Kaimi" Orr, an independent interviewer contracted by* Belt Collins Hawaii, Ltd. *will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of* Kealakekua Bay State Historical Park. *The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.*

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✓ *I am willing to participate.*

Thomas J. Hickcox — 11-19-09
Signature — Date

Thomas J. Hickcox — 756-0756
Print Name — Phone

78-6871 Mamalahoa Hwy Holualoa Hi. 96725
Address — ZipCode

Kamaki1@hawaiiantel.net
Email Address

MAHALO NUI LOA

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VII. Waiver

Part I: Agreement to Participate

I, Analū K. Josephides *, understand that Maria "Kaimi" Orr, an independent interviewer contracted by* Belt Collins Hawaii, Ltd. *will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of* Kealakekua Bay State Historical Park. *The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.*

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_____ *I am willing to participate.*

11/18/09
Signature — Date

Analū Kameeiamoku Josephides — 11/18/09
Print Name — Phone

P.O. Box 1127 Kealakekua Hi 96750
Address — ZipCode

Analujosephides@gmail.com
Email Address

MAHALO NUI LOA

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record." In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the interviewer of your desires. The interviewer will ask you to specify the method of protection, and note it on this form below.

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_____ *I am willing to participate.*

Signature _____ Date 19- 2009

Print Name _____ Phone _____

Address _____ ZipCode _____

Email Address _____

MAHALO NUI LOA

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VII. Waiver

Part I: Agreement to Participate

I, Wayne Lan, understand that Maria "Kaimi" Orr, an independent interviewer contracted by Belt Collins Hawaii, Ltd. *will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of* Kealakekua Bay State Historical Park. *The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.*

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_____ *I am willing to participate.*

Signature _____ Date 11/19/09

Print Name Wayne Lan Phone 895-4845

Address 73-1251 Kaimimi Drive Kailua-Kona Hi ZipCode 96740

Email Address Wlane@co.hawaii.hi.us

MAHALO NUI LOA

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VII. Waiver

Part I: Agreement to Participate

I, Gordon Leslie*, understand that Maria "Kaimi" Orr, an independent interviewer contracted by* Belt Collins Hawaii, Ltd. *will be conducting oral history interviews with individuals knowledgeable about the project lands and vicinity of* Kealakekua Bay State Historical Park. *The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources, as well as traditional cultural practices associated with these lands and access to these resources and practices.*

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_____ *I am willing to participate.*

Gordon K Leslie	11/16/09
Signature	**Date**
Gordon K Leslie	936-1479
Print Name	**Phone**
82-6012 Manini Bch. Rd	~~936147~~ 9
Address	**ZipCode**
gordonleslie@hawaii.rr.com	96704
Email Address	

MAHALO NUI LOA

V. Confidentiality

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✓ *I am willing to participate.*

[signature]	11/15/09
Signature	**Date**
MILTON M. LESLIE	
Print Name	**Phone**
PO Box 1173 KEAL	96750
Address	**ZipCode**
lesliemi@hotmail.com	
Email Address	

MAHALO NUI LOA

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_____ *I am willing to participate.*

•√•

Signature

1/20/09

Date

DEREK McGUIRE

Print Name

808-430-0825

Phone

G. D. Capt Cook, Hi

Address

96704

ZipCode

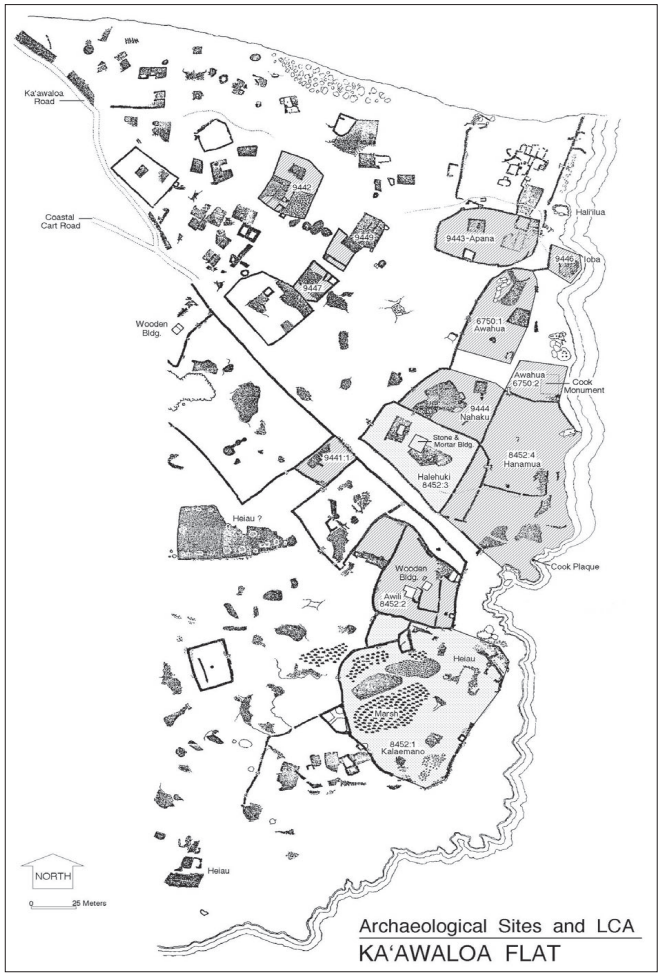
Email Address

MAHALO NUI LOA

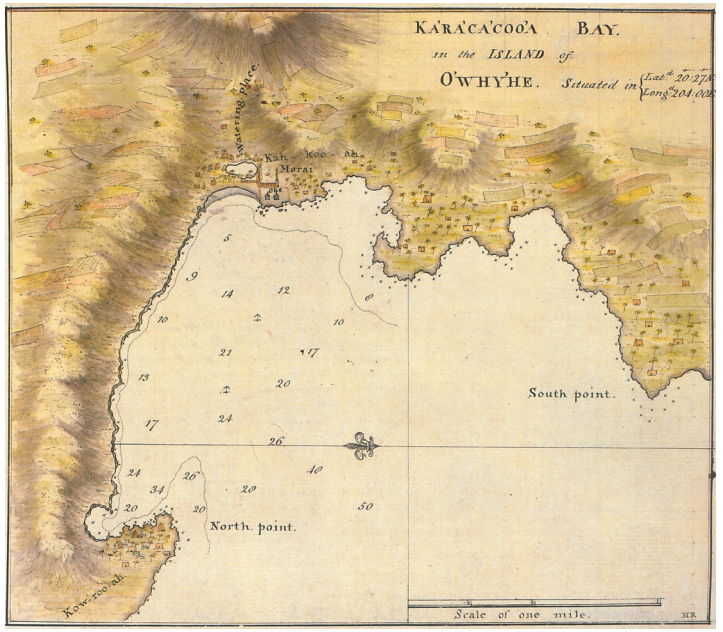
APPENDIX G
Signed Release Forms

NONE SIGNED

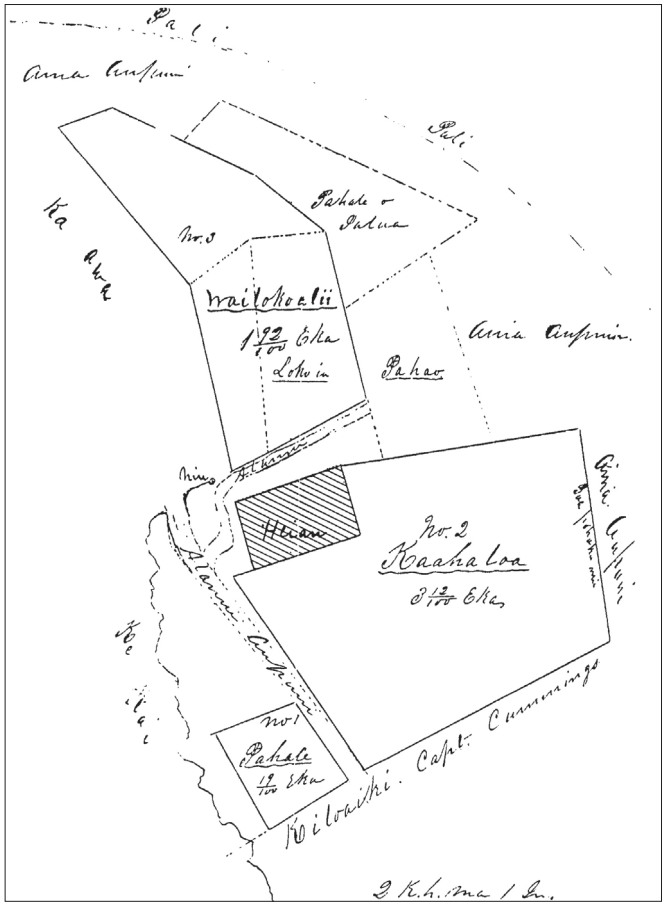
APPENDIX H
Ka‘awaloa Flat LCA Map



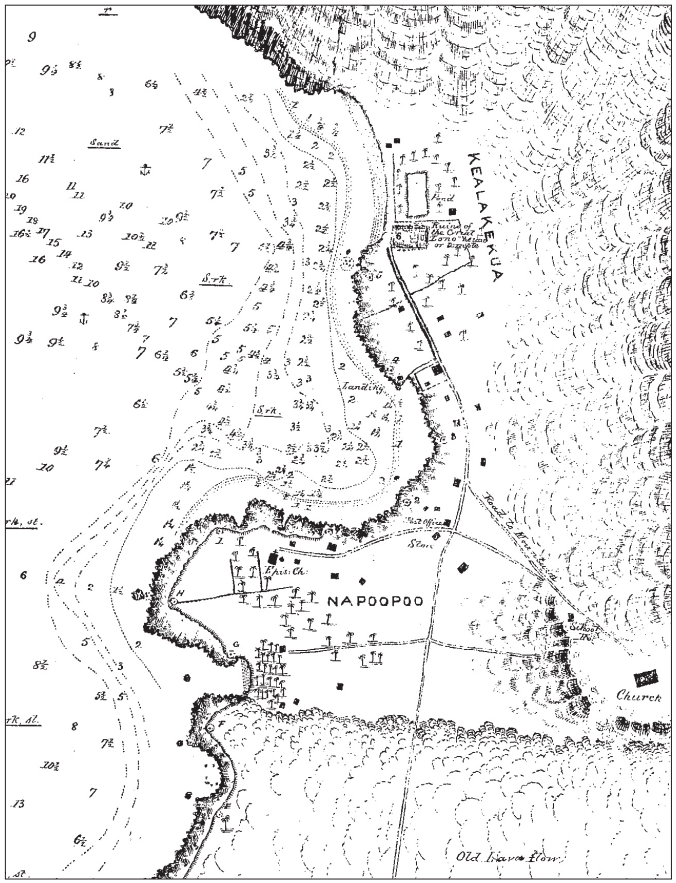
Appendix I
Henry Robert’s 1779 Map of Kealakekua Bay
Cook’s Voyage



APPENDIX J
Nāpōʻopoʻo Māhele Map



APPENDIX K
Portion of Hawaiian Government Survey by
George Jackson 1883
(Reg Map #1324)



APPENDIX L
Late 1800s to Early 1900s Photos of Nāpōʻopoʻo Beach and Pond



Nāpōʻopoʻo Beach, 1890 Bishop Museum, Neg. CA 5841



Nāpōʻopoʻo Beach & Pond, ca. 1890 Bishop Museum, Neg. CP 1437

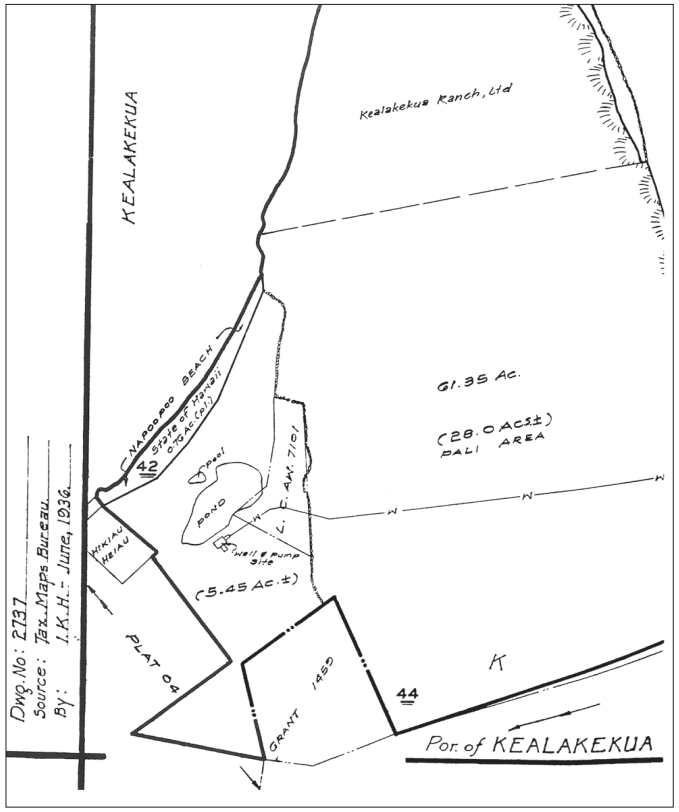


Nāpōʻopoʻo Pond, 1906 Bishop Museum, Neg. CF 1134

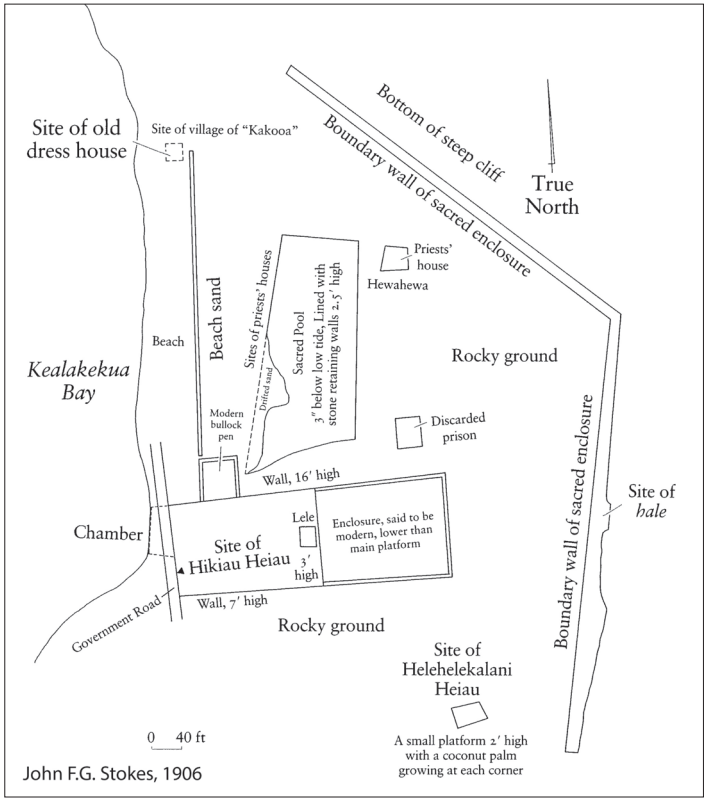


Lumber on Nāpōʻopoʻo Beach, ca. 1900 Hawaii Mission Children's Society

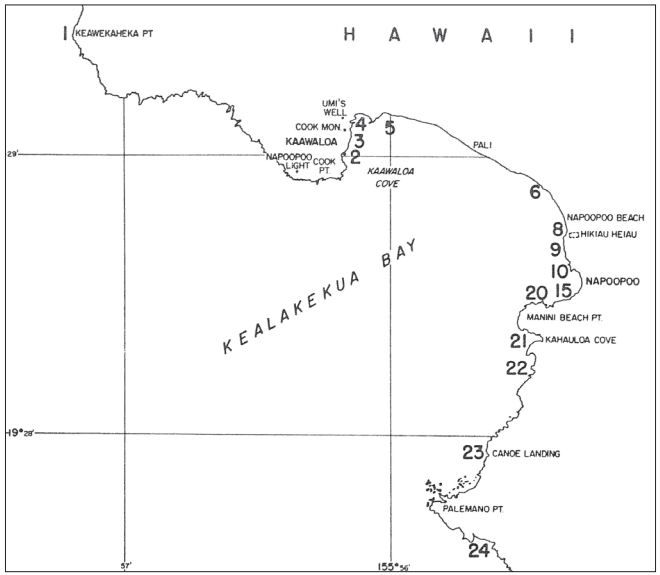
APPENDIX M
1936 TMK Map – Hikiau Heiau, Pond and Pumphouse



APPENDIX N
1906 Survey Map of Hikiau Heiau Complex by Stokes



APPENDIX O
Doty 1968 Station Map



Note: Stations 4, 12-17 [between 10 and 20], 21 and 22

Appendix C

Biological Resource Survey Report

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

Biological Resource Survey Report for Kealakekua Bay State Historical Park

Prepared for

Belt Collins Hawaii LLC

Prepared by

SWCA Environmental Consultants

October 8, 2015



BIOLOGICAL RESOURCE SURVEY REPORT FOR KEALAKEKUA BAY STATE HISTORICAL PARK

Prepared for

Belt Collins Hawaii LCC
2153 North King Street
Suite 200
Honolulu, Hawai'i 96819-4554

Prepared by

SWCA Environmental Consultants
Bishop Square ASB Tower
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SWCA Project No. 31277

October 8, 2015

CONTENTS

1. Introduction 1
2. Description of the Project Site 1
2.1. Location and Vicinity 1
2.2. Geology and Soils 1
2.3. Climate and Hydrology 3
3. Terrestrial Surveys 3
3.1. Methods 3
3.1.1. Flora 3
3.1.2. Fauna 4
3.2. Results 4
3.2.1. Flora 5
3.2.2. Fauna 6
3.3. Discussion and Recommendations 10
3.3.1. Flora 10
3.3.2. Fauna 10
4. Marine Surveys 11
4.1. Methods 11
4.2. Results 12
4.2.1. Descriptions of Nearshore Habitat Zones and Associated Biota 12
4.2.2. Biological Communities 14
4.2.3. Other Observations 19
4.3. Comparison with Previous Surveys 19
4.3.1. Moorings: Current and Historical 20
4.4. Discussion and Recommendations 23
4.4.1. Human Impacts 23
5. Literature Cited 25

APPENDICES

Appendix A. Checklist of Plants Observed at Kealakeku Bay State Historical Park on July 8-10, 2015
Appendix B. Summary of Marine Species Observed at Kealakekua Bay State Historical Park Marine Life Conservation District on July 8-10, 2015
Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys
Appendix C. Project Area Photographs

FIGURES

Figure 1. Kealakekua Bay State Historical Park project area. 2
Figure 2. Kealakekua Bay State Historical Park MLCD Subzones A and B. 13
Figure 3. Kealakekua Bay State Historical Park Marine Habitat Zones. 15
Figure 4. Base of Fair Wind mooring 21
Figure 5. Float on Fair Wind mooring. 21
Figure 6. Area around the Fair Wind mooring. 22
Figure 7. Old mooring chain around boulder. 22
Figure 8. Abandoned mooring 23

TABLES

Table 1. Birds Observed by SWCA In and Near the Project Area 6
Table 2. Federally and State Endangered, Threatened, and Candidate Wildlife Species that Occur In the Kealakekua Bay Area, and Potential for Each to Occur in the Project Area 8

1. INTRODUCTION

Belt Collins Hawaii LLC requested that SWCA Environmental Consultants (SWCA) conduct a flora, fauna, and marine biological resource assessment at Kealakekua Bay State Historical Park (henceforth referred to as Kealakekua Bay), South Kona, Island of Hawai‘i. This report summarizes the findings of the assessment, which was conducted at Kealakekua Bay by SWCA biologists Danielle Frohlich (botanist), Jason Cantley (botanist), Robert Kinzie (marine and aquatic biologist), Megan Ross (marine biologist), and John Polhemus (wildlife biologist) on July 8–10, 2015. The survey was conducted in support of the Master Plan for Kealakekua Bay State Historic Park and the Environmental Impact Statement.

2. DESCRIPTION OF THE PROJECT SITE

2.1. Location and Vicinity

Kealakekua Bay is located in the northern part of the district of South Kona on the Island of Hawai‘i, about 12 miles (mi) south of the town of Kailua. The project area includes Kealakekua Bay (315 acres) and 221 acres of land area (Figure 1). The crescent-shaped bay is delineated by Keawekāheka Point to the north and Palemanō Point to the south, giving it a southwest-facing opening about 2.26 km wide with a depth of about 1.4 km. Within this feature and to the north, a hook-shaped projection of Keawekāheka Peninsula termed “Cook Point” provides a more protected area in the North Bay. To the south, a peninsula that contains the town of Napo‘opo‘o also provides a somewhat protected cove.

2.2. Geology and Soils

The terrestrial portion of Kealakekua Bay consists of Ka‘u Basalts of the prehistoric Moku‘āweoaweo flows from Mauna Kea. The Ka’awaloa area consists of the Punaluu lava flow complex, which consists primarily of Pahoehoe lava flow. The area surrounding the cliff face called Pali Kapu O Keōua consists of Waiaha lava flow complex; ash fields on ‘a‘a lava flows. South of Pali Kapu o Keōua, the soil is a Kainaliu lava flow complex with basic volcanic ash over a’a lava (Natural Resources Conservation Service [NRCS] 2015). Kealakekua Bay is marked by the Kealakekua fault (Stearns 1966). This resulted in the steep cliffs (or *pali*) of Pali Kapu o Keōua, which comprise about 1.3 km of the North West shoreline.

The benthic geology is an underlying substratum of basalt, but the bedrock can be covered by boulder fields, sand, rubble, and coral formations. The geologic aspect of the Bay’s shoreline can be divided into three regions, caused by the original configuration of the bottom: 1) rock falls from the pali, 2) black sand from erosion of basalts, and 3) white sand from calcifying marine organisms. Overlying the basalt foundation of the Bay, coral growth provides the visible benthic physical structure. Because coral growth and survival are strongly influenced by water motion, the degree or exposure to ocean swells shapes these structures in the Bay.

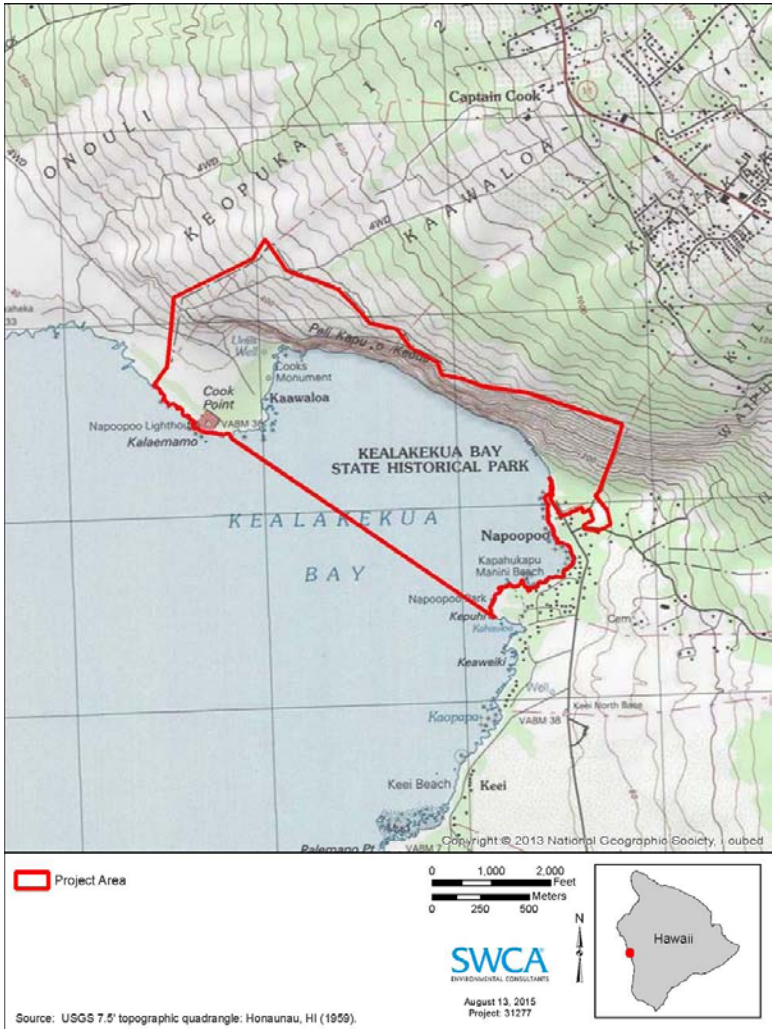

Figure 1. Kealakekua Bay State Historical Park project area.

2.3. Climate and Hydrology

Kealakekua Bay is on the Kona (leeward) side of Hawai‘i Island and so, like much of West Hawai‘i, is sheltered from trade winds (Juvik and Juvik 1998). This condition is responsible for the large tourist industry, including vacationers seeking sunny weather, water sports enthusiasts, big-game fishermen, etc. Because of the elevation of the island’s volcanic peaks, Hawai‘i Island generates its own weather patterns that differ from the general trade wind patterns that characterize the lower islands (Juvik and Juvik 1998). Along the Kona coast, mornings are typically sunny, but in the afternoon and evening orographic-generated clouds extend seaward until sometime after nightfall, when the skies clear again (Juvik and Juvik 1998).

Mean monthly rainfall in the Honaunau Station, about 7.5 km south of Kealakekua Bay, ranges from just over 50 millimeters (mm) in December to more than 150 mm in September. The wet summers and dry winters are the reverse of the typical trade wind driven patterns of most places in Hawai‘i. This pattern, in the lee of the high mountains of Hawai‘i Island, is due to their elevation. Although this is the most frequently seen pattern along the Kona coast, periodic storms can deliver heavy precipitation (Kodama and Barns 1997). These flashy events can cause erosion and gullying, especially in the near-vertical pali, and deliver eroded material (from very large boulders to sand-sized particles) to the shoreline.

3. TERRESTRIAL SURVEYS

3.1. Methods

On July 8–10, 2015, a terrestrial survey was conducted in the project area by three biologists.

3.1.1. Flora

Information regarding the historical vegetation of the project area is sparse, and past surveys have primarily provided information on non-native dominant species such as koa haole (*Leucaena leucocephala*), ‘opiuma (*Pithecellobium dulce*), and Guinea grass (*Urochloa maxima*). Historical ranching of cattle, goats, and other livestock, as well as a long history of human use, are thought to be the primary drivers of degradation of the native plant community in the area (Department of Public Works and Department of Land and Natural Resources 1991). Notably, a survey conducted by Starr and Starr (2000) for the State of Hawai‘i Department of Land and Natural Resources (DLNR) found the federally-listed species *Pritchardia maideniana (*synonym: *Pritchardia affinis)* in the Ka‘awaloa region of the park. According to *Pritchardia* expert Don Hodel, the small population of *P. maideniana* present at Kealakekua Bay is likely to be remnant cultivated plants, as the area was heavily used by native Hawaiians in the past, and the plants were probably cultivated there as a source of thatch (Hodel, pers. comm.) In general, the known range of this species is within areas of intense human activity, so it is difficult to determine which individuals or populations, if any, are naturally-occurring, and which are persisting from cultivation (Hodel 2007). Plant specimens from the *Herbarium Pacificum* collection at Bernice Pauahi Bishop Museum in Honolulu collected from Kealakekua indicate that a number of native species were and are present in the vicinity, but none (with the exception of *P. maideniana*) are threatened or endangered.

A pedestrian botanical survey was conducted in the project area on July 8th and 10th, 2015, and a kayak botanical survey using binoculars for plants growing on the sea cliff was conducted on July 9, 2015, to

document all vascular plant species and vegetation communities. Areas more likely to support native plants (e.g., rocky outcrops, shaded areas, and lava tubes) were more intensively examined.

Plants recorded during the survey are indicative of the season (“rainy” versus “dry”) as well as the environmental conditions at the time of the survey. It is likely that additional surveys conducted at a different time of year would result in minor variations in the species and abundances of plants observed.

3.1.2. Fauna

SWCA reviewed available scientific and technical literature regarding natural resources in and near the survey area. This literature review encompassed a thorough search of referred scientific journals, technical journals, and reports; environmental assessments and environmental impact statements; relevant government documents; and unpublished data that provide insight into the area’s natural history and ecology. SWCA also reviewed available geospatial data, aerial photographs, and topographic maps of the survey area.

Additionally, SWCA also reviewed the United States Fish and Wildlife Service (USFWS) online list of threatened, endangered, and candidate species (USFWS 2015) as well as available geospatial data, aerial photographs, and topographic maps of the project area.

Habitat types are classified based on vegetation types identified during flora surveys conducted by SWCA on July 8–10, 2015. Five main vegetation types were identified in the project area: 1) Non-Native Forest, 2) Ornamental Landscaping, 3) Cliff and Scree Vegetation, 4) ‘A‘a Lava, and 5) Coastal Strand. Also present was brackish water habitat that consisted of an ephemeral pond approximately 20 × 60 m (65.6 × 196.8 feet). The pond was full of leaf letter, with edges overgrown by vegetation. Exposed sand was present in the center of the pond.

A fauna survey of the project area was conducted by one SWCA wildlife biologist on July 8, 2015, within Kealakekua Bay park boundary (see Figure 1). Representative portions of the area were driven or walked to catalog vegetation types, fauna, and wetlands or streams as well as known or suspected threatened, endangered, or candidate wildlife species.

Fauna surveys consisted of pedestrian and variable circular plot (VCP) count surveys along the Ka’awaloa Trail and in the Napo‘opo‘o landing area using 10 × 40–mm binoculars. All birds, mammals, reptiles, amphibians, fish, and invertebrate species were noted. Detection types that indicated presence include: auditory, sign (e.g., scat and tracks) and visual. Eight-minute VCP counts took place at Ka’awaloa Trail marker numbers 5–8 before 11:00 a.m., when wildlife was most likely to be active.

Field surveys for the endangered Hawaiian hoary bat, or ‘ōpe‘ape‘a (*Lasiurus cinereus semotus*), were not conducted; however, areas of suitable habitat for foraging and roosting were noted when present.

3.2. Results

For the flora survey, no individuals of state or federally listed threatened, endangered, or candidate plant species, or rare native Hawaiian plant species were observed in the project area. For the wildlife survey, of the 15 avian species that were detected, three are indigenous and 12 are non-native introductions. Four avian species are protected under the Migratory Bird Treaty Act (MBTA), including the northern cardinal (*Cardinalis cardinalis*), which is a non-native introduction. No native mammals or invertebrates were seen during the survey and no reptiles, amphibians for fish and aquatic invertebrates were detected. Eight federally and state-listed species have the potential to occur in Kealakekua Bay State Historical Park (se Section 4.2 and Table 2).

Due to the unique nature of the marine surveys, the results for the marine surveys are included in a separate section (5.3 Marine Survey).

3.2.1. Flora

In all, 118 plant species were recorded in the project area during the survey. Of these, 13 are native to the Hawaiian Islands: kupukupu fern (*Nephrolepis cordifolia*), kou (*Cordia subcordata*), maiapilo (*Capparis sandwichiana*), beach naupaka (*Scaevola taccada*), ʻala ʻala wai nui (*Plectranthus parviflorus*), maʻo (*Abutilon incanum*), milo (*Thespesia populnea*), pua kala (*Argemone glauca* var. *glauca*), loulu (*Pritchardia sp.),* ʻala ʻala wai nui (*Peperomia blanda* var. *floribunda*), ʻilieʻe (*Plumbago zeylanica*), ʻuhaloa (*Waltheria indica*), and pili grass (*Heteropogon contortus*). Most of these species, with the exception of a small population of *Pritchardia,* which has been confirmed by a past survey to be the federally-listed species *Pritchardia maideniana* (Starr and Starr 2000), are not considered rare. (Wagner, Herbst et al. 1999).The *Pritchardia*, which were noted on the Kaʻawaloa portion of the study area, were unable to be confirmed during this survey, as they were not fruiting at the time (fruit is needed for a positive ID), and are noted here as *Pritchardia sp*. It is likely these individuals are persisting from cultivation, as this species was used and cultivated extensively by native Hawaiians (Hodel 2007). An additional five species are Polynesian introductions: ʻuala or sweet potato (*Ipomoea batatas*), yellow wood sorrel (*Oxalis corniculata*), niu or coconut (*Cocos nucifera*), noni (*Morinda citrifolia*), and kamani (*Calophyllum inophyllum*). Appendix A provides a list of all plant species observed by SWCA biologists in the project area during the survey.

As mentioned, five main vegetation types were identified in the project area: Non-Native Forest, Ornamental Landscaping, Cliff and Scree Vegetation, ʻAʻa Lava, and Coastal Strand.

Non-Native Forest: Non-native Forest is the most widespread vegetation community in the project area. It is characterized primarily by five main non-native tree species: ʻopiuma, tamarind (*Tamarindus indica*), kiawe (*Prosopis pallida*), Chinese banyan (*Ficus microcarpa*), and koa haole. The understory is dominated by Guinea grass, buffelgrass (*Cenchrus ciliaris*) and Philippine spinach (*Talinum fruticosum*). Fameflower (*Talinum paniculatum*) is uncommon in the understory. The only native species encountered in this vegetation type was ilieʻe, which was rare.

Ornamental Landscaping: A number of ornamental trees and shrubs are planted adjacent the Napoʻopoʻo bathroom and recreation facilities. Notable species include hibiscus (*Hibiscus rosa-sinensis*), plumeria (*Plumeria rubra*), cochineal cactus (*Opuntia cochenillifera*), bougainvillea *(Bougainvillea spectabilis),* and velvet seed (*Majidea zanquebarica*).

Cliff and Scree Vegetation: This vegetation type occurs along the nearly vertical cliff and associated rock scree below. It is dominated by a non-native species including Philippine spinach, threadstem carpetweed (*Mollugo cerviana*), buffelgrass, ʻopiuma, fountain grass (*Cenchrus setaceus*), and ʻuhaloa, which is a common native species.The native species maiapilo, pili grass, ʻala ʻala wai nui (*Plectranthus parvifolius*), and pua kala are rare, and restricted to the cliff face.

ʻAʻa Lava: A large portion of the project area is composed of a sparse vegetation type associated with the geologically recent ʻaʻa lava flow. The dominant species here include koa haole, ʻopiuma, kiawe, tamarind, ʻuhaloa, air plant (*Kalanchoe pinnata*), and Philippine spinach. Three natives—maiapilo ʻuhaloa, and maʻo—are scattered across the ʻaʻa lava. The non-native be-still tree (*Thevetia peruviana*) was found in patches throughout this vegetation type, but it is unclear whether the plants are naturalized in this area, or persisting from cultivation. Naturalization of be-still tree is not currently documented on the Big Island (Bishop Museum Herbarium Pacificum 2015).

Coastal Strand: The coastal strand vegetation type occurs along coastal areas in a narrow belt that contours with the shoreline. It is absent from most vertical portions of the cliff face, where there is little soil substrate, due to large portions of rock scree. A number of non-native trees are dominant in this area, including kiawe, milo, koa haole, coconut, ʻopiuma, tamarind, and monkey pod trees (*Samanea saman*). Coral berry dominates the understory of the closed canopy areas. Bermuda grass is abundant in exposed sandy areas. Beach naupaka and tree heliotrope were observed near the Napoʻopoʻo small boat launch area, but it is unclear if these were planted or are naturally-occurring.

3.2.2. Fauna

3.2.2.1. AVIFAUNA

The bird species observed in the project area are those typically found in lowland Non-Native Forest, Ornamental Landscaping, and Coastal Strand habitat types on Hawaiʻi Island. Of the 15 avian species that were detected, three are indigenous and 12 are non-native introductions. Four species are protected under the Migratory Bird Treaty Act (MBTA), including the northern cardinal (*Cardinalis cardinalis*), which is a non-native introduction.

Table 1. Birds Observed by SWCA In and Near the Project Area

Common Name	Scientific Name	Status	MBTA
Black-crowned night-heron	*Nycticorax*	I	X
Common myna	*Acridotheres tristis*	NN	
Common waxbill	*Estrilda astrild*	NN	
Gray francolin	*Francolinus pondicerianus*	NN	
House finch	*Haemorhous mexicanus*	NN	
House sparrow	*Passer domesticus*	NN	
Japanese white-eye	*Zosterops japonicus*	NN	
Kalij pheasant	*Lophura leucomelanos*	NN	
Northern cardinal	*Cardinalis*	NN	X
Saffron finch	*Sicalis flaveola*	NN	
Spotted dove	*Spilopelia chinensis*	NN	
Wandering tattler	*Tringa incana*	I	X
White-tailed tropicbird	*Phaethon lepturus*	I	X
Yellow-billed cardinal	*Paroaria capitata*	NN	
Zebra dove	*Geopelia striata*	NN	
Total		**15**	**4**

Note: Status: I = indigenous, M = migrant, NN = non-native permanent resident; MBTA = protected by the Migratory Bird Treaty Act.

3.2.2.2. MAMMALS

Non-native mammals detected during the survey include cat (*Felis catus*), mongoose (*Herpestes javanicus*), and pig (*Sus scrofa*). Other non-native mammals that could be expected in the project area include rat (*Rattus* spp.) and mouse (*Mus musculus*).

3.2.2.3. TERRESTRIAL REPTILES AND AMPHIBIANS

No reptiles and amphibians were seen during the survey. None of the terrestrial reptiles or amphibians in Hawai‘i are native to the islands.

3.2.2.4. TERRESTRIAL INVERTEBRATES

No insect species native to the Hawaiian Islands were observed. Non-native species observed include carpenter bee (*Xylocopa* sp.), yellowjacket (*Vespula* sp.), clouded sulphur butterfly (*Colias philodice*), monarch butterfly (*Danaus plexippus*), and unidentified species of mosquito and dragonfly.

3.2.2.5. FISH AND AQUATIC INVERTEBRATES

No aquatic fauna were observed at the brackish water habitat in the project area.

3.2.2.6. SPECIAL-STATUS SPECIES

The following sections report the federal- and state-listed species with potential to occur in the project area. Collectively, these are referred to as special-status species. Eight federally and state-listed species have the potential to occur in Kealakekua Bay State Historical Park. Table 2 displays each species' status, range or habitat association, and a rating of potential for occurrence in the project area.

Based on current distribution and habitat requirements, three of these species—the Hawaiian stilt, Hawaiian coot, and Hawaiian hoary bat—have potential to use the habitat of the project area; these species are discussed in further detail below. Species that are unlikely to occur in the project area and therefore will not be affected by the proposed project are discussed in Table 2, above, and not evaluated any further. The seabirds listed in Table 2—band-rumped storm petrel, Hawaiian petrel, and Newell's shearwater—may fly over the project area while en route to inland nesting sites. These species are not discussed in more detail, although lighting mitigation recommendations are made (see Section 3.3.2.4) to minimize impacts on these species.

All other special-status species with potential to occur on the Island of Hawai‘i are not likely to occur in the project area because it is either outside the range of the species or appropriate habitat does not occur.

3.2.2.6.1. Waterbirds

Although not observed during the fauna survey, the Hawaiian stilt may occur in the project area. Based on known distribution and habitat requirements, these species could forage and/or breed near the project area at the brackish water habitat at the end of Beach Road. Hawaiian stilts mostly use open wetland habitats with minimal vegetative cover and water depths of less than 9.4 inches (24 cm), as well as tidal mudflats (Robinson et al. 1999). The breeding season for the Hawaiian stilt is between February and August (Robinson et al. 1999).

Although not observed during the fauna survey, the Hawaiian coot may occur in the project area. Based on known distribution and habitat requirements, this species could forage and/or breed near the project area at the brackish water habitat at the end of Beach Road. Hawaiian coots prefer freshwater ponds or wetlands, brackish wetlands, and human-made impoundments. They forage in water less than 12 inches (30 cm) deep, and nest in open water with emergent aquatic vegetation or heavy stands of grass (Brisbin et al. 2002; Schwartz and Schwartz 1949; USFWS 2011a). Breeding for Hawaiian coots is not restricted to a particular season.

Table 2. Federally and State Endangered, Threatened, and Candidate Wildlife Species that Occur In the Kealakekua Bay Area, and Potential for Each to Occur in the Project Area

Species	Status	Range or Habitat Association[†]	Potential for Occurrence in the Proposed Project Area
Hawaiian stilt (*Himantopus mexicanus knudseni*)	Federally and State Endangered	Prefers a variety of aquatic habitats but is limited by water depth and vegetation cover. This species likes to loaf in open mudflats, sparsely vegetated pickleweed mats, and open pasture lands. Specific water depths of 13 centimeters (5 inches) are required for optimal foraging. Nest sites are frequently separated from feeding sites, and stilts move between these areas daily. Nesting sites are adjacent to or on low islands within bodies of fresh, brackish, or salt water.	Low. May occur in the project area if water is present in the brackish water habitat. This species occurs 2.75 miles north of the project area at the Club at Hokuli'a golf course (SWCA biologist John Polhemus, personal comment 2015).
Hawaiian coot (*Fulica alai*)	Federally and State Endangered	Found in fresh and brackish water marshes and ponds. On Oah'u, this species is associated with coastal wetlands. Nests are built on floating vegetation.	Low. May occur in the project area if water is present in the brackish water habitat. Suitable habitat occurs 2.75 miles north of the project area at the Club at Hokuli'a golf course.
Band-rumped storm petrel (*Oceanodroma castro*)	Federal candidate and State Endangered	The breeding biology is poorly understood. Nests occur in burrows and natural cavities in a variety of high-elevation, inland habitats. Eggs are typically laid between May and June, with chicks fledging in October (Mitchell 2005).	Low. Unlikely to occur in the project area. Hawaiian petrels may fly over the project area while transiting between nest sites and the ocean, but they are not likely to land or use habitat because nesting habitat does not exist in the project area.
Hawaiian petrel *(Pterodroma sandwichensis)*	Federally and State Endangered	Breeding season is from March to October, during which time this species nests in some of the main Hawaiian Islands, notably on Maui, Lāna'i, and Kaua'i. They nest in burrows, primarily in remote montane locations, along large rock outcrops, under cinder cones, under old lichen-covered lava, or in soil beneath dense vegetation. Burrows are generally 3–6 feet long (from entrance to nest chamber), although some may be as long as 15 feet. This species was once abundant on all main Hawaiian islands except Ni'ihau. Today, the largest known breeding colonies are found at Haleakala Crater on Maui and on the summit of Lāna'i. Other colonies are on Kaua'i, the island of Hawai'i, and possibly Moloka'i.	Low. Unlikely to occur in the project area. Hawaiian petrels may fly over the project area while transiting between nest sites and the ocean, but they are not likely to land or use habitat because nesting habitat does not exist in the project area.
Newell's shearwater (*Puffinus auricularis newelli*)	Federally and State Threatened	During their 9-month breeding season from April through November, this species nests in burrows under ferns on forested mountain slopes and needs an open downhill flight path through which it can become airborne. These burrows are used year after year and usually by the same pair of birds. The Newell's shearwater was once abundant on all main Hawaiian islands. Today, Newell's shearwater breed on Kaua'i, the island of Hawai'i, Moloka'i, and Lehua. Breeding on Maui and Oah'u has not been confirmed (Mitchell et al. 2005).	Low. Unlikely to occur in the project area. Newell's shearwater may fly over the project area while transiting between nest sites and the ocean, but are not likely to land or use habitat because nesting habitat does not exist in the project area.
Hawaiian Hawk *(Buteo solitarius*)	Federally and State Endangered	Hawaiian hawks are found on the island of Hawai'i from sea level to approximately 2,600 m (8,500 feet) (USFWS 1984).	None. Unlikely to occur in the project area. The project area has mean density (birds/square km) of 0 (Gorresen 2008).

Table 2. Federally and State Endangered, Threatened, and Candidate Wildlife Species that Occur In the Kealakekua Bay Area, and Potential for Each to Occur in the Project Area

Species	Status	Range or Habitat Association†	Potential for Occurrence in the Proposed Project Area
Hawaiian hoary bat (*Lasiurus cinereus semotus*)	Federally and State Endangered	Hawaiian hoary bats are found primarily from sea level to 2,288 m (7,500 feet), although they have been observed near the island's summits above 3,963 m (13,000 feet). Most of the available documentation suggests that this elusive bat roosts among trees in areas near forests. Observations have occurred on the islands of Hawai'i, Maui, Moloka'i, O'ahu, and Kaua'i.	High. May occur in the project area. The project area contains habitats such as Non-Native Forest, Ornamental Landscaping, and Coastal Strand that could support Hawaiian hoary bats.
Blackburn's sphinx moth *(Manduca blackburni*)	Federally and State Endangered	Larva host plants include 'aiea (*Nothocestrum* sp.), non-native tree tobacco (*Nicotiana glauca*), commercial tobacco (*Nicotiana tabacum*), eggplant (*Solanum melongena*), tomato (*Solanum lycopersicum* var. *cerasiforme*) (USFWS 2005), and the indigenous popolo (Solanum americanum). Adult have been observed feeding on morning glory (*Ipomoea indica*), and it is likely that maiapilo (*Capparis sandwichiana*) and 'ilie'e (*Plumbago zeylanica*) are also food sources (USFWS 2005; Hopper 2002).	None. Larva host plant species were not found in the project area. 'Ilie'e and maiapilo were found in the project area. 'Ilie'e was rare in Non-Native Forest. Maiapilo was rare in Cliff and Scree habitat, and uncommon in 'A'a Lava habitat.

† Data from USFWS 2014.

*Definitions of potential: None = habitat for this species does not occur; Low = habitat for this species is very low quality, but occurrences of this species cannot be completely discounted; Moderate = this species could occur on this habitat, but the habitat is of moderate quality or would be used only occasionally for activities such as roosting and foraging; High = this species or a sign indicating the presence of this species was seen; this species has been otherwise documented in this area.

3.2.2.6.2. Hawaiian Hoary Bat

The endangered Hawaiian hoary bat is the only native terrestrial mammal species that is still extant within the Hawaiian Islands (USFWS 1998). Surveys for Hawaiian hoary bats were not conducted, but any areas of suitable habitat for roosting and foraging were noted during the survey. Hawaiian hoary bats forage in open, wooded, and linear habitats with a wide range of vegetation types. These animals are insectivores and are regularly observed foraging over streams, reservoirs, and wetlands up to 300 feet (100 m) offshore (USDA 2009).

Hawaiian hoary bats typically roost in dense canopy foliage or in the subcanopy when canopy is sparse, with open access for launching into flight (USDA 2009). Several of the habitats (non-native forest, ornamental landscaping and coastal strand) in the project area have trees—tamarind (*Tamarindus indicus*), monkey pod (*Samanea samen*) and Chinese banyan (*Ficus microcarpa*)—that could be used by Hawaiian hoary bats for roosting.

Hawaiian hoary bats are known to occur in the districts of Ka'ū and South Kona (Fujioka and Gon 1988) on Hawai'i Island, and occupy various habitats (USDA 2009; USFWS 1998). They have been documented roosting in kukui and mango trees, and they may roost in other foliose trees at the site (e.g., Chinese banyan) based on their foliage structure. However, direct impacts to bats would only occur if a juvenile bat that is too small to fly but too large to be carried by a parent were present in a tree that was cut down.

3.3. Discussion and Recommendations

3.3.1. Flora

Over 90% of the plant species seen are not native to Hawai'i, and the native species present are not dominant and there is no designated critical habitat in or near the project area. Development in the Ka'awaloa area should be undertaken in such a way as to minimize impact to a small population of *Pritchardia,* which have been confirmed by past surveys to be the federally-listed species *Pritchardia maideniana.*

3.3.2. Fauna

3.3.2.1. MIGRATORY BIRD TREATY ACT

SWCA observed three non-native and two native bird species federally protected under the Migratory Bird Treaty Act during this survey (see Table 1). Recommendations for the endangered Hawaiian stilt are discussed in Section 3.3.2.2. If construction occurs within the park boundaries, some of the bird species may be temporarily displaced, but long-term impacts are not expected. These birds (likely limited to a few individuals) are expected to find abundant foraging habitat at nearby areas. The temporary displacement of these individuals at the site is not expected to affect an individual's survival or the overall species' populations.

3.3.2.2. WATERBIRDS

If construction occurs within Kealakekua Bay, the following best management practices (BMPs) are recommended during construction activities to avoid impacts to listed waterbirds:

- In areas where vegetated streambanks would be disturbed, waterbird nest searches should be conducted by a qualified biologist before any work is conducted and after any subsequent delay in work of 3 or more days (during which birds may attempt nesting). The results of the pre-construction survey should be submitted to the USFWS.
- A biological monitor should be present during all construction activities to ensure birds and nests are not adversely impacted.
- If a nest with eggs or chicks/ducklings is discovered, work should cease within 100 feet (30 m) of the nest until the chicks/ducklings have fledged.
- Nests or broods found in the project area before or during construction should be reported to the USFWS within 48 hours.
- If an endangered Hawaiian waterbird is present or flies into the area during on-going activities, then all activities within 100 feet (30 m) of the bird should cease, and the bird should also not be approached. Work may continue after the bird leaves the area of its own accord.

3.3.2.3. HAWAIIAN HOARY BAT

Although the chances of adversely affecting Hawaiian hoary bats as a result of the project area are likely small, the following BMPs are recommended as conservative impact avoidance measures:

- Any fences that are erected as part of the project should have barbless top-strand wire to prevent entanglements of the Hawaiian hoary bat on barbed wire. No fences in the project area were observed with barbed wire during the survey; however, if fences are present, the top strand of barbed wire should be removed or replaced with barbless wire.
- No trees taller than 4.6 m (15 feet) should be trimmed or removed as a result of this project between June 1 and September 15, when juvenile bats that are not yet capable of flying may be roosting in the trees.

Implementation of these guidelines, which have been promulgated by USFWS (1998), is expected to avoid all direct impacts to Hawaiian hoary bats.

3.3.2.4. SEABIRDS

The following BMPs provided to avoid and minimize light attraction of these seabirds to the project area:

- If construction occurs within park boundaries, construction activities should be restricted to daylight hours as much as practicable during the seabird peak fallout period (September 15–December 15) to avoid the use of nighttime lighting that could attract seabirds.
- All outdoor lights should be shielded to prevent upward radiation. This has been shown to reduce the potential for seabird attraction (Reed et al. 1985; Telfer et al. 1987). A selection of acceptable seabird-friendly lights can be found online at the Kauai Seabird Habitat Conservation website (2013).
- Outside lights that are not needed for security and safety should be turned off from dusk through dawn during the fledgling fallout period (September 15–December 15).

4. MARINE SURVEYS

4.1. Methods

A thorough literature review of available scientific and technical literature regarding marine flora and fauna and historical information on Kealakekua Bay was conducted and the marine survey was completed in the project area by two biologists on July 8-10, 2015. The primary goal of the SWCA marine survey was to provide information on the benthic conditions of representative portions within the perimeter of the Marine Life Conservation District (MLCD) (Figure 2). To this end surveys of the biota were qualitative rather than quantitative. The time saved by not doing detailed counts along transects or in quadrats was used to maximize the area covered. However, relative abundance information is provided for most species (Abundant, Common, Uncommon and Rare). Typically, each dive consisted of both surveyors swimming along a broad depth contour, diverting inshore (shallower) or off shore (deeper) as notable features were detected. This qualitative method provided both a general overview of each site with the added opportunity to identify less common species. In addition to the contour belts, specific attention was given to locating and assessing moorings, both active and abandoned. Also specific attention was given to those areas in the MLCD where visitor impact was expected to be most marked – tour boat moorings, kayak launching and pull-out sites, prime snorkeling attractions. Where the information would be important, surveys extended downslope, normal to the shoreline to asses biota at depth.

4.2. Results

4.2.1. Descriptions of Nearshore Habitat Zones and Associated Biota

As part of the Kealakekua State Historical Park, the Division of Aquatic Resources (DAR) established a Marine Life Conservation district (MLCD) in 1969. This protected area extends from the highwater mark seaward to a line from "Cook Point" to Manini Beach Point (Figure 2). This 1.27 Km^2 (315 acre) area is further demarked by a line running from "Cook Point" to the north end of Napo'opo'o and is designated as "Subzone A". Within Subzone A all fishing, taking or injuring of marine life is prohibited and mooring is only permitted at designated mooring sites. In the outer "Subzone B" area, fishing is permitted for fin fish by hook and line, throw net, or any legal method except traps for akule, 'ōpelu and crustaceans. Anchors may be dropped in sandy areas of Subzone B.

For the purpose of this study, SWCA classified the shoreline of the MLCD into three sections (Figure 3). These sections were determined by two main factors: the underlying geology and the influence of ocean swells. The shoreline classification sections within the MLCD extend slightly beyond the area surveyed. The determination that the area beyond the survey would have the same classification is based on coral reef biology, a thorough literature review and correspondence with the Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources. The sections are as follows:

The Northern section—essentially Ka'awaloa Cove—extends from the northwest boundary of the MLCD through Ka'awaloa cove to roughly the point where the scarp intersects the bay (N 19° 28' 57.60" W 155° 55' 56.90". The marine surveys in this study did not extend entirely to Cook Point and the northwest boundary of the MLCD though the marine habitat is expected to be similar for reasons mentioned above.

The North East shoreline section extends along the foot of the pali to about 230 m north of Hikiau Heiau (N 19° 28' 39.14" W155° 55' 13.60").

The South East Bay section extends from that point to the termination of the MLCD at Manini Beach (older names include Kapahukapu and Wai'ama'u).

Each of these three sections has a different depth profile, providing different benthic habitat types that support distinctive animal communities. However, all the depth profiles terminate in the sand bottom of the bay at about 80 to100 feet (25 to 30 m). The depth profile of the Northern section consists of a shallow (< 6 foot [2 m]) shelf. This breaks at 9 to 13 feet (3 to 4 m) to a gradually steepening mid-depth zone. The lower slope extends from 9 to 13 feet (3 to 4 m) to the sand bottom at 80 feet (25 m).

The shallow shelf in the Northern section can be further subdivided, from west to east into A) a basalt grazed area, B) an area influenced by freshwater influx, and C) an area dominated by massive *Porites* sp. coral. In deeper water, these distinctions disappear, and the mid depth and lower slope are more or less continuous across the entire section.

The depth profile of the North East section presents a more or less continuous slope from the shoreline to the sand at 80 to 100 feet (25 to 30 m). There is a slight break in the slope at anywhere from 9 to 16 feet (3 to 5 m), but this feature is not as well marked as in the Northern section. In the South East Bay, the shallow bench extends much farther off shore to upward of 600 feet (185 m). It gradually slopes to the bottom of the bay. In this section, the shoreline consists or alternating vertical basalt walls with intervening openings filled with cobble.

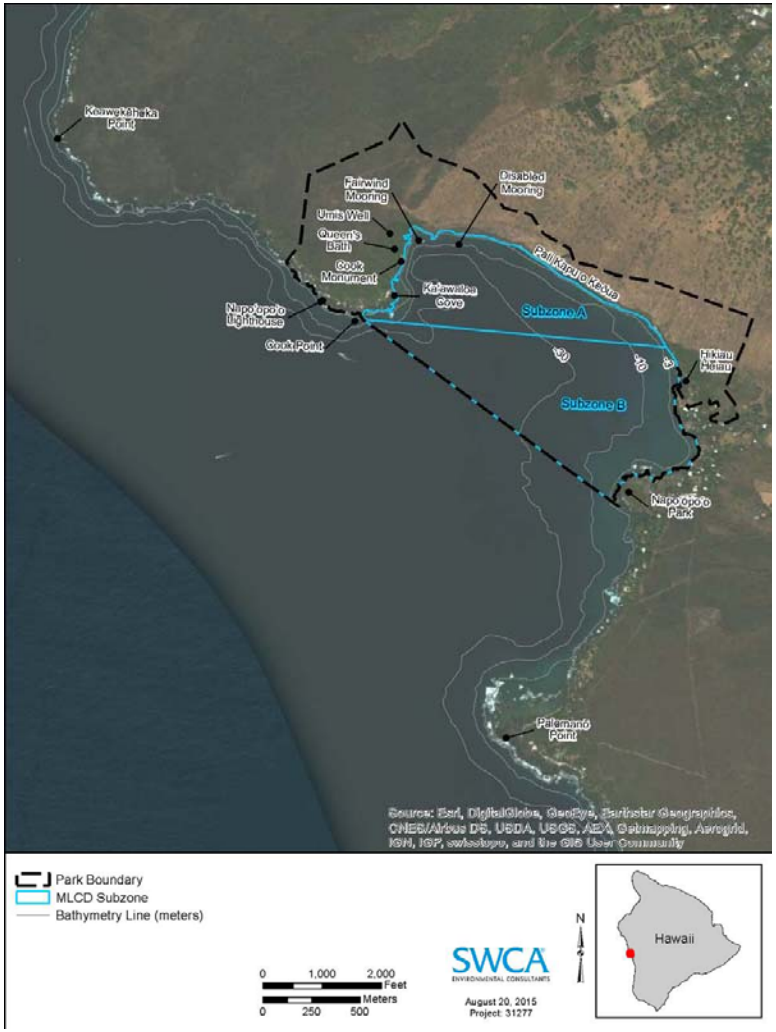

Figure 2. Kealakekua Bay State Historical Park MLCD Subzones A and B.

4.2.2. Biological Communities

4.2.2.1. NORTHERN SECTION

This section is essentially the shoreline of Ka'awaloa Cove. This is the part of the bay that receives the highest visitor numbers, both by kayak and tour boats. The benthos here is the most complex in the bay. It can be divided into three more or less distinct depth zones (Figure 3).

A. Shallow Zone: A shallow basalt and diverse coral community extending from the shoreline to a depth of 0 to 3 m. These shallow habitat types are as follows:

   1. Northern section shallow habitat i: this is a community with exposed basalt bedrock and boulders with encrusting coral and dense fish populations

   2. Northern section shallow habitat ii: this section influenced by freshwater input with few corals and typically estuarine fishes such as nenue and mullet

   3. Northern section shallow habitat iii: this is a section dominated by massive *Porites* colonies but with lower fish densities; this shallow water section gradually blends with the basalt- and coral-dominated northwest shoreline

B. Mid Depth: A transition zone from about 3 to 10 m, with large colonies of lobe coral (*Porites lobata*), knob coral (*P. monticulosa*), and false brain coral (*Pavona varians*) as well as overall relatively high coral species diversity.

C. Reef slope: Extending from the more or less distinct drop off at about 10 to 30 m, the slope is dominated by extensive beds of finger coral (*Porites compressa*). The long, delicate upward-reaching branches of this coral indicate low water movement.

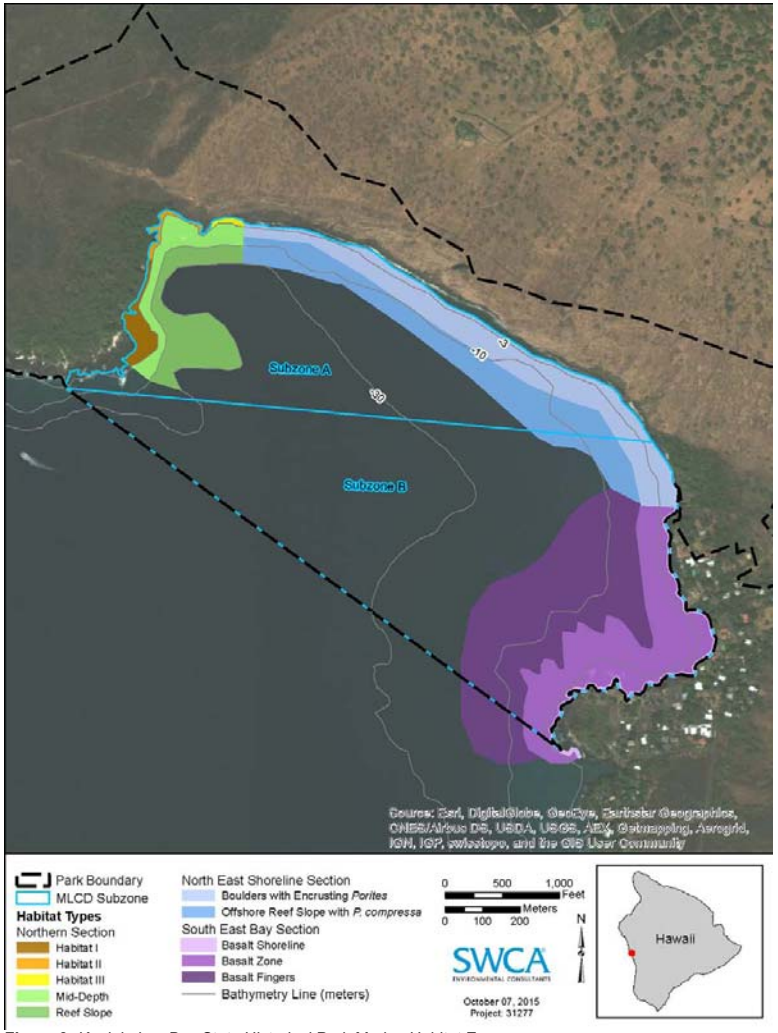

Figure 3. Kealakekua Bay State Historical Park Marine Habitat Zones.

Shallow Zone

Northern section shallow habitat i: This shallow area stretches from the southernmost point of Cook Point to about 100 m past the Cook Monument for a total shoreline length of about 400 m. The zone is narrow, extending from the shore to 10 to 30 m offshore where the drop-off to the Mid Depth area occurs. While fish diversity and densities are high, coral cover and diversity are moderate. This is the area that receives the highest visitor impact. The marine surveys in this study did not extend entirely to Cook Point and the northwest boundary of the MLCD though the marine habitat is expected to be similar.

From approximately 0 to 3 m depth, the substrate is primarily basalt covered in turf algae. Crustose coralline algae (CCA) is more common in this area than any other habitat. Turf algae are a multispecific assemblage of diminutive, often filamentous, algae that attain a canopy height of only 1 to 10 mm. Colonies of cauliflower coral (*Pocillopora meandrina*) and encrusting lobe coral (*Porites lobata*) are sparsely distributed throughout the zone. Herbivorous species of fish are more common here than in any other habitat. Yellow tang (*Zebrasoma flavescens*), brown tang *(Acanthurus nigrofuscus*), and gold ring surgeonfish or kole (*Ctenochaetus strigosus*) are the most abundant herbivores. Orange bar surgeonfish (*Acanthurus olivaceus*), Achilles tang (*Acanthurus achilles*), and white bar surgeonfish (*Acanthurus leucopaerius*) are also common in the shallow habitat. Chubs (*Kyphosus* spp.) were more common in this habitat than in the mid depths. White cheek surgeonfish (*Acanthurus nigricans*) and reticulated butterflyfish (*Chaetodon reticulatus*) were present but rare in this area. Collector urchins (*Tripneustes gratilla)* and boring urchins (*Echinometra mathaei*) were the most common urchins in this habitat.

Northern section shallow habitat ii: This part of the northern section shallows is defined by water quality rather than substratum type. It includes only about 50–60 m of shoreline. On the day this area was surveyed by SWCA, there was extensive freshwater intrusion into the bay. The upper 1.0 to 1.5 m was clearly myxohaline with reduced visibility and markedly cooler water temperatures. This area is just offshore of the sites known as Queens's Bath and Umis Well. There is little coral growth in this section, and few typical reef fishes.

This habitat has lower abundance of coral and higher abundance of CCA than the habitat southwest of the monument. In the area with the most freshwater (nearest shore behind the point with high coral cover), the cover of both coral and CCA was near 0%. Several colonies of pillow zoanthids (*Palythoa tuberculosa*) were present in this area. Turf algae were still common, and herbivores including yellow tangs and brown surgeonfish (*Acanthurus nigrofuscus*) were common. Aggregations of Hawaiian flagtails or Aholehole (*Kuhlia xenura*) and sharpnose mullet (*Neomyxus leuciscus*) were observed in the areas with freshwater mixing. Macro invertebrates were uncommon in this area.

Northern section shallow habitat iii: Once the area of freshwater influence is passed, coral cover increases. Here cover is higher than in habitat i, with massive and encrusting *Porites* sometimes reaching 100% cover. However, the fish populations, while somewhat diverse, are much smaller than in habitat i. This habitat gradually transitions to the boulder/*Porites*-dominated northwest shoreline.
Coral cover was high and dominated by lobe coral (*Porites lobata*) and brown lobe coral *(Porites evermanni)*. Cauliflower coral (*Pocillopora meandrina)* and false brain coral *(Pavona varians)* were also common. Fish abundance was low in this area. Hawaiian sergeant fish (*Abudefduf abdominalis*), Indo-Pacific sergeant fish (*Abudefduf* vaigiensis), agile chromis (*Chromis agilis*), blackfin chromis (*Chromis vanderbilti*), and black triggerfish (*Melichthys niger*) were the most commonly observed fish. Slate pencil urchins (*Heterocentrotus mammilatus)* were relatively common.

Mid Depth

A narrow fringing reef starts at ~3-m depth. From ~3–10 m lobe coral is the dominant coral species, although false brain coral, brown lobe coral (*Porites evermanni*), and cauliflower coral are also common. Surgeonfish such as the yellow tang, goldring surgeonfish, and brown surgeonfish, and damselfish particularly agile chromis were the most common fish in this zone. Butterflyfish, including multiband butterflyfish (*Chaetodon multicinctus*), ornate butterflyfish (*Chaetodon ornatissimus*), and threadfin butterflyfish (*Chaetodon auriga*), as well as wrasses, including saddle wrasse (*Thalassoma* duperrey) and disappearing wrasse (*Pseudocheilinus* evanidus) were also common benthic-associated fish in the Mid Depth region of the Northern section. Hawaiian sergeants, Indo-Pacific sergeants, and black triggerfish can be commonly found in the water column in this area. Aggregations of bigscale soldierfish (*Myripristis berndti*) and individuals of spotfin squirrelfish (*Neoniphon sammara*), crown squirrelfish (*Sargocentron diadema*), and Hawaiian bigeyes (*Priacanthus meeki*) were found under large colonies of lobe coral (*Porites lobata*) and brown lobe coral (*Porites evermannii*).

Collector urchins (*Tripneustes gratilla*), banded urchins (*Echiothrix calamaris*), and slate pencil urchins (*Heterocentrotus mamillatus*) are all common in this zone. Boring urchins (*Echinometra mathaei*) are present but difficult to quantify given the complex structure of the reef matrix in this zone. Crown of thorn seastars (*Acanthaster planci*) and long-spined urchins (*Diadema paucispinum*) are sparsely distributed throughout the Mid Depth area.

Reef Slope

The reef then slopes steeply from ~10–30 m depth where it gives way to a sandy habitat. Most of the Reef Slope area is dominated by finger coral; however, false brain coral (*Pavona varians*), lobe coral (*Porites lobata*), and brown lobe coral (*Porites evermanni*) are all common as well. From the monument to the Queen's Bath area, plate and knob coral (*Porites monticulosa*) is the dominant coral species, and honeycomb coral (*Gardenioseris planulata*) and porkchop coral (*Pavona duerdeni*) are also more common in the monument to Queen's Bath. At the base of the reef slope coral is replaced by the sand that dominates the deeper parts of the bay. In the Northern and North East Shoreline sections, the transition from coral habitats to sand is more or less distinct.

4.2.2.2. NORTH EAST SHORELINE

The shore from the northern end of Hikiau heaiu to N 19° 28.726' W 155° 55.328' consists of a boulder beach with a narrow belt of subtidal boulders with sand immediately offshore. The sand is predominantly calcium carbonate (white), but contains basaltic sand (black) in varying amounts. Northward, the shoreline gradually resolves into two habitat types– 1.) Boulders with Encrusting *Porites* and 2.) Offshore Reef Slope with *Porites compressa* (Figure 3).

Boulders with Encrusting *Porites*: The first habitat type is an inshore belt, 5 – 15 m wide, of bare boulders. At about 3-m depth, the boulders are increasingly covered with the encrusting lobe coral (*Porites lobata*) and brown lobe coral (*Porites evermanni*). Heads of cauliflower coral (*Pocillopora meandrina*) are also common in deeper areas of the habitat type.

Offshore Reef Slope with *Porites compressa*: The second habitat is a deeper part of the North East Shoreline where the finger coral (*Porites compressa*) begins to appear and at a depth of ~ 10 m becomes the dominant coral species. This habitat transitions to 100% sand at about 15 m.

The entire North East Shoreline section inhabit the same species of reef fishes and coral, but increases in abundance in the deeper waters of the Offshore Reef Slope with *Porites compressa* habitat. The boulders, both habitats are all well rounded, indicating that they have been in this high-energy section for a long time. Even though evidence of recent rock falls is visible at the foot of the pali, the shape of the submerged basalt boulders suggest that none recently fell into this area.

Offshore of the northwest end of the pali, coral reaches from ~3 to 15 m depth. Lobe coral is dominant at shallower depths and finger coral (*Porites compressa*) becomes more common at a depth of ~10 m. Coral cover decreases and benthic cover of sand increases as you move southeast along the wall from the high coral cover in the shallow north subzone. The maximum depth of coral decreases as well. In some places, the reef appears to have been covered in sediment. Most of the sediment appears to be basalt and calcareous, but in some places the grain size seems smaller and the sand is more "muddy." Patches of blue octocoral (*Sarcothelia edmondsoni*) growing on the dead skeleton of reef-building corals are common in areas where sediment has covered old reef.

Damselfish and surgeonfish were the most common types of fish observed in this section. The disappearing wrasse (*Pseudocheilinus evanidus*) was also common in this area. Large aggregations of collector urchins (*Tripneustes gratilla*) were observed in rubble patches along the northwest wall. Slate pencil urchins (*Heterocentrotus mamillatus*) and banded urchins (*Echiothrix calamaris*) were also common in this section. Several crown of thorns seastars (*Acanthaster planci*) were observed within the surveyed area. One green sea turtle or honu (*Chelonia mydas*) was observed in the boulder field at the north end of Cobble Beach, north of the heiau.

In this section, when the Offshore Reef Slope with Porites compressa habitat transitions to 100% sand (~ 15 m), reef fishes are sparse and mostly Chaetodontids and Acanthurids were observed.

4.2.2.3. SOUTH EAST BAY

The South East Bay section consists of three habitat types: 1.) Basalt Shoreline, 2.) Basalt Zone, and 3.) Basalt Fingers.

Basalt Shoreline: The basalt shoreline habitat consists of near-vertical walls interspersed with cobble beaches.

Basalt Zone: In the nearshore habitat from south of the heiau to the termination of the MLCD at Manini Beach Point, the slope is much more gradual with extensive areas of basalt outcrops surrounded by white and black sand. The basalt walls and submerged boulders are colonized mostly by lobe coral (*Porites lobata*) and cauliflower coral (*Pocillopora meandrina*), similar to the habits at the foot of the pali. The Tōhoku tsunami of March 11, 2011, destroyed several structures in this area and deposited large amounts of debris in the shallows here. Most of that has been removed though some evidence (concrete blocks, metal piping etc.) remain. There is a kayak-rental operation working out of a cobble inlet just south of Napo'opo'o. There is no evidence of any damage to the habitat from this operation since the kayaks are launched over a cobble beach and the water becomes deep quickly so that living corals do not appear to be impacted. A few heads of cauliflower coral growing on the basalt wall shoreline have small amounts of fishing line entangled (hook and line fishing is permitted in Subzone B), but this appears to be very minor.

The dominant substrate in the Basalt Zone is basalt boulders covered in turf algae, CCA, encrusting lobe coral (*Porites lobata*) and cauliflower coral (*Pocillopora meandrina*); surgeonfish were the most common type of fish observed. A green sea turtle or honu (*Chelonia mydas*) and a hawksbill sea turtle (*Eretmochelys imbricata*) were observed. In the center of this habitat large colonies (1.5 to 2.0–m

diameter) of lobe coral (*Porites lobata),* and brown lobe coral (*Porites evermanni*) are found in between sand patches and channels. Plate and pillar coral (*Porites rus*) is also common in this area forming pillared colonies. In the shallow coral–dominated areas, surgeonfish, wrasses, and butterfly fish are the most common types of fish. Wrasses are more common here than in the Northern Section.

Basalt Fingers: Further offshore in deeper waters (approximately 6-9 m), the topography in this habitat becomes much more complex with interspersed sand channels, basalt ridges, and limestone remnants of massive coral heads with no clear pattern or zonation. Finger coral (*Porites compressa*) becomes more common. Sea cucumbers such as the black sea cucumber (*Holothura atra*) and the teated sea cucumber (*Holothuria whitmaei*) are found in low abundance, but there are more sea cucumbers in this zone than any other. Collector urchins (*Tripneustes gratilla),* slate pencil urchins (*Heterocentrotus mamillatus*), and banded urchins (*Echiothrix calamaris*) are all common in this habitat.

In the entire South East Bay section, as the depth increases, sand areas gradually transitions into 100% sand like the remainder of the Bay.

A summary of all observations of marine fauna and flora in the Subzones surveyed by SWCA are in Appendix B.

4.2.3. Other Observations

Macroalgal cover is very low in all zones and habitats. Some intertidal macroalgae, primarily tufted seaweed (*Ahnfeltiopsis concinna*) was observed. Crustose coralline algae, and very low turf algae were observed. Herbivores seems to be grazing on turf algae in the shallow water habitats dominated by basalt and boulders. Very few invertebrates were observed.

The deeper reef in the monument area is dominated by finger coral (*Porites compressa*) that has not been disturbed by wave action as frequently as in other zones. New colonies have grown on old dead colonies, resulting in a complex and delicate reef matrix that could easily be damaged by wave action should it occur. The deeper reef along the east wall shows signs of disturbance, presumably by wave action where patches of finger coral (*Porites compressa*) have died, leaving rubble fields. In these areas, lobe corals (*Porites lobata* and *P. evermanni*) and cauliflower corals (*Pocillopora meandrina*) remain standing/living.

4.3. Comparison with Previous Surveys

SWCA reviewed available scientific and technical literature regarding marine flora and fauna in and near the survey area. This literature review encompassed a thorough search of referred scientific journals, technical journals, and reports; environmental assessments and environmental impact statements; relevant government documents; and unpublished data that provide insight into the area's natural history and ecology. SWCA also reviewed available geospatial data, aerial photographs, and topographic maps of the survey area.

The two main quantitative marine surveys conducted in the Kealakekua Bay MLCD were conducted by the West Hawaii Aquarium Project (WHAP) and the environmental consulting company AECOS. Differences between qualitative surveys such as the one conducted by SWCA and the two quantitative surveys (transects or quadrats) by WHAP and AECOS generally reflect differences in the methods. In quantitative surveys, the plot to be surveyed is selected and organisms in the plot are counted. If a species is present, but happens not to be in the plot it is not counted. This is one of the reasons SWCA elected to do qualitative surveys allowing us to search a wider area than if we were constrained to specific plots.

The comparison of species observed in the WHAP and AECOS study are listed in Appendix B (Table B-2).

The WHAP monitoring station in Kealakekua Bay is located in the North section on the Reef Slope at ~40 feet. Coral cover at this site has been stable from 2003 (Walsh et al. 2009; 27.1% coral cover) to 2014 (Division of Aquatic Resources Unpublished data; 25.7%). Two species of algae—*Chrysocystis fragilis* and *Lobophora* sp.—were observed in the WHAP survey but were not observed in the qualitative survey conducted by SWCA. Several species of coral were observed in the qualitative survey that were not observed in the WHAP survey: oscillated coral (*Cyphastrea ocellina*), Studer's rice coral (*Montipora studeri*), porkchop coral (*Pavona duerdeni*), Maldives coral (*Pavona maldivensis*), antler coral (*Pocillopora eydouxi*), knobby finger coral (*Porites duerdeni*), plate and knob coral (*Porites monticulosa*), and solid coral (*Porites solida*).

The 1990 AECOS assessment of the bay were limited to five stations from shore to the sand at ~30-m depth. There were some differences in species lists between the AECOS surveys and the July 2015 SWCA survey. Coral and fish species lists were similar between the two surveys. There are some scientific names that have changed over time. AECOS surveys showed several species of invertebrates that were not observed in the SWCA surveys. Most of the differences between WHAP, AECOS, and SWCA surveys are likely attributable to the differences in location and spatial extent surveyed.

4.3.1. Moorings: Current and Historical

Currently, anchoring is permitted in Subzone B, but only in sand areas, and is restricted in Subzone A. To reduce anchoring impacts, moorings have been installed over the years in many parts of the bay (AECOS 1990; DLNR 1990; DLNR 2009). The older moorings were used by fishing boats and as refuge points when storms occurred. The nearest safe harbors to the north and south are too far for emergency storm protection, so the fishing boats set up moorings for this purpose. These tended to be located in Ka'awaloa Cove because it was the most protected area in the bay. More recently, tour boat operations made use of moorings to secure their boats while their passengers swam or snorkeled. Again, these were mostly located in the Ka'awaloa Cove because that was the site of most fish and coral diversity so it was the main tourist attraction.

In 1989, the Board of Land and Natural Resources required that all moorings located in the MLCD be removed. In 1990, Fair Wind, Inc., asked the DLNR to issue a permit to replace the mooring that was in use at the time with a permanent mooring (the "Fair Wind mooring") in the cove (see Figure 2). As part of this process AECOS was contracted to conduct an environmental assessment of the project (AECOS 1990).

In 1990, visiting boats were still using two moorings in the Cove: the Fair Wind mooring and the Hawaiian Cruises Ltd. mooring (AECOS 1990). Some boats used a two-point system with a stern anchor deployed into a coral rubble area and the bow attached to a cable tied around a boulder (AECOS 1990).

At the time of the SWCA survey, there appeared to be only a single permanent mooring in use in Ka'awaloa Cove, the one belonging to Fair Wind. Other tour boats brought visitors to the area and some used the Fair Winds mooring when boats from the Fair Wind, Inc. were not present. SWCA did not observe any anchors being deployed in any areas.

The current Fair Wind mooring is located at 19° 28.917 / 155° 55.948. There are three chains leading from a float at a depth of 2.2 m (Figure 4).



Figure 4. Base of Fair Wind mooring.

The three chains lead to three benthic attachment points (Figure 5) at a depth of 23 feet (7 m).



Figure 5. Float on Fair Wind mooring.

As noted in AECOS (2009), a circular area about 15 feet (4 m) in diameter around these mooring points (Figure 6) is characterized by dead coral rubble.



Figure 6. Area around the Fair Wind mooring.

On the day of the SWCA survey, none of the coral rubble appeared to be fresh. This damage may have occurred when the mooring was originally placed. Regardless, there does not appear to be any coral recruitment into this circular area. In the SWCA survey, a subtidal boulder with a chain wrapped around it (Figure 7) was also noted.

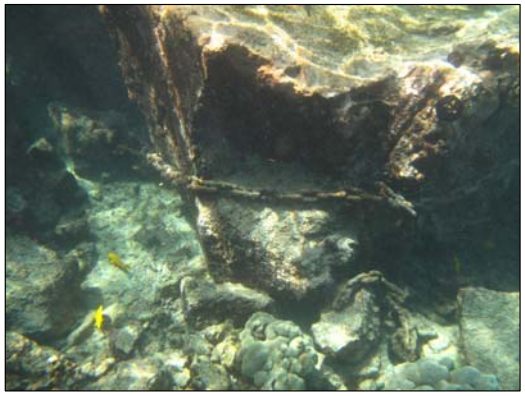

Figure 7. Old mooring chain around boulder.

This may be a remnant of the old bow/stern anchoring system used in the past. SWCA also noted cylindrical cement blocks with attachment points on the top. It is possible that these were left from the time when DLNR set out a series of buoys along the pali to prevent visitors from coming too close to shore where rock fall danger was anticipated (personal communication with Dr. W. j. Walsh, Hawaii Department of Land and Natural Resources, Division of Aquatic Resources).

There was also an apparently abandoned mooring at 19º 28.907 155º 55.842 at a depth of 38 feet (11.5 m) (Figure 8). It is not known who set this or how long it had been in place.



Figure 8. Abandoned mooring.

4.4. Discussion and Recommendations

4.4.1. Human Impacts

4.4.1.1. KAYAKS

SWCA staff members snorkeled to the shoreline locations where kayaks were both launched and where they were brought ashore at Ka‘awaloa to determine if these activities caused damage. Both the launching sites in the southern part of the bay and the landing site at Ka‘awaloa run across cobble beaches. No coral or CCA grows on these cobbles because they are constantly moved by the normal motion of the water. This is the preferred solution to launching and beaching kayaks since when entering the kayak (upon launching) or getting out (upon landing), users are close enough to the shore that they are in the cobble area and no damage by walking or dragging the vessel occurs. SWCA carefully inspected these areas and could see no marks on the cobbles that could be attributed, with certainty, to kayak users. It should be noted that SWCA did not inspect the cobble beach where the licensed venders launch their kayaks because it is out of the MLCD. SWCA did inspect the cobble beach at the unlicensed launch area and documented no damage.

4.4.1.2. TOUR BOAT OPERATIONS

The tour boat operations differ from the kayak tours in that generally more individuals are involved, the clients are typically under the supervision of the tour operations staff, and the activities are concentrated in Ka‘awaloa Cove. The visitors’ activities are normally restricted to swimming and snorkeling, though SCUBA and SNUBA (surface supplied diving) dives can be accommodated.

The largest operation is Fair Wind, Inc., which currently operates the Fair Wind II and the Hula Kai. This firm has a permit to a permanent mooring in Ka‘awaloa Cove. Other firms that bring visitors to Kealakekua include Captain Zodiac, Sea Quest, and Dolphin Discoveries. These operators utilize smaller vessels with fewer passengers. Passengers generally snorkel within Ka‘awaloa Cove. When the Fair Wind, Inc., vessels are not tied up at their mooring, operators of other tour boats sometimes make use of that mooring.

During the SWCA visit to the site, a cruise ship was in port in Kailua, so the visitor numbers were very high—probably more than 200 over the course of the day. During this event, SWCA swam beneath the large crowd to observe any potential damage to the reef or interference with the fishes. Because the site where the Fair Wind is moored is 23 feet deep (7 m), people in the water were far above the bottom and away from the coral and fishes. The larger tour boats have waterslides and ladders, so the people on the water do not venture far from the tour boat into shallow water. Additionally, the operators do not want their clients swimming away from the boat for safety reasons.

4.4.1.3. DAMAGE TO REEF HABITAT BY DIVERS

A study of diver impacts in Ka‘awaloa Cove (Tissot and Hallacher 2000) compared coral damage in the area frequented by divers with a site in the bay that received few visitors. They quantified broken and bleached coral in the two areas as well as coral cover. While coral cover declined from 1996 to 1997, the study found no significant difference in bleached or broken coral in the two areas. SWCA’s study found no evidence of damage to living corals in the high visitor impact area at Ka‘awaloa Cove. A single broken branch of cauliflower coral (*Pocillopora meandrina*) was seen off the Cook Monument. However, this was deeper than the swimmers from the tour boat were likely to have visited. Corals suffer abrasions and breakage from natural causes, particularly puffer and trigger fishes. Tissot and Hallacher (2000) reported that 7% of the coral cover in the impact area and 3% in the control area was damaged. This seems very high. One possibility is that their survey included natural damage caused by fishes. Another possibility is that in 2000, before access was regulated, and tour boat operators had fewer guidelines, so the damage was actually higher.

From observations made during the SWCA in-water survey, both of visitor activities and observations of the reef, no coral damage could be attributed to the kayak and tour boat operations. The permitted kayak launching and landing areas are cobble beaches and quite robust with respect to trampling or dragging kayaks because the cobbles are continually being moved and abraded by normal water motion.

In summary, the bay, particularly in the Ka‘awaloa Cove area, receives very large numbers of water users. Despite that, the condition of the reef is very good.

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Appendix A.

Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

Appendix A. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

Table A-1 provides an inventory checklist of plant species observed by SWCA on July 8-10, 2015, at the Kealakekua Bay State Historical Park survey area. The plant names are arranged alphabetically by family and then by species into three groups: ferns and lycophytes; monocots; and dicots. The taxonomy and nomenclature of the ferns and lycophytes are in accordance with Palmer (2003) and Evenhuis and Eldredge (2011). The taxonomy and nomenclature of the flowering plants are in accordance with Wagner et al. (1999), Wagner and Herbst (2003), and Staples and Herbst (2005). Recent name changes are those recorded in Wagner et al. (2012).

Table A-1. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

	Scientific Name	Status		Common and Hawaiian Name(s)
FERNS AND LYCOPHYTES				
Cycadaceae	*Cycas* cf. *revoluta* Thunb.		X	sago palm, cycad
Nephrolepidaceae	*Nephrolepis cordifolia* (L.) C.Presl		I	kupukupu fern
Polypodiaceae	*Phymatosorus grossus* (Langsd. & Fisch.) Brownlie		X	laua'e, maile-scented fern
	Phymatosorus scolopendria (Burm.f.) Pic.Serm.		X	rabbitfoot fern
Thelypteridaceae	*Christella parasitica* (L.) H. Lev.		X	wood fern, parasitic maiden fern
MONOCOTS				
Agavaceae	*Agave sisalana* Perrine		X	sisal, sisal hemp, century plant, malina
Aloeaceae	*Aloe vera* (L.) Burm.f.		X	aloe
Amarillidaceae	*Crinum asiaticum* L.		X	arrowhead, swamp potato
Araceae	*Syngonium podophyllum* Schott		X	
Arecaceae	*Cocos nucifera* L.		P	niu, ololani, coconut
	Phoenix hybrid		X	date palm
	Pritchardia sp.		I?	loulu
	Roystonea regia (Kunth) O.F.Cook		X	royal palm
Asperagaceae	*Beaucarnea recurvata* Lem.		X	ponytail palm
Bromeliaceae	*Ananas comosus* (L.) Merr.		X	pineapple

Table A-1. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

	Scientific Name	Status	Common and Hawaiian Name(s)
Cannaceae	*Canna indica* L.	X	Indian shot, ali'ipoe, li'ipoe, poloka
Commelinaceae	*Commelina* sp. Burm.f.	X	honohono, honohono wai, mākolokolo, dayflower
Cyperaceae	*Kyllinga brevifolia* Rottb.	X	kili'o'opu, kaluhā, manunēnē, mau'u mokae
	Kyllinga nemoralis (J.R.Forst. & G.Forst.) Dandy ex Hutch. & Dalziel	X	kili'o'opu, mau'u mokae
Liliaceae	*Asparagus plumosus* Baker	X	asparagus vine
Poaceae	*Axonopus fissifolius* (Raddi) Kuhlm.	X	narrow-leaved carpetgrass
	Bothriochloa pertusa (L.) A.Camus	X	pitted beardgrass
	Cenchrus ciliaris L.	X	buffelgrass
	Cenchrus setaceus (Forssk.) Morrone	X	fountain grass
	Cynodon dactylon (L.) Pers.	X	Bermuda grass, mānienie, mānienie haole
	Eragrostis amabilis (L.) Wight & Arn.	X	lovegrass
	Heteropogon contortus (L.) P.Beauv. ex Roem. & Schult.	I?	pili, lule, pili grass, twisted beardgrass, tanglehead
	Melinis repens (Willd.) Zizka	X	Natal redtop, Natal grass
	Paspalum conjugatum P.J.Bergius	X	Hilo grass, mau'u Hilo, sour paspalum
	Paspalum fimbriatum Kunth	X	Panama paspalum, fimbriate paspalum, Colombia grass
	Sporobolus indicus (L.) R.Br.	X	West Indian dropseed, smutgrass
DICOTS			
Acanthaceae	*Asystasia gangetica* (L.) T.Anderson	X	Chinese violet, coromandel
Amaranthaceae	*Alternanthera caracasana* Kunth	X	mat chaff flower
	Amaranthus viridis L.	X	slender amaranth, pakai, 'āheahea, pākaikai, pakapakai (Ni'ihau)
Anacardiaceae	*Mangifera indica* L.	X	mango, manakō, manakō meneke, meneke

Appendix A. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

Table A-1. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

	Scientific Name	Status	Common and Hawaiian Name(s)
Anacardiaceae	*Schinus terebinthifolius* Raddi	X	Christmas berry, wilelaiki, nani o Hilo (Moloka'i)
Apocynaceae	*Adenium obesum* (Forssk.) Roem. & Schult.	X	desert rose
	Plumeria rubra L.	X	plumeria, frangipani
	Thevetia peruviana (Pers.) K.Schum.	X	be-still tree, yellow oleander, lucky nut, nohomālie
Araliaceae	*Polyscias guilfoylei* (W. Bull) L.H. Bailey	X	collumnar panax
Asteraceae	*Bidens alba* var. *radiata* (Sch.Bip.) Ballard ex Melchert	X	Spanish needle, beggartick
	Bidens cynapiifolia Kunth	X	Spanish needle, beggartick
	Sphagneticola trilobata (L.) Pruski	X	wedelia
	Synedrella nodiflora (L.) Gaertn.	X	nodeweed
Balsaminaceae	*Impatiens walleriana* Hook.f	X	busy Lizzy, patient Lucy
Bignoniaceae	*Spathodea campanulata* P.Beauv.	X	African tulip tree, fountain tree
	Tecoma capensis (Thunb.) Lindl.	X	
Boraginaceae	*Cordia subcordata* Lam.	I	kou
	Tournefortia argentea L.f.	X	tree heliotrope
Cactaceae	*Hylocereus undatus* (Haw.) Britton & Rose	X	night-blooming cereus, pānini-o-ka-Punahou, pāpipi pua
	Opuntia cochenillifera (L.) Mill.	X	cochineal cactus
Capparaceae	*Capparis sandwichiana* DC.	E	maiapilo, pilo, pua pilo
Caricaceae	*Carica papaya* L.	X	papaya, mīkana, hē'ī, milikana, papaia, pawpaw
Clusiaceae	*Calophyllum inophyllum* L.	P	kamani, kamanu, Alexandrian laurel
Combretaceae	*Terminalia catappa* L.	X	tropical almond, Indian almond, false kamani, kamani haole, kamani 'ula
Convolvulaceae	*Ipomoea indica* (Burm.) Merr.	I	koali 'awa, koali 'awahia, koali lā'au (Ni'ihau), koali pehu
	Merremia aegyptia (L.) Urb.	X?	hairy merremia, koali kua hulu, kuahulu

Table A-1. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

	Scientific Name	Status	Common and Hawaiian Name(s)
Crassulaceae	*Kalanchoe pinnata* (Lam.) Pers.	X	air plant, life plant, ʻoliwa kū kahakai
Cucurbitaceae	*Coccinia grandis* (L.) Voigt	X	ivy gourd, scarlet-fruited gourd
	Cucumis dipsaceus Ehrenb. ex Spach	X	hedgehog gourd, teasel gourd
	Momordica charantia L.	X	balsam pear, bitter melon
Euphorbiaceae	*Aleurites moluccana* (L.) Willd.	P	kukui, kuikui, candlenut
	Euphorbia hirta L.	X	hairy spurge, garden spurge, koko kahiki
	Euphorbia hypericifolia L.	X	graceful spurge
	Euphorbia hyssopifolia L.	X	spurge
	Euphorbia prostrata Aiton	X	prostrate spurge
	Phyllanthus debilis Klein ex Willd.	X	niruri
	Ricinus communis L.	X	castor bean, pāʻaila, kaʻapehā, kamākou, kolī, lāʻau ʻaila
Fabaceae	*Acacia confusa* Merr.	X	Formosa koa
	Alysicarpus vaginalis (L.) DC.	X	alyce clover
	Chamaecrista nictitans subsp. *patellaria* var. *glabrata* (Vogel) H.S.Irwin & Barneby	X	partridge pea, laukī
	Crotalaria incana L.	X	fuzzy rattlepod, kūkaehoki, kolomona (Niʻihau)
	Indigofera suffruticosa Mill.	X	indigo, ʻinikō, ʻinikoa, kolū
	Leucaena leucocephala (Lam.) de Wit	X	koa haole, ēkoa, lilikoa
	Mimosa pudica var. *unijuga* (Duchass. & Walp.) Griseb.	X	sensitive plant, sleeping grass, pua hilahila
	Pithecellobium dulce (Roxb.) Benth.	X	Manila tamarind, ʻopiuma
	Prosopis pallida (Humb. & Bonpl. ex Willd.) Kunth	X	algaroba, mesquite, kiawe
	Samanea saman (Jacq.) Merr.	X	monkeypod, rain tree, ʻohai, pū ʻohai
	Senna alata (L.) Roxb.	X	candle bush

Appendix A. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

Table A-1. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

	Scientific Name	Status	Common and Hawaiian Name(s)
	Tamarindus indica L.	X	
	Vachellia farnesiana (L.) Wight & Arn.	X	klu, aroma, kolū
Goodeniaceae	*Scaevola taccada* (Gaertn.) Roxb.	I	naupaka kahakai, huahekili, naupaka kai, auaka (Niʻihau)
Lamiaceae	*Plectranthus parviflorus* Willd.	I	ʻalaʻala wai nui, ʻalaʻala wai nui pua kī, ʻalaʻala wai nui wahine, spurflower
Malvaceae	*Abutilon grandifolium* (Willd.) Sweet	X	hairy abutilon, maʻo
	Abutilon incanum (Link) Sweet	I?	maʻo, hoary abutilon
	Gossypium barbadense L.	X	sea island cotton, pulupulu haole, kīʻailana, pulupulu
	Hibiscus rosa-sinensis L.	X	Hibiscus
	Hibiscus schizopetalus (Mast.) Hook. f.	X	Hibiscus
	Malvastrum coromandelianum subsp. *coromandelianum*	X	false mallow
	Malvaviscus penduliflorus DC.	X	Turk's cap, aloalo pahūpahū
	Sida acuta subsp. *carpinifolia* (L.f.) Borss.Waalk.	X	
	Sida rhombifolia L.	X?	
	Sidastrum micranthum (A.St.-Hil.) Fryxell	X	
	Thespesia populnea (L.) Sol. ex Corrêa	I?	milo, portia tree
	Ficus microcarpa L.f.	X	Chinese banyan, Malayan banyan
Myrtaceae	*Psidium guajava* L.	X	common guava, kuawa, kuawa keʻokeʻo, kuawa lemi, kuawa momona, puawa
Nyctaginaceae	*Boerhavia coccinea* Mill.	X	
	Bougainvillea spectabilis Willd.	X	alena, anena (Niʻihau), nena
Oxalidaceae	*Oxalis corniculata* L.	P?	yellow wood sorrel, ʻihi ʻai, ʻihi ʻawa, ʻihi maka ʻula, ʻihi mākole
Papaveraceae	*Argemone glauca* var. *glauca*	E	pua kala, kala, naule, pōkalakala

Table A-1. Checklist of Plants Observed at Kealakekua Bay State Historical Park on July 8-10, 2015

	Scientific Name	Status	Common and Hawaiian Name(s)
Passifloraceae	*Passiflora edulis* Sims	X	passion fruit, purple granadilla, purple water lemon, liliko'i
	Passiflora foetida L.	X	love-in-a-mist, running pop, wild water lemon, lani wai (Ni'ihau), pohāpohā
	Passiflora suberosa L.	X	huehue haole
Phytolaccaceae	*Rivina humilis* L.	X	coral berry, rouge plant
Piperaceae	*Peperomia blanda* var. *floribunda* (Miq.) H.Huber	I	'ala'ala wai nui
Plumbaginaceae	*Plumbago zeylanica* L.	I	'ilie'e, hilie'e, 'ilihe'e, lauhihi (Ni'ihau)
Portulacaceae	*Portulaca oleracea* L.	X	pigweed, 'ākulikuli kula, 'ākulikuli lau li'i, 'ihi
	Portulaca pilosa L.	X	'ākulikuli (Ni'ihau)
	Talinum fruticosum (L.) Juss.	X	fameflower
	Talinum paniculatum (Jacq.) Gaertn.	X	jewels of Opar
Rubiaceae	*Gardenia taitensis* DC.	X	tiare
	Morinda citrifolia L.	P	noni, Indian mulberry
	Oldenlandia corymbosa L.	X	
Rutaceae	*Murraya paniculata* (L.) Jack	X	mock orange
Sapindaceae	*Majidea zanquebarica* J.Kirk ex Oliv.	X	velvet seed
Solanaceae	*Nicotiana tabacum* L.	X	tobacco, paka
Sterculiaceae	*Waltheria indica* L.	I?	'uhaloa, 'ala'ala pū loa, hala 'uhaloa, hi'aloa, kanakaloa
Verbenaceae	*Lantana camara* L.	X	lākana, lā'au kalakala, lanakana (Ni'ihau), mikinolia hihiu, mikinolia hohono, mikinolia kukū

* Status:

E = endemic (native only to the Hawaiian Islands).

I = indigenous (native to the Hawaiian Islands and elsewhere).

P = Polynesian (introduced by Polynesians).

X = introduced/ alien (plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact [Cook's arrival in the islands in 1778]).

Appendix B.

Summary of Marine Species Observed at Kealakekua Bay State Historical Park Marine Life Conservation District on July 8-10, 2015

and

Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Type	**Genus**	**Species**	A	B	C					
Algae	Microdictyon	*setchellianum*								R
Algae	Neomeris	*annulata*								R
Algae	Ventricaria	*ventricosa*								R
Algae	CCA	spp.	C	U	R	R	C	R	C	R
Coral	Sarcothelia	*edmondsoni*		U				C	C	
Coral	Cyphastrea	*ocellina*		R		R				
Coral	Fungia	*scutaria*		R						
Coral	Gardineroseris	*planulata*		C		U				
Coral	Leptastrea	*bewickensis*	R	R					R	R
Coral	Montipora	*capitata*	R	R	R	R	R	R		R
Coral	Montipora	*patula*		R	R	R	R	R	R	R
Coral	Montipora	*studeri*	R			R		R		R
Coral	Palythoa	*heliodiscus*								R
Coral	Palythoa	*tuberculosa*	R	U	R		R	C	C	C
Coral	Pavona	*duerdeni*		C	U	C		R		U
Coral	Pavona	*maldivensis*			R	R				
Coral	Pavona	*varians*	U	C	U	C		C		C
Coral	*Pocillopora*	*eydouxi*	R	R	R	R	R		R	U
Coral	*Pocillopora*	*ligulata*	R	R	R		R		R	
Coral	*Pocillopora*	*meandrina*	C	C	C	C	C	C	C	C

Appendix B.

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Coral	*Porites*	*brighami*								R
Coral	*Porites*	*compressa*	R	C	R	A		A		C
Coral	*Porites*	*duerdeni*	U	C		C		R		
Coral	*Porites*	*evermanni*	U	C	A		R	C		C
Coral	*Porites*	*lichen*		R						R
Coral	*Porites*	*lobata*	C	A	A	C	C	A	A	C
Coral	*Porites*	*monticulosa*		C		C				C
Coral	*Porites*	*rus*					C		C	C
Coral	*Porites*	*solida*	R	R		R	R	R		R
Fish	*Abudefduf*	*abdominalis*	C	C	C	C	C		C	
Fish	*Abudefduf*	*sordidus*	U	R	R		C		C	
Fish	*Abudefduf*	*vaigiensis*	U	U	C	U	U	U	U	
Fish	*Acanthurus*	*achilles*	U	U		U	R			U
Fish	*Acanthurus*	*blochii*	R	U			R	U		U
Fish	*Acanthurus*	*dussumieri*					R			R
Fish	*Acanthurus*	*guttatus*	R	R						
Fish	*Acanthurus*	*hawaiiensis*								U
Fish	*Acanthurus*	*leucopareius*	U	U			U			U
Fish	*Acanthurus*	*nigricans*	R	R						
Fish	*Acanthurus*	*nigrofuscus*	C	C	U	A	C	C		C
Fish	*Acanthurus*	*olivaceus*	U	U		C	U	U		U
Fish	*Acanthurus*	*thompsoni*				U		R		

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Fish	*Acanthurus*	*triostegus*	U	U			U	U		U
Fish	*Aphareus*	*furca*						R		
Fish	*Arothron*	*hispidus*								R
Fish	*Arothron*	*meleagris*		R			R		R	R
Fish	*Aulostomus*	*chinensis*		R	R	R	R	R		
Fish	*Bodianus*	*albotaeniatus*						R		R
Fish	*Calotomus*	*carolinus*	U	U		U		U	U	U
Fish	*Cantherhines*	*dumerilii*	R	U	R	U	U	R		U
Fish	*Canthigaster*	*amboinensis*		R			R		R	
Fish	*Canthigaster*	*jactator*	C	C		U		C		C
Fish	*Caranx*	*melampygus*	R	R					R	R
Fish	*Centropyge*	*loricula*						R		
Fish	*Centropyge*	*potteri*				R		R		R
Fish	*Cephalopholis*	*argus*	U	U		U	U	R	U	U
Fish	*Chaetodon*	*auriga*	R	R		R	U	R	R	R
Fish	*Chaetodon*	*lineolatus*		R						
Fish	*Chaetodon*	*lunula*		R		R	R	R	R	R
Fish	*Chaetodon*	*lunulatus*		R		R			R	
Fish	*Chaetodon*	*multicinctus*	R	U		C	C	R		U
Fish	*Chaetodon*	*ornatissimus*	U	R		U	U	R	U	U
Fish	*Chaetodon*	*quadrimaculatus*	U	R		R	U	R	R	R
Fish	*Chaetodon*	*reticulatus*	R							

Appendix B.

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Fish	*Chaetodon*	*unimaculatus*		R		R				
Fish	*Chlorurus*	*spilurus*	C	C		C			C	C
Fish	*Chromis*	*agilis*		C	C	C		A		C
Fish	*Chromis*	*hanui*				R				R
Fish	*Chromis*	*vanderbilti*		C	C	C	C		C	C
Fish	*Chromis*	*verater*				R		R		
Fish	*Cirrhitus*	*pinnulatus*					R	R		
Fish	*Cirripectes*	*vanderbilti*					C			
Fish	*Coris*	*gaimard*	U	U		R		R		U
Fish	*Ctenochaetus*	*hawaiiensis*	R	U		U		R		U
Fish	*Ctenochaetus*	*strigosus*		C		C	C	C		C
Fish	*Dascyllus*	*albisella*						R	R	R
Fish	*Exallias*	*brevis*				R				R
Fish	*Fistularia*	*commersonii*	R	R				R		
Fish	*Forcipiger*	*flavissimus*	R	U		R	R	R	R	R
Fish	*Forcipiger*	*longirostris*		R		U		R		
Fish	*Gomphosus*	*varius*	C	C	C	C	C	U	C	U
Fish	*Gymnothorax*	*eurostus*							R	
Fish	*Gymnothorax*	*meleagris*	R	R						R
Fish	*Halichoeres*	*ornatissimus*		C			U	U		A
Fish	*Hemitaurichthys*	*thompsoni*						U		
Fish	*Kuhlia*	*sandvicensis*								

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Fish	*Kyphosus*	spp.	R	U					U	
Fish	*Labroides*	*phthirophagus*						R	R	R
Fish	*Lutjanus*	*kasmira*				R		R		U
Fish	*Macropharyngodon*	*geoffroy*								R
Fish	*Melichthys*	*niger*	C	C	C	C	C	C	C	C
Fish	*Melichthys*	*vidua*		R	R	U	R	R	R	U
Fish	*Monotaxis*	*grandoculis*				R		R		U
Fish	*Mulloidichthys*	*flavolineatus*		U		R	R	U	U	
Fish	*Mulloidichthys*	*vanicolensis*	C			U	U	C		
Fish	*Myripristis*	*berndti*				C		U		
Fish	*Naso*	*brevirostris*						R		
Fish	*Naso*	*hexacanthus*				U				
Fish	*Naso*	*lituratus*	U	U		U		U		U
Fish	*Naso*	*unicornis*				R				
Fish	*Neomyxus*	*leuciscus*		C						
Fish	*Neoniphon*	*sammara*		R		R				R
Fish	*Novaculichthys*	*taeniourus*	R							
Fish	*Ostracion*	*meleagris*	R	R		R	R	R	R	R
Fish	*Ostracion*	*whitleyi*								
Fish	*Oxycheilinus*	*bimaculatus*				R		R		R
Fish	*Oxycheilinus*	*unifasciatus*		U		R				R
Fish	*Paracirrhites*	*arcatus*		C		U	C	U	C	U

Appendix B.

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Fish	*Paracirrhites*	*forsteri*				R		R	R	R
Fish	*Parupeneus*	*cyclostomus*						R		R
Fish	*Parupeneus*	*insularis*		U		R				
Fish	*Parupeneus*	*multifasciatus*	C	C		U		U	C	C
Fish	*Plagiotremus*	*goslinei*		R						
Fish	*Platybelone*	*argalus*	R							
Fish	*Plectroglyphidodon*	*imparipennis*		U			U		R	R
Fish	*Plectroglyphidodon*	*johnstonianus*	U	U		U		R	C	U
Fish	*Priacanthus*	*meeki*		R		R		R		R
Fish	*Pseudocheilinus*	*evanidus*				**C**		**C**		**C**
Fish	*Pseudocheilinus*	*tetrataenia*		**U**		**U**		**R**		**U**
Fish	*Pseudojuloides*	*cerasinus*						**R**		**R**
Fish	*Rhinecanthus*	*aculeatus*		**R**						
Fish	*Rhinecanthus*	*rectangulus*	**R**	**R**					**R**	
Fish	*Sargocentron*	*diadema*				**R**				
Fish	*Scarus*	*psittacus*	**U**	**U**		**U**			**U**	**U**
Fish	*Scarus*	*rubroviolaceus*	**U**	**U**		**U**		**U**	**U**	**U**
Fish	*Scromberoides*	*lysan*						**R**		

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Fish	*Stegastes*	*marginatus*	**U**	**R**		**U**	**U**		**U**	**U**
Fish	*Stethojulis*	*balteata*		**U**				**U**	**U**	**U**
Fish	*Sufflamen*	*bursa*				**R**	**R**	**R**		**R**
Fish	*Sufflamen*	*fraenatus*							**R**	
Fish	*Synodus*	spp.				**U**		**U**		
Fish	*Taenianotus*	*triacanthus*				R				
Fish	*Thalassoma*	*duperrey*	A	C	C	C	C	C	C	C
Fish	*Thalassoma*	*trilobatum*	R	R					R	
Fish	*Tylosurus*	*crocodilus*								R
Fish	*Zanclus*	*cornutus*	R	R		R	R	R	U	R
Fish	*Zebrasoma*	*flavescens*	A	C		A	A	C		C
Fish	*Zebrasoma*	*veliferum*	R	R		R				R
Invertebrate	*Acanthaster*	*planci*				U	R			R
Invertebrate	*Actinopyga*	*mauritiana*					R			
Invertebrate	*Actinopyga*	*obesa*								R
Invertebrate	*Chondrocidaris*	*gigantea*		R						R
Invertebrate	*Conus*	*leopardus*								R
Invertebrate	*Diadema*	*paucispinum*		R		R				R
Invertebrate	*Echinometra*	*mathaei*	C	C	C	C			A	A
Invertebrate	*Echinothrix*	*calamaris*		C		C	C		C	C

Appendix B.

Table B-1. Summary of Marine Species Observed at Kealakekua Bay State Historical Park MLCD on July 8-10, 2015

			North West Shore				East Shore		South East Shore	
			Shallow			Slope	Nearshore	Offshore	Nearshore	Offshore
Invertebrate	*Echinothrix*	*diadema*		R						
Invertebrate	*Heterocentrotus*	*mammillatus*		C		U	C			C
Invertebrate	*Holothura*	*atra*	R							R
Invertebrate	*Holothuria*	cf. *dofleinii*				R				
Invertebrate	*Holothuria*	*whitmaei*		R						R
Invertebrate	*Linckia*	*multifora*								R
Invertebrate	*Loimia*	*medusa*								R
Invertebrate	*Octopus*	*cyanea*				R				
Invertebrate	*Ophiocoma*	*spp*		C						C
Invertebrate	*Parribacus*	*antarcticus*							R	
Invertebrate	*Pinctada*	*margaritifera*								R
Invertebrate	*Stenopus*	*hispidus*								R
Invertebrate	*Tripneustes*	*gratilla*		C		C	C		A	A

Table B-2. Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys

Type	Species list	AECOS	WHAP	SWCA
Algae	*CCA* spp.		X	X
Algae	*Lobophora* sp.		X	
Algae	*Ventricaria ventricosa*	X		X
Algae	*Chrysosystis fragilis*		X	
Coral	*Cyphastrea ocellina*	X		X
Coral	*Fungia scutaria*	X		X
Coral	*Gardineroseris planulata*			X
Coral	*Leptastrea bewickensis*			X
Coral	*Leptastrea purpurea*	X		
Coral	*Montipora capitata*	X	X	X
Coral	*Montipora flabellata*	X		
Coral	*Montipora patula*	X	X	X
Coral	*Montipora studeri*			X
Coral	*Palythoa heliodiscus*			X
Coral	*Palythoa tuberculosa*			X
Coral	*Pavona duerdeni*	X		X
Coral	*Pavona maldivensis*			X
Coral	*Pavona varians*	X	X	X
Coral	*Pocillopora eydouxi*			X
Coral	*Pocillopora ligulata*			X
Coral	*Pocillopora meandrina*	X	X	X
Coral	*Porites brighami*			X
Coral	*Porites compressa*	X	X	X
Coral	*Porites duerdeni*			X
Coral	*Porites evermanni*	X	X	X
Coral	*Porites lichen*		X	X
Coral	*Porites lobata*	X		X
Coral	*Porites monticulosa*	X		X
Coral	*Porites rus*			X
Coral	*Porites solida*			X
Coral	*Sarcothelia edmondsoni*		X	X

Table B-2. Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys

Type	Species list	AECOS	WHAP	SWCA
Fish	*Abudefduf abdominalis*	X		X
Fish	*Abudefduf sordidus*	X		X
Fish	*Abudefduf vaigiensis*			X
Fish	*Acanthurus achilles*			X
Fish	*Acanthurus blochii*			X
Fish	*Acanthurus dussumieri*	X		X
Fish	*Acanthurus guttatus*	X		X
Fish	*Acanthurus hawaiiensis*			X
Fish	*Acanthurus leucopareius*			X
Fish	*Acanthurus nigricans*			X
Fish	*Acanthurus nigrofuscus*	X		X
Fish	*Acanthurus nigroris*	X		
Fish	*Acanthurus olivaceus*			X
Fish	*Acanthurus thompsoni*	X		X
Fish	*Acanthurus triostegus*	X		X
Fish	*Actinopyga mauritiana*	X		X
Fish	*Actinopyga obesa*			X
Fish	*Aluterus scriptus*	X		
Fish	*Aphareus furca*			X
Fish	*Arothron hispidus*			X
Fish	*Arothron meleagris*	X		X
Fish	*Aulostomus chinensis*	X		X
Fish	*Bodianus albotaeniatus*	X		X
Fish	*Calotomus carolinus*	X		X
Fish	*Cantherhines dumerilii*	X		X
Fish	*Cantherhines sandwichensis*	X		
Fish	*Canthigaster amboinensis*	X		X
Fish	*Canthigaster jactator*	X		X
Fish	*Caranx melampygus*			X
Fish	*Centropyge loricula*			X
Fish	*Centropyge potteri*	X		X

Table B-2. Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys

Type	Species list	AECOS	WHAP	SWCA
Fish	*Cephalopholis argus*			X
Fish	*Chaetodon auriga*	X		X
Fish	*Chaetodon lineolatus*	X		X
Fish	*Chaetodon lunula*	X		X
Fish	*Chaetodon lunulatus*	X		X
Fish	*Chaetodon miliaris*	X		
Fish	*Chaetodon multicinctus*	X		X
Fish	*Chaetodon ornatissimus*	X		X
Fish	*Chaetodon quadrimaculatus*			X
Fish	*Chaetodon reticulatus*			X
Fish	*Chaetodon unimaculatus*	X		X
Fish	*Chlorurus spilurus*	X		X
Fish	*Chromis agilis*	X		X
Fish	*Chromis hanui*			X
Fish	*Chromis vanderbilti*	X		X
Fish	*Chromis verater*			X
Fish	*Cirrhitus pinnulatus*			X
Fish	*Cirripectes vanderbilti*			X
Fish	*Coris gaimard*			X
Fish	*Ctenochaetus hawaiiensis*	X		X
Fish	*Ctenochaetus strigosus*	X		X
Fish	*Dascyllus albisella*			X
Fish	*Decapterus macarellus*	X		
Fish	*Exallias brevis*			X
Fish	*Fistularia commersonii*	X		X
Fish	*Forcipiger flavissimus*	X		X
Fish	*Forcipiger longirostris*	X		X
Fish	*Gnathelepis sp*	X		
Fish	*Gomphosus varius*	X		X
Fish	*Gymnothorax eurostus*	X		X
Fish	*Gymnothorax meleagris*	X		X

Table B-2. Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys

Type	Species list	AECOS	WHAP	SWCA
Fish	*Halichoeres ornatissimus*			X
Fish	*Hemitaurichthys thompsoni*			X
Fish	*Heterocentrotus mammillatus*	X		X
Fish	*Kuhlia sandvicensis*	X		X
Fish	*Kyphosus spp*	X		X
Fish	*Labroides phthirophagus*	X		X
Fish	*Lutjanus kasmira*	X		X
Fish	*Macropharyngodon geoffroy*			X
Fish	*Melichthys niger*	X		X
Fish	*Melichthys vidua*	X		X
Fish	*Microdictyon setchellianum*			X
Fish	*Monotaxis grandoculis*			X
Fish	*Mulloidichthys flavolineatus*	X		X
Fish	*Mulloidichthys vanicolensis*			X
Fish	*Myripristis berndti*			X
Fish	*Naso brevirostris*			X
Fish	*Naso hexacanthus*			X
Fish	*Naso lituratus*	X		X
Fish	*Naso unicornis*			X
Fish	*Neomeris annulata*			X
Fish	*Neomyxus leuciscus*			X
Fish	*Neoniphon sammara*			X
Fish	*Novaculichthys taeniourus*			X
Fish	*Ostracion meleagris*	X		X
Fish	*Ostracion whitleyi*			X
Fish	*Oxycheilinus bimaculatus*			X
Fish	*Oxycheilinus unifasciatus*	X		X
Fish	*Paracirrhites arcatus*	X		X
Fish	*Paracirrhites forsteri*	X		X
Fish	*Parapercis schauslandii*	X		
Fish	*Parupeneus cyclostomus*			X

Table B-2. Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys

Type	Species list	AECOS	WHAP	SWCA
Fish	*Parupeneus insularis*			X
Fish	*Parupeneus multifasciatus*	X		X
Fish	*Pervagor spilosoma*	X		
Fish	*Plagiotremus goslinei*			X
Fish	*Platybelone argalus*			X
Fish	*Plectroglyphidodon imparipennis*			X
Fish	*Plectroglyphidodon johnstonianus*	X		X
Fish	*Priacanthus meeki*			X
Fish	*Pseudocheilinus evanidus*			X
Fish	*Pseudocheilinus tetrataenia*			X
Fish	*Pseudojuloides cerasinus*			X
Fish	*Psilogobius* sp.	X		
Fish	*Rhinecanthus aculeatus*			X
Fish	*Rhinecanthus rectangulus*			X
Fish	*Sargocentron diadema*			X
Fish	*Sargocentron punctatissimum*	X		
Fish	*Saurida flamma*	X		
Fish	*Scarus psittacus*	X		X
Fish	*Scarus rubroviolaceus*	X		X
Fish	*Scromberoides lysan*			X
Fish	*Seriola dumerili*	X		
Fish	*Stegastes marginatus*			X
Fish	*Stethojulis balteata*			X
Fish	*Sufflamen bursa*	X		X
Fish	*Sufflamen fraenatus*			X
Fish	*Synodus* spp.			X
Fish	*Taenianotus triacanthus*			X
Fish	*Thalassoma duperrey*	X		X
Fish	*Thalassoma trilobatum*	X		X
Fish	*Tylosurus crocodilus*			X
Fish	*Zanclus cornutus*	X		X

Table B-2. Comparison of Marine Species Observed in AECOS (1990), WHAP (2014), and SWCA (2015) Surveys

Type	Species list	AECOS	WHAP	SWCA
Fish	*Zebrasoma flavescens*	X		X
Fish	*Zebrasoma veliferum*	X		X
Invertebrate	*Acanthaster planci*			X
Invertebrate	*Bohadschia vitiensis*	X		
Invertebrate	*Charbydis erythrodactyla*	X		
Invertebrate	*Chondrocidaris gigantea*			X
Invertebrate	*Conus leopardus*	X		X
Invertebrate	*Conus lividus*	X		
Invertebrate	*Conus miles*	X		
Invertebrate	*Conus pulicarius*	X		
Invertebrate	*Cypraea maculifera*	X		
Invertebrate	*Dardanus* sp.	X		
Invertebrate	*Diadema paucispinum*			X
Invertebrate	*Echinometra mathaei*	X		X
Invertebrate	*Echinothrix calamaris*	X		X
Invertebrate	*Echinothrix diadema*	X		X
Invertebrate	*Holothura atra*	X		X
Invertebrate	*Holothuria* cf. *dofleinii*			X
Invertebrate	*Holothuria whitmaei*			X
Invertebrate	*Linckia multifora*			X
Invertebrate	*Loimia medusa*			X
Invertebrate	*Ludia* (seastar)	X		
Invertebrate	*Octopus cyanea*			X
Invertebrate	*Ophiocoma* spp.			X
Invertebrate	*Panulirus penicillatus*	X		
Invertebrate	*Parribacus antarcticus*	X		X
Invertebrate	*Pinctada margaritifera*			X
Invertebrate	*Stenopus hispidus*	X		X
Invertebrate	*Terebra crenulata*	X		
Invertebrate	*Terebra maculata*	X		
Invertebrate	*Tripneustes gratilla*	X		X

Appendix C.

Project Area Photographs



Figure C-1. The Kealakekua Trail showing the Non-Native Forest vegetation type, which consists of xerophytic plant species such as kiawe, ‘opiuma, Guinea grass, and buffelgrass.



Figure C-2. View of the north east shoreline of Kealakekua Bay. The Coastal Strand vegetation type is dominated by a number of non-native tree species, including kiawe, milo, koa haole, coconut, 'opiuma, tamarind, and monkey pod trees.



Figure C-3. A'a Lava vegetation type as well as Cliff and Scree vegetation type.



Figure C-4. Lava tube with associated A'a vegetation type.

Appendix D

Swim with Dolphin Activities in Kealakekua Bay, Hawai‘i

Swim with Dolphin Activities in Kealakekua Bay, Hawai`i

- FINAL REPORT – August 31, 2015

Prepared by: Joseph Mobley, PhD & Michele Bozzuto
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Submitted to: Belt Collins Hawaii LLC



Table of Contents

Introduction 3
Study Purpose 3
Background 3
History of Regulatory Actions 5
Method 7
Results 8
Direct Observation 8
Direct Participation 12
Input from Tour Operators and Staff 15
Summary and Conclusions 16
References 17
Appendices 20
Appendix A 20
Appendix B 21
Appendix C 22

Introduction

Study Purpose

The purpose of this study was to report on the status of marine mammal-related activities in Kealakekua Bay as part of the development of the Master Plan and Environmental Impact Statement (EIS) for that region. The key activity with direct impact on the marine mammals in and around Kealakekua Bay was judged to be the swim-with-dolphin tours that have become a thriving industry in South Kona and elsewhere in Hawai`i. Information about these activities and their possible impact was derived from four sources: a) Review of relevant literature; b) direct observation of activities in Kealakekua Bay; c) direct participation on a swim with dolphin commercial tour; and d) input from those affiliated with commercial tour operations in South Kona.

Background

Spinner dolphins, so named for their aerial behavior, occur in tropical and subtropical oceans throughout the world (Jefferson, Webber & Pitman 2008). Of the four subspecies, Gray's spinner dolphin (*Stenella longirostris*) is the most prevalent. In waters surrounding the Hawaiian Islands, the Gray's spinner dolphin is generally referred to as the Hawaiian spinner dolphin. Hawaiian spinners occur throughout the main Hawaiian Islands, primarily in coastal waters (Mobley et al. 2000). Barlow (2006) estimated their abundance in the main Hawaiian Islands based on boat-based transect surveys conducted in 2002 at 1,488 individuals (CV = .74). Based on aerial surveys conducted during the period 1993-2003, spinner dolphins are the second most prevalent marine mammal species in Hawaiian waters, following humpback whales which are present during the winter breeding season only (Dec-Apr) (Mobley, unpublished data, Appendix A). Hawaiian spinner dolphins typically forage offshore at night then come into quiet bays in the daytime to rest (Norris et al. 1994).

Kealakekua Bay is one of several spinner dolphin "resting bays" on the west or Kona coast of Hawai'i, but is arguably the best known, largely due to the long record of spinner dolphin research conducted there since the 1970s (e.g., Norris & Dohl, 1980; Wursig et al. 1994; Thorne et al. 2012). Though other marine mammals are sometimes seen in Kealakekua Bay (e.g., monk seals), spinner dolphins are the only regularly occurring marine mammal species in that area (Norris et al. 1994). Hereafter, reference to "dolphins" specifically refers to Hawaiian spinner dolphins.

Based on mitochondrial DNA analysis, Kona coast spinner dolphins tend to show greater site fidelity than those in other regions (Andrews et al. 2010). This pattern tends to render them more vulnerable to disturbance since they do not readily abandon their normal home range. For spinners, nighttime foraging is a high-energy activity that involves cooperative hunting and the herding of prey to increase their density, then making coordinated feeding runs through the dense prey aggregations (Benoit-Bird & Au 2009). As a result, returning to sheltered bays to rest is an essential restorative feature of their diurnal cycle (Johnston 2014).

Worldwide, the ecotourism industry has been growing rapidly over the past several decades (Fletcher & Neeves 2012). By 1998 the United Nations World Tourism Organization (UNWTO) estimated that ecotourism comprised 20 percent of the US$441 billion global tourism market and was growing approximately 30 percent per year (versus 4% for the industry as a whole) (UNWTO 1998). In 2004, the UNWTO reported again that ecotourism was continuing to develop at three times the industry average. As one tourism analyst noted, "Ecotourism is often claimed to be the most rapidly expanding sector of the tourism industry" (cited in Fletcher & Neeves 2012).

Cetacean (whale/dolphin) tourism, in particular, has developed into a global industry over the last 20 yr. At present it is estimated to generate annual expenditures of approximately US$2.1 billion, with 3,300 operators offering cetacean- related experiences (O'Connor et al. 2009, cited in Peters et al. 2013). The tourism activities include land-, air-, and vessel-based cetacean watching, dolphin feeding, and swim-with animal programs.

Swim with dolphin activities have increased dramatically in Hawai'i in recent years with particular focus on Hawaiian spinner dolphins (Delfour 2007; Courbis & Timmel 2009). Hawaiian spinners are the species of choice for such pastimes owing to their regular patterns of foraging offshore at night then coming into quiet bays in the daytime to rest, thereby creating fairly predictable encounters (Norris et al. 1994).

Though proponents of dolphin-swim activities argue that the dolphins readily approach human swimmers and have complete control over encounters, concern among researchers focuses mainly on the cumulative effects of disturbance on energy budgets and disruption of their rest-activity cycles (Tyne et al. 2015).

Results from other regions and with other species support concern for possible cumulative effects of disturbance. The intensity of boat traffic was shown to affect bottlenose dolphin distribution in Milford Sound, New Zealand, causing them to move out altogether during some seasons (Lusseau 2005). The latter study also identified resting as the behavioral state most susceptible to disturbance. Results from a well-studied population of bottlenose dolphins in Shark Bay, Western Australia showed evidence of declines in abundance with increasing numbers of tour operators in the bay (Bejder et al. 2006). Examining the behavior of indo-Pacific dolphins in Tanzania, with tour boats present (impact) versus absent (control), Christiansen et al (2010) showed that in the presence of tourist boats, the dolphins were less likely to stay in a resting or socializing activity but were more likely to start travelling or foraging. They also calculated that these behavioral changes were likely to have impact on energy budgets, mainly due to increasing physical demands.

Based on comparisons among three resting bays on the west Hawai'i coast, spinner dolphin resting behavior appeared to be interrupted or shortened by human activities, with the dolphins sometimes leaving the bays in response to human disturbance (Courbis & Timmel 2009). Tyne et al. (2015) provided evidence suggesting that spinner dolphins do not typically rest outside of the bays, so early or frequent departures from the bays may reduce biological fitness due to prolonged disruption of their resting cycle.

Courbis (2007) compared patterns of human activities across three resting bays of West Hawai‘i and showed that, when dolphins were present, mean number of swimmers was higher in one and mean number of kayaks was higher in another. Overall, numbers of vessels and swimmers in the bays were higher than in previous decades, and swimmers comprised the majority human activity in the bays.

Tyne et al. (2014) used photographic capture-recapture methods to provide the first abundance estimates for the Hawai’i island associated stock of spinner dolphins, based on photographs taken during a one year period 2010-11 in the four resting bays of the Kona coast. The authors concluded: “The current estimate of 631 (95% CI 524–761) is substantially lower than previous abundance estimates. When this estimate is combined with the rigid daily behavioral pattern of spinner dolphins, the genetic distinctiveness of the stock and the ease of human access to the spinner dolphins in their preferred resting habitats, this stock is likely more vulnerable to negative impacts from human disturbance than previously believed.”

As suggested by Tyne et al. (2015), these results, taken together, “support management actions to reduce human access to preferred dolphin resting areas during important resting periods” (p. 8). NOAA has been considering such actions for the past decade and is close to making recommendations (see below).

History of Regulatory Actions

The State of Hawai‘i Dept of Land and Natural Resources (DLNR) holds jurisdiction over Kealakekua Bay owing to the latter’s designation as a marine life conservation district, the presence of the Kealakekua Bay Historical State Park as well as its role in protecting aquatic resources of all Hawai‘i’s coastal areas. The National Oceanic and Atmospheric Agency (NOAA) obtains relevant authority from the Marine Mammal Protection Act (MMPA) of 1972 as well as the Endangered Species Act (ESA) of 1973 for listed marine species (e.g., humpback whales). Finally, the US Coast Guard (USCG) holds jurisdiction in US waters for matters related to public safety. Two significant regulations affecting the Bay were imposed in the past decade.

In November, 2006, the US Coast Guard designated Kealakekua Bay as a “safety zone” due to the threat of landslides following a major earthquake (Note: an earthquake of magnitude 6.7 with epicenter off Kona Airport occurred on Oct 15, 2006) (Federal Register, 2006). This resulted in a six-month closure of Kealakekua Bay to all vessels until April 18, 2007.

In January of 2013 DLNR took action to “improve the quality and sustainability of this heavily visited and significant cultural and natural resource” by regulating the use of a variety of vessels in the water and on land at Kealakekua Bay State Historical Park. A precipitating concern was the “proliferation and use of unpermitted kayak rentals being conducted at the historic Napo’opo’o wharf” (DLNR website, Division of Parks, Kealakekua Bay State Historical Park). This action involved a moratorium on the use of all vessels, including kayaks and stand-up paddleboards, among others, in Kealakekua

Bay for a five month period from Jan 2 through May 29, 2013. Once reopened, kayak rentals were allowed for customers renting from three permitted vendors.

NOAA, in its interpretation of the MMPA, offers “marine wildlife viewing guidelines” on its NOAA Pacific Islands Regional Office (PIRO) website for dolphins, whales, monk seals and sea turtles (latter protected under the ESA). These include:

- Remain at least 100 yards from humpback whales, and at least 50 yards from other marine mammals (dolphins, other whale species, and Hawaiian monk seals).
- Observe turtles from a distance.
- Bring binoculars along on viewing excursions to assure a good view from the recommended viewing distances.
- Do not attempt to touch, ride, or feed turtles or marine mammals.
- Limit your time observing an animal to 1/2 hour.
- Marine mammals and sea turtles should not be encircled or trapped between boats or shore.
- If approached by a marine mammal or turtle while on a boat, put the engine in neutral and allow the animal to pass. Boat movement should be from the rear of the animal (NOAA PIRO website).

Though not a regulatory action, in 2005, NOAA published an Advance Notice of Proposed Rulemaking reflecting concerns surrounding swim-with-dolphin activities, and to solicit feed- back on potential options for future regulations under the MMPA (NOAA 2005). As of this date, ten years later, the proposed rule has not been published. However, a draft rule is currently under internal review, likely to be released this fall (L. McCue, personal communication). Once published, hearings will be held on several of the islands to gather public testimony. Possible actions could include time-area closures (for example closing off certain parts of the bay for certain times of the day in Kealakekua and other Bays), as well as other activity restrictions. Until the review process is complete and the resulting rule is published, nothing definitive can be stated.

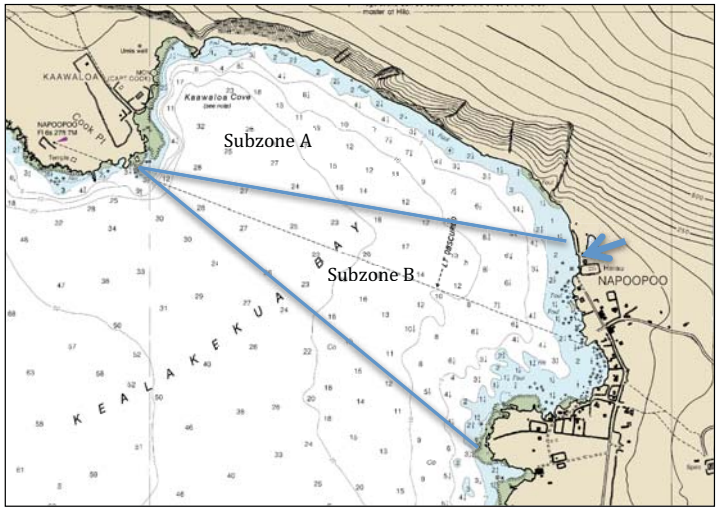

Figure 1. Kealakekua Bay (taken from NOAA map; soundings are in fathoms). Arrow shows location of observation site next to Hikiau Heiau. Subzone A is a protected area where most commercial activity takes place. Fishing and permitted taking of marine life is only allowed in Subzone B.

Method

Data presented here was obtained from three sources:

a) *Direct observation*—during eight-day period from June 15-22, 2015, made from a shore observation site (Figure 1);
b) *Direct participation*—with Dolphin Discoveries swim-with-dolphin tour on June 16, 2015;
c) *Input from dolphin tour operators and staff*—information was solicited from written or verbal conversations with four individuals involved with the dolphin tour industry in South Kona.

Direct observation. Observations were made from a shore-based site adjacent to the Hikiau Heiau (Figure 1) using Swarovski 8.5 X 42 binoculars with a clear view of the bay (both subzones A and B). Instantaneous time sampling (Altman, 1974) was used.

This involved taking "snapshots" of the bay at 30-min intervals; i.e., recording the presence or absence of swimmers and dolphins (where precise counts were judged to be less reliable) and the numbers of kayaks and boats (where counts were judged to be more reliable) at that time. Entries were recorded manually on a datasheet (Appendix B). This process was repeated for each of eight days during the period from June 15-22, 2015, with observations typically performed from 0800 - 1600 (with the exception of days 1 and 2). This interval bracketed the normal resting period of the spinner dolphins in that bay (1000-1400, Tyne et al., 2015).

Direct participation. The authors of this report participated in a four-hour commercial swim-with-dolphin tour with Dolphin Discoveries on June 16, 2015. The tour involved a standard "six-pack" arrangement (one captain with six passengers), left Keauhou Bay at 0800 and returned at 1200 hrs. The tour involved swimming with dolphins in the waters off south Kona, then snorkeling in Kealakekua Bay. This offered an opportunity to not only observe the operations of this single tour company, but those of the numerous other boats in the vicinity as well.

Input from tour operators and staff. The authors solicited input from four individuals involved in the ocean tour industry of south Kona, including the co-owner of Dolphin Discoveries, the captain of the tour boat mentioned above, one of the captains/booking agents of Hang Loose Boat Tours in Kona and a key organizer of the West Hawai`i Voluntary Standards initiative as part of the CORAL Project. This input came in the form of personal communications including conversations and email (Appendix B).

Results

Direct Observation

Observations by day. A total of 55.5 hrs of observation was made across the eight-day period from June 15-22 from the shore site (Figure 1). These results are summarized in Table 1 below.

Table 1. Summary of Direct Observation Results by Day (% total observation time present)

	Dolphins present (% time)		Boats present (% time)	
Day	Subzone A	Subzone B	Subzone A	Subzone B
1	30%	0%	88%	0%
2	0%	0%	86%	0%
3	0%	0%	94%	0%
4	47%	18%	88%	12%
5	0%	0%	94%	0%
6	18%	18%	76%	0%
7	76%	0%	82%	0%
8	0%	53%	88%	0%

	Swimmers present (% time)		Kayaks present (% time)*	
Day	Subzone A	Subzone B	Subzone A	Subzone B
1	80%	0%	--	--
2	57%	0%	--	--
3	76%	0%	100%	0%
4	71%	18%	88%	0%
5	88%	0%	88%	53%
6	65%	24%	88%	18%
7	94%	0%	94%	18%
8	76%	24%	94%	41%

*Note: Kayaks not recorded until Day 3

Table 2. Correlations with Presence of Dolphins (% Time)

Region	Boats	Swimmers	Kayaks
Subzone A	-0.412	0.445	-0.136
Subzone B	0.143	0.849*	0.264

* $p < .05$

Dolphins were present on the majority of days (63%) but not on all days (Table 1). Swimmers were present in Subzone A on all days (snorkeling over coral reef), but were in Subzone B only on days when dolphins were present (Days 4, 6 and 8). As a result, the correlation between the presence of dolphins and swimmers in Subzone B was the only statistically significant correlation (Table 2), with the next highest value for swimmers in Subzone A, though not significant. Two important points, based on observation notes, is

that all close encounters between dolphins and swimmers (<10 m apart) occurred in Subzone B, and in all instances, involved swimmers coming from either kayaks or shore, not from commercial boats.

Overall, Subzone A saw the greatest human activity with either boats, swimmers or kayaks nearly always present, versus Subzone B where they were present far less frequently (Figure 2). Dolphins were present in Subzone A 21% of total time, as compared to 11% for Subzone B.

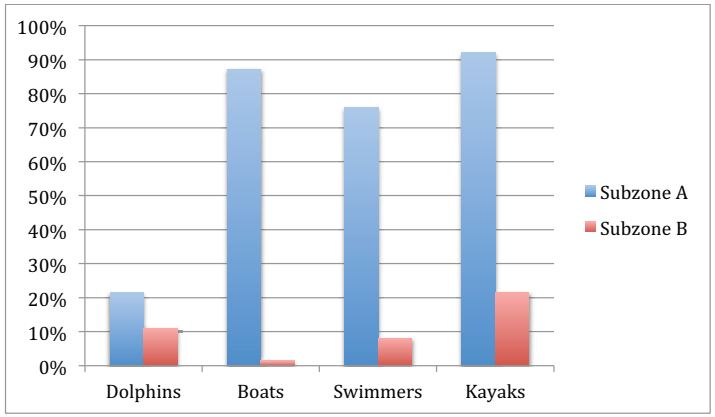

Figure 2. Overall percentages of total observation time by category and subzone.

Observations by hour. When results were collapsed across days and analyzed by time of day (Table 3) several patterns emerged. Dolphins appeared throughout the day in Subzone A (where swimmers did not interact with them) but only in the early morning hours (before 1000 hr) in Subzone B. Their presence in Subzone B appeared to be an attractant to swimmers, since the latter only appeared in Subzone B during times that dolphins were present. This is consistent with the significant correlation mentioned above (Table 2). Swimmers peaked in Subzone A during the late morning hours (1000 to 1200 hrs), but appeared consistently there throughout the day after 0830.

Table 3. Summary of Direct Observation Results by Time of Day (all days combined)

	Dolphins present (% time)		Swimmers present (% time)	
Time	Zone A	Zone B	Zone A	Zone B
0800	17%	50%	0%	33%
0830	17%	50%	17%	50%
0900	0%	50%	50%	50%
0930	50%	17%	67%	33%
1000	17%	0%	100%	0%
1030	33%	0%	100%	0%
1100	17%	0%	100%	0%
1130	29%	0%	100%	0%
1200	29%	0%	100%	0%
1230	14%	0%	86%	0%
1300	13%	13%	86%	0%
1330	13%	13%	88%	0%
1400	25%	0%	100%	0%
1430	25%	13%	88%	0%
1500	38%	13%	75%	0%
1530	38%	13%	75%	0%
1600	13%	0%	75%	0%

	No. Kayaks present		No. Boats present	
Time	Zone A	Zone B	Zone A	Zone B
0800	15	7	2	0
0830	22	14	1	0
0900	42	13	13	0
0930	60	8	20	0
1000	48	26	46	0
1030	30	1	56	0
1100	83	2	57	0
1130	76	2	57	0
1200	70	14	46	0
1230	63	19	30	1
1300	50	0	12	0
1330	27	2	32	0
1400	25	9	35	0
1430	36	0	30	0
1500	13	0	16	0
1530	19	1	13	0
1600	24	0	9	1

Kayaks tended to appear throughout the day in both Subzones A and B (Table 3), with greater numbers in late morning and early afternoon. For subzone B, numbers tended to drop off after 1230 hr. Boats tended to also occur throughout the day in Subzone A after 0930, but only occurred once in Subzone B. Based on the daily logs, the maximum number of boats and kayaks counted during any one observation period was 14 and 30 respectively, both in Subzone A.

Direct Participation

The authors booked an excursion with Dolphin Discoveries, a company advertising swim-with-dolphin experiences on the Kona coast (www.dolphindiscoveries.com). We traveled in a rigid hull inflatable boat (RHIB) that easily accommodated the captain plus six passengers (referred to in the industry as a "six-pack" tour). We left Keauhou Bay at approximately 8am and traveled north towards Kailua-Kona, entered the water about half a dozen times then went south to Kealakekua Bay to snorkel over coral in the vicinity of the Capt. Cook Monument (Note: there were no dolphins in the bay at that time). Each passenger was provided with a mask, snorkel and a pair of fins. A light lunch was also provided later in the day.

Prior to leaving Keauhou Bay, the boat captain gave us a safety briefing as well as instructions on how to behave around the dolphins; e.g., letting them approach us, rather than trying to approach them, swimming with a buddy at all times, never straying far from the boat, among other issues. Fairly soon after leaving the Bay we encountered a group of more than a dozen spinner dolphins, whereupon all six passengers entered into the water. The first encounter was our closest. There was a group of at least four dolphins within several meters of us when we entered the first time. On subsequent encounters they were either barely visible or not visible at all. It was clear that the dolphins had full control of each encounter. Sometimes swimming closer, but then easily outpacing the swimmers and swimming away at will. In all cases where we approached spinner dolphin schools they were outside of the bays. We never approached them in either of Keauhou or Kealakekua Bays (none were present).

There were approximately 4-6 other tour boats around us during all of our dolphin encounters. Most of them appeared to contain the same allotment of six passengers, though 1-2 were larger (20+ passengers). Each boat followed the same basic protocol of moving slightly in front of the school and discharging their swimmers, then picking them up and moving off.

Once in Kealakekua Bay, we stayed in subzone A (Figure 1) near the Captain Cook Monument at the northern end, and snorkeled the reef. No dolphins were in the bay. There were multiple snorkeling cruises going on in that area, including multiple kayaks, other RHIBs and larger catamarans (Figures 3-4). Some kayaks were hauled out on the landing just northeast of the monument (Figure 5). One large capacity vessel (100+ passengers), the Fair Wind II was moored nearby (Figure 6). No other boats appeared to be anchored or moored in the vicinity (i.e., vessels present were free-floating).



Figure 3. Catamarans and kayak near Capt Cook Monument



Figure 4. RHIB tour vessels and kayaks near Capt Cook Monument in Kealakekua Bay.



Figure 5. Kayaks hauled out at landing near Capt Cook Monument.



Figure 6. Fair Wind II moored in Kealakekua Bay near Capt Cook Monument.

Input from Dolphin Tour Operators and Staff

Input was received from four individuals affiliated with the dolphin tour industry in South Kona, including a boat captain (Dr. Patrick Bradley, captain aboard our Dolphin Discoveries tour boat), a boat captain/booking agent (Nadine Fischer of Hang Loose Tours), a co-owner of a tour company (Claudia Merrill of Dolphin Discoveries; see Appendix B), and a local business woman who helped to create the West Hawai`i Voluntary Standards as part of the CORAL project (Kara Osada-D'Avella of Kona CPR).

The picture that emerged from these discussions was of a conscientious industry very concerned with the welfare of the dolphins as well as that of their customers, and very intent on regulating itself. These voluntary self-regulations became codified in 2009 in the form of the West Hawai`i Voluntary Standards (WHVS) as an offshoot of the CORAL project (http://coral.org/west_hawaii_standards). The CORAL website lists 40 tour companies that have signed off as participants. The resulting West Hawaii Voluntary Standards for Marine Tourism cover four broad areas including: scuba and snorkeling, general boating, wildlife interactions and shoreline activities.

As noted on the CORAL website, "These regional standards are now improving and ensuring better environmental performance in SCUBA diving and snorkeling, general boating (including surfing and kayaking), wildlife interactions (including marine

mammals, invertebrates, manta rays, and sharks), and shoreline activities."

As concerns tour activities in Kealakekua Bay, the WHVS participating operators (e.g., Dolphin Discoveries) only enter the bay for coral reef snorkel tours, and do not discharge swimmers in the vicinity of dolphins. But as noted by Claudia Merrill of Dolphin Discoveries (Appendix B):

> "We have witnessed time and time again, new companies coming in to Kealakekua Bay and putting their people in the water with the dolphins, even though it clearly states on their use permit this is a violation. Photos have been taken and sent to DOCARE and /or state parks, but nothing is done and they continue to do it.
> We went through years of meetings with the community in both Kealakekua and Honaunau, and it was all working well for a long time, but now there are so many more boats that don't comply that we feel it is only a matter of time before it all heats up again."

Her comments underscore one of the more intractable issues for controlling dolphin swim activities in Hawaii, i.e., even when NOAA regulations exist and violations are reported to DOCARE (State of Hawai`i) and NMFS Enforcement (federal), these understaffed and underfunded government agencies are ill-prepared to respond consistently. As a result, the best prospects for success will arguably require a multi-pronged approach involving renewed self-regulation of the tour industry, education of visitors, and broader education efforts in the surrounding community.

Summary and Conclusions

In consideration of all the evidence presented here, the following major findings emerge:

- Kealakekua Bay is an important "resting bay" for the spinner dolphin population of South Kona;
- Dolphins are less likely to rest outside of the bays, thereby making the issue of disturbance inside the bay of greater concern;
- Dolphins in other regions have been shown to alter their distribution and/or vacate resting bays with increasing levels of tour boat density;
- The dolphin tour industry is a rapidly increasing presence in South Kona and drives much of the commercial presence in Kealakekua Bay, via commercial tour charters and kayak rentals;
- The presence of kayaks and swimmers in Kealakekua Bay correlates with dolphin presence, particularly in Subzone B;

- Tour boats are primarily using the bay for reef snorkel tours. Within the Bay, the vast majority of the dolphin swimmers are coming from kayaks or from the beach and interacting with dolphins in Subzone B only;
- The industry has been successful with voluntary self-regulation in the past, but the presence of new operators, kayak charters and private swimmers makes it difficult to impose uniform voluntary standards of behavior around dolphins;
- NOAA appears likely to impose new regulations for dolphin swim activities in the region in the coming months, but low levels of NOAA Enforcement presence makes enforcing any regulations difficult;
- In order for the dolphin tour industry to be sustainable, a combination of renewed voluntary self-regulation, coupled with public education about acceptable behavior around dolphins and the other resources of Kealakekua Bay is highly recommended.
- Public education should not be limited to the tour industry itself, but should be promulgated within the State Park, as well as in the local schools and via public service announcements if at all possible.

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Appendix A:
Summary of 1993 - 2003 Hawaiian Islands Aerial Survey Results

Species Name	No. pods	No. indiv.
Humpback whale (*Megaptera novaeangliae*)	2352	3907
Spinner dolphin (*Stenella longirostris*)	52	1825
Spotted dolphin (*Stenella attenuata*)	31	1021
Short-finned pilot whale (*Globicephala macrorhynchus*)	73	769
Melon-headed whale (*Peponocephala electra*)	6	770
Bottlenosed dolphin (*Tursiops truncatus*)	54	492
False killer whale (*Pseudorca crassidens*)	18	293
Sperm whale (*Physeter macrocephalus*)	23	106
Rough-toothed dolphin (*Steno bredanensis*)	8	90
Blainville's beaked whale (*Mesoplodon densirostris*)	9	32
Pygmy or dwarf sperm whale (*Kogia* spp.)	4	28
Striped dolphin (*Stenella coeruleoalba*)	1	20
Pygmy killer whale (*Feresa attenuata*)	2	16
Cuvier's beaked whale (*Ziphius cavirostris*)	7	13
Risso's dolphin (*Grampus griseus*)	1	8
Killer whale (*Orcinus orca*)	1	4
Fin whale (*Balaenoptera physalus*)	1	3
Unid. dolphin	96	452
Unid. Stenella spp.	11	196
Unid. whale	28	39
Unid. beaked whale	9	23
Unid. cetacean	14	27
Totals:	2801	10134

Summary of Effort:

Year	Effort (km)	Ave seas
1993	13,618	3.00
1995	17,091	2.83
1998	13,174	3.08
2000	11,007	3.43
2003	11,925	3.43

66,815 km

Appendix B: Data Sheet for Direct Observation

Date	Time	Observer	Location	Dolphins present?		Boats present?		Swimmers present?		Kayaks present?		Comments
				A	B	A	B	A	B	A	B	

Appendix C: E-mail message from Claudia Merrill of Dolphin Discoveries

July 21, 2015

Aloha Joe,

Kevin & I have been involved with Dolphin swim guidelines/ regulations for the past 17 years and we appreciate you contacting us for information to share. We've worked very hard with both NOAA and the community to come up with solutions to make this a sustainable industry. The outcome has mostly been self regulation of companies involved, which can make things difficult when other companies either don't know or care about "doing things respectfully, safely, and in a sustainable way".
The CORAL guidelines that both the community and commercial operators voted on over a period of 2 years were the best solution and worked quite well for awhile, then there were new companies coming in and thinking they new better and with no way to enforce the voluntary guidelines except by trying to set a good example, makes it difficult for those who would like to do things right.

I'll answer your questions below the best I can:

On Jul 19, 2015, at 5:58 PM, Joseph Mobley wrote:

Kevin:

Last month, my colleague (copied above) and I went out with Capt Patrick on one of your cruises. We did so to gather some background info concerning the swim-with-dolphin activities in S. Kona, as part of updating the Strategic Plan for the State Park at Kealakekua Bay (we had a very positive experience by the way ;).

Claudia: Happy to hear you enjoyed your day!

Patrick said you were "the guy" as far as historical info for that region. This is a non-regulatory mission (i.e., doesn't go to NOAA) and is simply fact-finding in nature. If you don't mind, we've got a couple of questions:

a) Patrick said that, inside the Bays, the boat operators generally practice a no-swim-with-dolphins policy after 10:30 am. Is that an accurate characterization? Is that widely practiced, or just by your folks?

Claudia: To clarify, we would never swim with dolphins in Kealakekua Bay or the Place of Refuge, we believe these are critical habitat areas and respectfully stay clear of the "dolphin rest zone" in both bays.
There are other areas that we do see and swim with the dolphins and yes, we do watch to see when they begin to settle in to their rest state, usually 10-10:30, and then we leave them to rest and go snorkel at a coral reef, quite often, Kealakekua Bay.

Claudia: There are still a few others that do this, but more and more people are staying with them right up until noon or longer and there are now a few new companies offering afternoon dolphin swims. It is our feeling these companies don't even know that the dolphins have a "rest" time and need to be left alone for a good portion of the day.

b) another captain we talked to said that there's wide seasonal variabion with dolphins resting in the Bay, i.e., during winter months he said there's *way* more dolphin activity than in the summer months. Does that ring true with you as well?

Claudia: No , it does not. Again, we've been running dolphin watching and/or dolphin swim tours here since the early 1990's and it is our observation that the dolphins come in to rest from their feeding grounds early in the morning. This does vary as to where they come close to shore, but I would not say any more or less in the summer or winter or spring or fall.

Anything else that you might think would be useful to us would be appreciated.

Claudia: I would highly recommend getting in touch with Kara Osada from Kona CPR. She was the one who worked so hard to come up with the CORAL guidelines for all ocean activities.

We would recommend that before a company were allowed a "permit" to conduct this type of tour, they would have to sign an agreement to comply with voluntary regulations to keep the industry respectful and sustainable. Then, there should be some type of system that if they do not comply, after a warning or two, they should loose their permit, period.

We have witnessed time and time again, new companies coming in to Kealakekua Bay and putting their people in the water with the dolphins, even though it clearly states on their use permit this is a violation. Photos have been taken and sent to DOCARE and /or state parks, but nothing is done and they continue to do it.
We went through years of meetings with the community in both Kealakekua and Honaunau, and it was all working well for a long time, but now there are so many more boats that don't comply that we feel it is only a matter of time before it all heats up again.

Also, very frustrating for our captains and crew to tell our guests we are "not allowed" to do what others are clearly doing right in front of them.
Hopefully a permit system or something can be done soon, as there are so many new operations popping up everyday that it only gets harder to get control again.

Mahalo nui for considering our input, please let us know if you have any other questions or if we can help in any way.

Aloha,
Claudia & Kevin
Dolphin Discoveries

Appendix E

Transportation Impact Analysis Report

DRAFT REPORT

Transportation Impact Analysis Report for the Kealakekua Bay State Historical Park Master Plan South Kona, Hawai`i County, HI

Prepared for:
Belt Collins Hawaii LLC

June 28, 2017

SD15-0175

FEHR PEERS

Table of Contents

1.0 EXECUTIVE SUMMARY 4

2.0 INTRODUCTION 6

2.1 Project Description 6
2.2 Project Study Area 7
2.3 Study Scenarios 7
2.4 Traffic Analysis Methods 11
2.4.1 Signalized Intersections 11
2.4.2 Unsignalized Intersections 11
2.4.3 Significant Impact Criteria 13
2.5 Report Organization 14

3.0 EXISTING CONDITIONS 15

3.1 Existing Transportation Facilities 15
3.1.1 Existing Roadway System 15
3.1.2 Existing Non-Automobile Mode Facilities and Services 16
3.2 Existing Intersection Volumes/Lane Configurations 16
3.3 Existing Roadway Segment Volumes 17
3.3.1 Nāpōʻopoʻo Road 19
3.3.2 Māmalahoa Highway 19
3.4 Existing Intersection Levels of Service 20
3.5 Field Observations 20
3.6 Visitor and Local Traffic 21
3.7 Other Potential Issues 22
3.7.1 Upper Nāpōʻopoʻo Road Parking 22
3.7.2 Pu`uhonua Road Capacity 22

4.0 FUTURE (2037) BASELINE CONDITIONS 23

4.1 Future (2037) Traffic Estimates 23
4.1.1 Future Transportation Improvements 23
4.1.2 Ambient Traffic Growth 23
4.2 Future (2037) Baseline Levels of Service 25

5.0 PROJECT TRAFFIC ESTIMATES 26

5.1 Project Trip Generation Estimates 26
5.2 Project Trip Distribution and Assignment 27

6.0 FUTURE (2037) PLUS PROJECT CONDITIONS 29

6.1 Proposed Roadway Modifications 29
6.2 Future (2037) Plus Project Intersection Level of Service 29
6.3 Potential Intersection/Roadway Impacts 31

7.0 SITE ACCESS AND CIRCULATION 33

7.1 Site Access 33
7.2 On-Site and Off-Site Circulation 33

Appendices

Appendix A: Traffic Count Data
Appendix B: LOS Calculation Worksheets Appendix
C: Visitor and Local Resident Traffic Counts

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

List of Figures

Figure 1 Project Study Area and Intersections 8
Figure 2 Proposed Site Plan: Nāpō'opo'o Area 9
Figure 3 Peak Hour Volumes and Lane Configurations: Existing Conditions 18
Figure 4 Peak Hour Volumes and Lane Configurations – Future (2037) Baseline Conditions 24
Figure 5 Peak Hour Volumes and Lane Configurations – Future (2037) Plus Project Conditions 30

List of Tables

Table 1: Signalized Intersection LOS Definitions 12
Table 2: Unsignalized Intersection Level of Service Definitions 12
Table 3: Existing Conditions – Intersection Operations 20
Table 4: Future (2037) Baseline Conditions – Intersection OPerations 25
Table 5: Estimated Project Trip Generation 27
Table 6: Future (2037) Baseline Plus Project Conditions – Intersection OPerations 31

1.0 EXECUTIVE SUMMARY

This report documents the results of the transportation impact analysis for the proposed Master Plan for the Kealakekua Bay State Historical Park (KBSHP) located in the South Kona district of the island of Hawai`i. The proposed Master Plan includes the enhancement of facilities at KBSHP to improve access, recreation, and services for park users. Increased responsibilities for management, interpretation, enforcement and maintenance are proposed. Through this project, the Division of State Parks (part of the State Department of Land and Natural Resources) hopes to improve both historical interpretation and recreation, increase safety for persons launching kayaks and similar vessels in the Nāpō'opo'o area, and reduce traffic congestion within Nāpō'opo'o village. Implementation of Park features and enhancements will occur contingent upon available funding, and for purposes of this study, are expected to occur incrementally over an extended period of time.

Primary vehicle access to the project site will be moved from the Nāpō'opo'o Road/Pu`uhonua Road-Beach Road intersection to a new site driveway on Nāpō'opo'o Road located approximately 400 feet east of the intersection. A formal parking lot including approximately 50 parking spaces will serve Park patrons including those who will rent watercraft (kayaks, stand-up paddle boards, etc) from a concessionaire on Nāpō'opo'o Landing. Existing trail access to the Ka`awaloa area of the Park will continue as is with no proposed changes.

The impacts of the proposed project to the surrounding transportation system were evaluated following guidelines established by the State of Hawaii Department of Transportation – Highways Division (HDOT) and the County of Hawai`i Public Works Department – Traffic Division. The operations of two intersections were evaluated during the weekday afternoon (PM) and Saturday midday (SAT) peak hours for Existing and Future (Year 2037) conditions without and with the project.

Project-generated trips were estimated based on existing traffic volumes on roadways serving the Park and anticipated increases in patronage using standard visitor and resident population forecasts. The proposed project is estimated to generate a total of 240 net new daily vehicle trips and 36 net new peak hour trips (18 inbound and 18 outbound) on a Saturday with slightly lower volumes estimated for a weekday PM peak hour. In addition, some trips would shift from the Nāpō'opo'o Road/Pu`uhonua Road-Beach Road intersection to the new site driveway, although some of these would be replaced with new patron trips to the enhanced landing area to load/unload personal watercraft. Overall, demand at this location would decrease with implementation of the project, and the trip estimates were made using the most conservative assumptions (i.e., resulting in the highest potential traffic volumes).

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

The addition of project trips is not expected to significantly impact either the Māmalahoa Highway/Nāpō'opo'o Road or Nāpō'opo'o Road/Pu`uhonua Road-Beach Road intersections, and the proposed new site driveway intersection is expected to operate acceptably with the project in place. The exact location of the new site driveway should be established based on available sight distance of approaching traffic and other safety considerations. Appropriate wayfinding and warning signs should be installed to further enhance driver expectations and safety.

The proposed project is also not expected to substantially increase the walking or biking demand to a level where it could not be accommodated by existing or planned facilities. However, several multimodal improvements are recommended to enhance facilities, safety, and convenience for all users and employees:

- Per the project description, an ADA-compliant path should be provided along Nāpō'opo'o Road to better connect the new parking area to Nāpō'opo'o Landing. Should this path be deemed infeasible (e.g., limited right-of-way or physical constraint), a direct path within the Park property should be provided and signed accordingly.
- Design of the parking lot should incorporate features to: minimize the potential for vehicles to queue back onto Nāpō'opo'o Road, avoid dead-end parking aisles, and provide for delineated walking paths to minimize conflicts with circulating vehicles.
- At the completion of Ka`awaloa area improvements within the Park, monitor parking demand at the trailhead on upper Nāpō'opo'o Road at the entrance to the Captain Cook Monument Trail. If additional parking demand is identified, work with the County and landowners to install additional roadside parking spaces contingent upon a feasibility and safety evaluation.
- Install a bicycle rack with space for four (4) bicycles to be securely locked to serve local visitors and or employees.
- Park information regarding visitor access should encourage carpooling to the site (to minimize overall parking and traffic demand) and the use of non-automobile modes to access the site primarily for Nāpō'opo'o village residents (since the site's remote location makes walking and biking the site infeasible for most other visitors).

2.0 INTRODUCTION

This transportation impact analysis report (TIAR) presents the results of the study conducted by Fehr & Peers for the proposed Kealakekua Bay State Historical Park (KBSHP) Master Plan on the island of Hawai`i. The KBSHP is located in the community of Nāpō'opo'o village in the South Kona District, and the park land generally encircles Kealakekua Bay with its southern boundary formed by bounded by Lower Nāpō'opo'o Road and several single family residences. This TIAR includes a description of the assumptions and methods used to conduct the study, as well as a discussion of the results. This TIAR was prepared in accordance with the guidelines and standards of the affected government agencies, and it addresses the potential impact of the project on all travel modes.

2.1 PROJECT DESCRIPTION

The purpose of the proposed Master Plan is to protect resources while improving visitors' experience of the Park. The proposed project (for purposes of the TIAR) is the enhancement of facilities at KBSHP to improve access, recreation, and services for park users. Increased responsibilities for management, interpretation, enforcement and maintenance are proposed. By developing new sanitation facilities and parking areas, and by re-opening the Nāpōʻopoʻo Landing, the Division of State Parks (part of the State Department of Land and Natural Resources) hopes to improve both historical interpretation and recreation, increase safety for persons launching kayaks and similar vessels in the Nāpōʻopoʻo area, and reduce traffic congestion within Nāpōʻopoʻo village. Improvements are proposed throughout the Park in several areas including: Ka`awaloa, Kealakekua Bay itself, the Pali area (between Kaʻawaloa and Nāpōʻopoʻo), Nāpōʻopoʻo Landing, and Nāpōʻopoʻo Park, and the Mālama: Management Area.

While the project various improvements in multiple areas, the specific modifications that are expected to affect traffic, parking and circulation include:

a. A new parking lot with approximately 50 spaces on Parcel 1 (Gaspar Mill parcel) with and entrance roughly 400 feet mauka of Pu`uhonua Road-Beach Road. (No bus parking will be provided except school bus by reservation).
b. An accessible path from parking lot to Hikiau Heiau.
c. Park entry and sign will be moved to Parcel 1.
d. Working with County to convert Beach Road to pedestrian zone and emergency/local/service traffic only.
e. Installing a gate or other means to control vehicle entry on Beach Road.
f. Reduce/realign parking away from Hikiau Heiau.

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

g. Reduce parking on Beach Road. Provide 2-3 accessible stalls and Special Event (permitted) parking only near grass courts/pavilion (Vehicle parking moved to Parcel 1).

These improvements are expected to be implemented over time as funding becomes available. For purposes of the TIAR, a buildout year of 2037 or 20 years from the date of this evaluation was assumed.

The location of the project site and immediate study area is shown on **Figure 1**, and the proposed site plan showing the new parking location, building locations, and overall site layout for the Nāpōʻopoʻo area of the Park is illustrated on **Figure 2**.

2.2 PROJECT STUDY AREA

Regional access to the proposed project is provided via Māmalahoa Highway, and local access will provided via Nāpōʻopoʻo Road. The transportation analysis evaluated the operations at the two intersections in the vicinity of the proposed project that are listed below and shown on **Figure 1**.

1. Māmalahoa Highway / Nāpōʻopoʻo Road
2. Nāpōʻopoʻo Road / Pu`uhonua Road-Beach Road

Because parks tend to generate their highest demand in the afternoons on weekdays and during the midday on weekends, the study analyzed the potential project-related traffic impacts during typical weekday PM and Saturday midday peak hour time periods under existing conditions and at full build-out of the project. The peak hour is the highest one-hour total of traffic between 3:00 pm and 6:00pm in the late afternoon/early evening on a weekday, and between 10:00 am and 1:00pm in the midday on a Saturday. As is the case with most parks, a study of AM peak period conditions was not conducted because the number of project-generated vehicle trips was expected to be substantially lower compared to other times of day.

2.3 STUDY SCENARIOS

The operations of the study intersections were evaluated during the weekday midday and PM peak hours, and midday Saturday peak hour for the following scenarios:

- **Existing Conditions** – The analysis of existing traffic conditions was based on 2016 counts collected for the analyzed peak hours. The existing conditions analysis also includes a description of key area roadways and an assessment of the transit facilities and services near the site.



Figure 1

Project Study Area and Intersections



Figure 2

Proposed Site Plan: Nāpōʻopoʻo Area

- **Future (2037) Baseline Conditions** – Existing peak-hour volumes increased to account for background growth in traffic in the area to the year of anticipated project buildout in 2037. Traffic growth was estimated based on an annual growth factor to account for ambient growth *plus* traffic generated from approved but not yet constructed and pending developments in the greater study area (i.e., these projects would primarily be located along Māmalahoa Highway and beyond). This scenario forms the baseline for identifying project impacts.
- **Future (2037) Plus Project Conditions** – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under Future Baseline Conditions with the addition of project-generated traffic. The impacts of the proposed project on future traffic conditions were identified.

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

2.4 TRAFFIC ANALYSIS METHODS

The analysis of roadway operations performed for this study is based on procedures presented in the *Highway Capacity Manual* (HCM), published by the Transportation Research Board in 2010. The operations of roadway facilities are described with the term level of service (LOS). LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, with the least congested operating conditions, to LOS F, with the most congested operating conditions. LOS E represents "at-capacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions. The methodologies for signalized and unsignalized intersections are described below.

2.4.1 SIGNALIZED INTERSECTIONS

The method described in Chapter 18 of the *Highway Capacity Manual 2010* was used to prepare the LOS calculations for the signalized study intersection of Māmalahoa Highway and Nāpōʻopoʻo Road. This LOS method analyzes a signalized intersection's operation based on average control delay per vehicle. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using Synchro 9.0 analysis software and is correlated to a LOS designation as shown in **Table 1**.

2.4.2 UNSIGNALIZED INTERSECTIONS

The operations of the unsignalized intersection of Nāpōʻopoʻo Road at Puʻuhonua Road-Beach Road were evaluated using the method contained in Chapter 19: Two-Way Stop-Controlled Intersections of the *HCM 2010*. LOS ratings for stop-sign-controlled intersections are based on the average control delay expressed in seconds per vehicle. At two-way or side-street-controlled (TWSC) intersections like this one, the average control delay is calculated for each minor-street stopped movement and the major-street left turns, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. For approaches with multiple lanes, the control delay is computed for each movement; the movement with the worst (i.e., longest) delay is presented for TWSC. The average control delay for unsignalized intersections is calculated using Synchro 9.0 analysis software and is correlated to a LOS designation as shown in **Table 2**.

TABLE 1: SIGNALIZED INTERSECTION LOS DEFINITIONS

Level of Service	Description	Delay in Seconds
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	≤ 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2010.

TABLE 2: UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay.	≤ 10.0
B	Short traffic delay.	> 10.0 to 15.0
C	Average traffic delays.	> 15.0 to 25.0
D	Long traffic delays.	> 25.0 to 35.0
E	Very long traffic delays.	> 35.0 to 50.0
F	Extreme traffic delays with capacity exceeded.	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2010.

Notes: [1] For approach-based and intersection-wide assessments, such as that used for AWSC intersections, LOS is defined solely by control delay.

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

2.4.3 SIGNIFICANT IMPACT CRITERIA

The analysis of Future Conditions compares future baseline operations with conditions when the project is fully built out to determine whether or not project implementation is expected to result in a significant impact on the surrounding roadways. Based on previous studies conducted for the County of Hawaii Public Works Department, as well as for the State of Hawaii Department of Transportation – Highways Division (HDOT), the minimum desired operating standard for a signalized intersection is typically LOS D. Both agencies usually define a significant intersection impact when the operation of an intersection changes from LOS D or better to LOS E or F. Impacts are also defined to occur when the addition of project traffic exacerbates locations already operating or projected to operate at LOS E or F. In some cases, this change in LOS is applied at the individual turning movement level, but this approach is much more conservative. When evaluating intersection operations at any location, other factors are considered in the analysis, such as traffic volumes, volume-to-capacity (V/C) ratios (should ideally be less than 1.00), and potential secondary impacts to pedestrian, bicycle, and transit travel.

Each significant impact is categorized as either a project-related or cumulative impact. If the addition of project traffic is expected to degrade LOS D or better operations to LOS E or F at a signalized intersection, then the project is considered to have a project-specific impact. An impact is considered a cumulative impact at a signalized intersection if the addition of project trips exacerbates LOS E or F operations.

For unsignalized intersections, the project is determined to have a significant project-specific impact if the addition of project traffic causes: 1) an unsignalized intersection to degrade from LOS D or better to LOS E or F, and 2) the peak hour signal warrant is satisfied. An impact is considered a cumulative impact when it adds traffic to a study location that: 1) includes a controlled approach that operates at an undesired level (i.e., LOS E or F), and 2) satisfies the peak hour signal warrant criteria. The use of the peak hour signal warrant is one indication that an alternate traffic control device may be needed at a study location.

The County of Hawaii does not publish impact criteria for pedestrian, bicycle, and transit impacts. However, these impacts are generally evaluated based on whether a proposed project would: 1) conflict with existing or planned pedestrian, bicycle, or transit facilities and services, or 2) create substantial walking, bicycling, or transit use demand without providing adequate and appropriate facilities for non-motorized mobility. The existing amenities for pedestrians, bicycles, and transit users were inventoried to evaluate the quality and scope of facilities/services currently in place. The assessments of planned facilities were conducted using information in planning documents, such as the *Bike Plan Hawaii (2012)* and the *Kona Community Development Plan (2008)*. These documents were used to establish consistency with future policies and evaluate future conditions for non-automobile modes. For these modes, if the proposed project is expected

to conflict with existing or planned improvements to pedestrian and bicycle facilities, then the project would be determined to have a project-specific impact.

2.5 REPORT ORGANIZATION

This report is divided into seven (7) chapters. The existing transportation system serving the project site and the current operating conditions of the key intersections are described in **Chapter 3** Existing Conditions. **Chapter 4** summarizes the methodologies used to forecast future cumulative project traffic volumes and the resultant forecasts, and presents the analysis for Future (2037) Baseline Conditions without the project. **Chapter 5** describes the project trip generation, distribution, and assignment used in the impact analysis. **Chapter 6** presents the analysis of the Future (2037) Plus Project Conditions, assesses any traffic impacts at study intersections, and discusses the need for mitigation measures. Finally, **Chapter 7** assesses the project's site access and on-site circulation, as well as other off-site circulation issues.

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

3.0 EXISTING CONDITIONS

This chapter describes the existing roadway network and includes a discussion of the bicycle, pedestrian, and transit facilities located in the project study area. This chapter also includes a discussion of the existing intersection LOS results.

3.1 EXISTING TRANSPORTATION FACILITIES

A comprehensive data collection effort was undertaken to identify existing transportation conditions in the vicinity of the proposed project. The assessment of existing conditions relevant to this study includes an inventory of the street system, traffic volumes on these facilities, and operating conditions at key intersections. Existing public transit service and bicycle and pedestrian facilities are also described.

3.1.1 EXISTING ROADWAY SYSTEM

The key roadways providing access to or in the vicinity of the site are described below. **Figure 1** illustrates the proposed project location and the surrounding roadway system.

Māmalahoa Highway (Highway 11) is a two-lane primary arterial that connects Kealakekua, Captain Cook, and other towns of South Kona to areas in North Kona such as West Hawai'i's primary urban center, Kailua-Kona. Vehicle traffic is directional, with higher volumes in the northbound direction during the morning commute period and higher southbound volumes in the afternoon commute period. North of its intersection with Nāpō'opo'o Road, Māmalahoa Highway is a county roadway and south of the Nāpō'opo'o Road it is considered a state facility. The posted speed limit is 30 miles per hour (mph) near the project site.

***Ali`i Highway*** is a two-lane arterial roadway that connects the community of Keauhou with Captain Cook and links Ali`i Drive to Māmalahoa Highway. This roadway provides an alternative connection to accessing central Kona destinations and includes a signalized intersection with Māmalahoa Highway and Nāpō'opo'o Road. The posted speed limit is 25 mph.

Nāpō'opo'o Road is a roadway that connects Kealakekua Bay to Māmalahoa Highway. The facility is a two-lane, narrow, and winding collector road with a posted speed limit of 25 mph and portions of advisory speed limits of 20 mph. Nāpō'opo'o Road is part of State Highway 160. Near KBSHP, traffic on Nāpō'opo'o Road is not directional with fairly even volumes in the mauka-makai directions throughout the day.

Pu'uhonua Road-Beach Road is part of State Highway 160 that connects KBSHP with Pu'uhonua o Hōnaunau National Historic Park. Near the project site Pu'uhonua Road is a narrow (12- to 15-foot) two-

lane roadway with a posted speed limit of 10 mph. Due to the narrow roadway width there are "One Lane Road' signs posted to alert drivers that the roadway does not accommodate two-way travel and would require drivers to share the road with on-coming traffic. North of Nāpōʻopoʻo Road, this roadway is termed Beach Road and serves as the current primary access to the park and provides access to several single-family residences.

3.1.2 EXISTING NON-AUTOMOBILE MODE FACILITIES AND SERVICES

Along Nāpōʻopoʻo Road and Puʻuhonua Road, no sidewalks are provided and only narrow unpaved shoulders are provided that vary in width from a few inches in some places to less than three (3) feet. Additionally, there is no formal pedestrian access path on Beach Road leading from the Nāpōʻopoʻo Landing to the entrance of the Nāpōʻopoʻo section of the Kealakekua Bay State Historic Park. Thus with the overall limited pedestrian amenities around the Nāpōʻopoʻo Road/Puʻuhonua Road intersection, pedestrians were observed walking in the middle of these streets.

The vast majority of Park patrons that access the site using a vehicle do so by driving down Nāpōʻopoʻo Road to the Puʻuhonua Road-Beach Road intersection. However, some patrons park their vehicles on the shoulder of Nāpōʻopoʻo o Road near the entrance to the Captain Cook Monument Trail (also known as Kaʻawaloa Road) located roughly 500 feet south of Māmalahoa Highway. This trail provides access to the Kaʻawaloa area of the Park, which includes the Captain Cook Monument and Wharf, as well as the northern section of Kealakekua Bay itself.

Similarly, there are no separate bicycle facilities leading to the Park and along Māmalahoa Highway; however, according to *Bike Plan Hawai'i* and the *Kona Community Development Plan (CDP)* the State and County have proposed various segments or shoulders of Māmalahoa Highway and Nāpōʻopoʻo Road as shoulder bikeway facilities. In many cases on Nāpōʻopoʻo Road, the available shoulders do not currently meet the desired 4-foot minimum width. Puʻuhonua Road is designated as a shared road bicycle facility in the Kona CDP and generally functions as a rural road subcategory under the "Shared Road" designation. Additionally, there are no public bus routes or stops along Nāpōʻopoʻo Road, Puʻuhonua Road, and within the vicinity of Kealakekua Bay State Historical Park.

3.2 EXISTING INTERSECTION VOLUMES/LANE CONFIGURATIONS

Weekday and Saturday turning movement volume counts were originally collected for the two study intersections in mid-June 2015 before the opening of Aliʻi Highway (i.e., the Māmalahoa Highway Bypass). Since that time, the bypass was completed and opened in November 2016, and the intersection of

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

Māmalahoa Highway and Nāpōʻopoʻo Road was reconfigured to accommodate Aliʻi Highway as the west leg of the intersection. As a result, Māmalahoa Highway now forms the north and east legs of this intersection, which is now signalized.

To account for this new configuration, new weekday PM peak period counts were conducted in May 2017 at the Māmalahoa Highway/Nāpōʻopoʻo Road-Aliʻi Highway intersection to determine if overall traffic volumes at this location had changed with the new connection. A comparison of the volumes shows that the 2017 "through" traffic volumes on Māmalahoa Highway (combined with most movements on Aliʻi Highway) are nearly identical to the previous 2015 volumes on the highway. The only "new" traffic volumes at this location are those vehicles making the eastbound left-turn and southbound right-turn movements between Māmalahoa Highway and Aliʻi Highway, and these volumes are relatively low (i.e., less than 35 vehicles in the peak hours). It should also be noted that volumes on Nāpōʻopoʻo Road increased slightly from 2015 to 2017. To provide a consistent analysis, the 2015 Saturday peak hour volumes were adjusted to reflect the new lane configurations and highway connection. The existing traffic counts conducted in 2015 and 2017 are included in **Appendix A**.

Existing lane configurations and signal controls were obtained through field observations at both intersections. **Figure 3** presents the existing PM and Saturday midday (SAT) peak-hour turning movement volumes, corresponding lane configurations, and traffic control devices.

3.3 EXISTING ROADWAY SEGMENT VOLUMES

In addition to intersection turning movement volumes, roadway segment volumes were obtained for segments of Nāpōʻopoʻo Road and Māmalahoa Highway. These volumes help to provide additional transportation context including estimates of growth in future background traffic. Data for each facility is presented below.



Figure 3
Peak Hour Traffic Volumes and Lane Configurations
Existing Conditions

3.3.1 NĀPŌʻOPOʻO ROAD

The average daily traffic volume on Nāpōʻopoʻo Road just east of Puʻuhonua Road has generally ranged between 1,000 and 2,000 vehicles per day (vpd) between the 1980's to today. More recent counts available from the HDOT traffic volume database and a count conducted for this project show that the volume between 2010 and 2015 has ranged from 1,238 vpd to 1,613 vpd, and day to day variation can be as much as 200 vehicles within this range. In addition, the volumes do not show a consistent growth pattern, where volumes were slightly lower in some consecutive years and slightly higher in others. Given the design and local character of this generally residential roadway, a volume of under 2,000 vpd is considered reasonable from an access and livability perspective.

3.3.2 MĀMALAHOA HIGHWAY

Given the regional function of this roadway and the limited number of adjacent parallel facilities, volumes on Māmalahoa Highway are expected to be substantial. For the highway north of Nāpōʻopoʻo Road, the ADT volume has typically ranged from 15,500 to 16,500 between 2010 and 2015 with the exception of 2014, which saw a higher volume of approximately 18,800 vpd. It is not clear why the volume was substantially higher during March of 2014, but that data appears to be an anomaly, since the Year 2015 volume was 16,500 vpd. Year 2015 is the latest time period for which HODT data is available, and as noted previously, Aliʻi Highway opened to traffic in November 2016, and volumes on Māmalahoa Highway are expected to be lower given this relatively new alternative route to and through the South Kona area.

Raw traffic count data sheets are provided in **Appendix A**.

3.4 EXISTING INTERSECTION LEVELS OF SERVICE

The existing lane configurations, traffic control devices, and traffic volumes were used to calculate the LOS at each of the study intersections, and the results of this analysis are shown in **Table X**. The corresponding LOS calculation sheets are provided in **Appendix B**.

TABLE 3: EXISTING CONDITIONS – INTERSECTION OPERATIONS

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2,3]
1. Nāpōʻopoʻo Rd/Puʻuhonua Rd-Beach Road	Side Street Stop Control	PM	9.3	A
		SAT	9.4	A
2. Māmalahoa Hwy/Nāpōʻopoʻo Rd-Aliʻi Hwy	Signal	PM	15.8	B
		SAT	16.4	B

Source: Fehr & Peers, 2017.

Notes:
** Indicated oversaturated conditions. Delay cannot be calculated.
PM = Weekday PM peak hour SAT = Saturday Midday peak hour SSSC = Side street stop-controlled intersection
[1] The vehicular delay for the worst movement is reported for side street stop-controlled intersections.
[2] Level of Service (LOS) calculations performed using the *2010 Highway Capacity Manual (HCM)* method.

The results of this analysis show that both study intersections currently operate with limited delay and well within the desired operating level of LOS D during the peak hours. No intersection operational issues were identified under Existing Conditions.

3.5 FIELD OBSERVATIONS

Field observations were conducted to identify existing traffic operation deficiencies and to confirm the accuracy of the calculated level of service. The purpose of this effort was to: 1) identify existing traffic problems that may not be directly related to LOS and 2) identify any locations where the LOS calculation does not accurately reflect operations in the field.

Traffic operations along Nāpōʻopoʻo Road and Puʻuhonua Road/Beach Road and in the vicinity of the intersection of these two roadways were observed to function well during the weekday and Saturday peak periods with the exception of infrequent incidents when vehicles along Puʻuhonua Road/Beach Road

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

needed to share the road with on-coming vehicles due to the narrow roadway width. In these cases, individual vehicles were only temporarily delayed as they waited to pass one another in opposing directions. Overall, no major delays or queues were observed at the Puʻuhonua Road /Nāpōʻopoʻo Road intersection and along these respective roadways, which is consistent with the intersection LOS of A calculated for the PM and SAT peak hours.

At the Māmalahoa Highway/Nāpōʻopoʻo Road-Aliʻi Highway intersection, traffic typically does not experience excessive delays at the existing traffic signal during both study time periods. The longest delays are generally experienced by vehicles on the northbound Nāpōʻopoʻo Road approach, which is a function of the split phasing opposite Māmalahoa Highway (i.e., the southbound approach). Since the highways receive the majority of the green time during each signal cycle, this finding is not unexpected. The calculated overall LOS B during the peak hours is representative of conditions observed in the field at this location.

3.6 VISITOR AND LOCAL TRAFFIC

To estimate the existing peak midweek and weekend visitor activity at the Kealakekua Bay State Historic Park, the traffic counts collected at the Nāpōʻopoʻo Road/Puʻuhonua Road-Beach Road intersection were distinguished between visitor/tourist traffic and local/resident traffic. The visitor versus local counts collected in mid-June 2015 at this location covered a 1.5-hour period during the weekday PM peak period (3:45 PM to 5:15 PM) and the Saturday midday (SAT) peak period (11:00 AM to 12:30 PM). Visitor traffic was distinguished from local/resident traffic through the type of vehicles that traveled through this intersection. Visitors typically rent cars when traveling on the Big Island and rental cars were identified through the scanner sticker located on either the passenger window or front window of the vehicle. It is important to note that traffic using Beach Road is comprised of Park patrons (visitor and local) plus any residents or guests of the homes located on this street between Nāpōʻopoʻo Road and the Park entrance. Thus, the proportions calculated here also include residential traffic.

Based on the data collected over the 1.5-hour duration, 52% and 62% of the people turning into and out of Beach Road were identified as visitors during the weekday PM and Saturday (SAT) peak timeframe, respectively. Overall, the midweek and weekend visitor versus local/resident sample collected illustrates that a little more than half of the drivers traversing through the Nāpōʻopoʻo section of Kealakekua Bay State Historic Park are tourists. Previous conceptual planning studies in 1995 had identified a higher proportion of residents, closer to 60% or 65%.

The visitor and local traffic counts at this location are included in **Appendix C** to this report.

3.7 OTHER POTENTIAL ISSUES

3.7.1 UPPER NĀPŌʻOPOʻO ROAD PARKING

As noted in Section 3.1.2, some users of the Captain Cook Monument Trail (aka Ka`awaloa Road) park their vehicles on the shoulder of Nāpōʻopoʻo Road. Specific counts of parked vehicles at this location were not conducted but anecdotal evidence and Google Street View images confirm this activity. In general, vehicles are parked on the shoulder and off the roadway in the vicinity of the trailhead, and in some instances, blocking adjacent residential driveways. Unfortunately, the available shoulder area in this area is limited, and one of two possible outcomes results if all of these areas are occupied when another vehicle arrives: 1) a driver may park their vehicle in such a way that encroaches into an adjacent travel lane, or 2) a driver may park further away from the trailhead and then the driver and passengers may walk along the roadway to get to the trail. See Section 7.2 for a discussion of potential measures to address this issue.

3.7.2 PU`UHONUA ROAD CAPACITY

Pu`uhonua Road serves two primary purposes in the vicinity of the project site: 1) it provides access to Nāpōʻopoʻo local residents, and 2) it links the village to Pu`uhonua o Honaunau National Historical Park to the south via Ke Ala o Keawe Road. While this facility is designed as more a of a standard two-lane roadway from the Pu`uhonua o Honaunau NHP entrance to its southern connection to Māmalahoa Highway, the section narrows to a single travel lane roughly 2,000 feet north of the NHP entrance. The lane is 14 feet wide at its narrowest point and requires vehicles in opposing directions to pass each other slowly until the road widens again to two travel lanes approximately 3.200 feet south of Nāpōʻopoʻo Road. Current patrons of both the SHP and NHP use Pu`uhonua Road to travel between these attractions because it is the most direct travel path, and village residents traveling to and from the south will use this road to get to Māmalahoa Highway. While traffic volumes are generally low on this roadway, any increase in traffic is generally discouraged to minimize conflicts in opposing traffic at its narrowest width.

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

4.0 FUTURE (2037) BASELINE CONDITIONS

To evaluate the potential impacts of traffic generated by the proposed project on the surrounding street system, it was necessary to first develop estimates of future traffic conditions in the area without the project. Future traffic conditions without the project reflect traffic increases due to regional growth and development, as well as traffic increases generated by other specific developments near the project site. This scenarios referred to as baseline or "no project" conditions. The forecasted future traffic volumes were then used as a baseline to identify impacts on the roadway system from the project. Development of this future traffic scenario is described in this chapter.

4.1 FUTURE (2037) TRAFFIC ESTIMATES

The following section summarizes the growth assumptions used to estimate the amount of traffic that would be added to existing intersection volumes to develop volume estimates for Future (2037) Conditions.

4.1.1 FUTURE TRANSPORTATION IMPROVEMENTS

No transportation infrastructure improvements are planned in the immediate study area. Therefore, the intersection lane configurations and traffic control devices are expected to remain the same as under Existing Conditions.

4.1.2 AMBIENT TRAFFIC GROWTH

A growth factor was individually applied to the traffic at each intersection to account for future regional growth. As noted under existing conditions, a review of historic traffic volume data on both Māmalahoa Highway and Nāpōʻopoʻo Road was conducted. The results of this review showed that the percent change in volume between 2006 and 2015 ranges from -1.8% to 1.0% per year. Even when available data from as far back as 1996 is included, the growth patterns are generally consistent. To be conservative, a growth factor of one percent (1%) per year was applied to the existing turning movement volumes to reflect ambient growth in the area. This growth rate was compounded over the 20-year timeframe (2017 to 2037) when full development of the proposed project is anticipated.

It should be noted that other than the proposed project, no substantial development is anticipated in the Nāpōʻopoʻo Road village area that would increase traffic on this roadway. That said, the 1% annual growth factor was applied to provide the most conservative analysis of traffic operations. **Figure 4** shows the peak hour traffic volumes for the Future (2037) Baseline Conditions.



Figure 4
Peak Hour Traffic Volumes and Lane Configurations
Future (2037) Baseline Conditions

4.2 FUTURE (2037) BASELINE LEVELS OF SERVICE

LOS calculations were conducted to evaluate the operating levels of the study intersections under Future (2037) Baseline Conditions based on the anticipated growth in traffic. The results of the LOS analysis for 2037 conditions without the proposed project are presented in **Table 4.** The corresponding LOS calculation sheets are included in **Appendix B.**

TABLE 4: FUTURE (2037) BASELINE CONDITIONS – INTERSECTION OPERATIONS

Intersection	Traffic Control	Peak Hour	Delay (sec/veh)[1]	LOS[2]
1. Nāpōʻopoʻo Rd/Puʻuhonua Rd-Beach Road	Side Street Stop Control	PM	9.5	A
		SAT	9.6	A
2. Māmalahoa Hwy/Nāpōʻopoʻo Rd-Alīʻi Hwy	Signal	PM	18.0	B
		SAT	19.0	B

Source: Fehr & Peers, 2017.

Notes:
** Indicated oversaturated conditions. Delay cannot be calculated.
PM = Weekday PM peak hour SAT = Weekend Midday peak hour
[1] The vehicular delay for the worst movement is reported for side street stop-controlled intersections.
[2] Level of Service (LOS) calculations performed using the *2010 Highway Capacity Manual (HCM)* method.

The analysis results indicate that the both study intersections are projected to continue operating at good levels of service with the projected increase in background traffic growth. Adequate capacity is available at both locations to accommodate the moderate amount of anticipated traffic growth.

5.0 PROJECT TRAFFIC ESTIMATES

This section describes the anticipated number of vehicle trips and directionality of those trips that would result from implementation of the proposed project. Future traffic added to the roadway system by the project is estimated using a three-step process: (1) project trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of project-generated traffic that would be added to the roadway network. The second step estimates the direction of travel to and from the project site. The new trips are assigned to specific street segments and intersection turning movements during the third step. This process is described in more details in the following sections.

5.1 PROJECT TRIP GENERATION ESTIMATES

Implementation of the proposed project will result in several changes to traffic circulation and volumes:

- The total traffic volume at the existing park entrance will be reduced by: 1) providing a new 50-space public parking lot with an entrance located roughly 400 feet mauka of Pu`uhonua Road, and 2) gating the Beach Road park access to only allow accessible/special event parking in that area.
- Providing short-term parking spaces at Nāpō'opo'o Landing to allow for loading/unloading of non-commercial watercraft including kayaks, stand up paddle (SUP) boards, etc.
- Some increase in part patronage/attendance with enhancement of park facilities and interpretative experience

These changes will result in a re-assignment of some existing traffic volumes and the addition of new traffic generated by new park patrons. The new park patron traffic is the subject of this section. Without the enhancements and site modifications, the attendance level is not expected to change significantly over time.

Several data sources were initially reviewed in consultation with Belt Colins Hawaii LLC to identify potential factors for estimating the number of new patrons. These sources included Average Daily Census for Hawaii County for 2020-2040 published by the Department of Business Economic Development and tourism (DBEDT), as well as the traffic volume data previously discussed in Chapter 4. The DBEDT data was reviewed for both visitor growth, as well as resident population growth. These forecasts showed annual growth rates of 1.09% for visitors, and 1.48% in resident population over the next 20+ years. The growth in traffic volumes assumed for the baseline traffic scenario (1.0%/year) is line with, albeit slightly less than, these forecasts. To provide a conservative analysis, an annual increase in 1.5% in park patronage was used to estimate new traffic volumes over existing levels.

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

Although the specific number of vehicles associated with the KBSHP was not specifically determined for the peak hours or on a daily basis, it can be conservatively assumed that the majority of vehicles turning into and out of Beach Road at the Nāpō'opo'o Rd/Pu'uhonua Rd-Beach Road intersection are associated with the Park. In addition, some of the vehicles turning to and from Pu`uhonua Road can also be assumed to be Park-generated since some patrons were observed parking their vehicles south of the intersection and walking to and from Beach Road. To be conservative for this analysis, all of the Beach Road trips, as well as 20% of the Pu`uhonua Road trips were assumed to be generated by the Park. This results in a total of 81 weekday PM peak hour trips and 103 Saturday midday peak hour trips associated with the Park, which are initially considered very high, but they help to provide a conservative estimate of new trips.

Application of the 1.5% annual growth factor over 20 years to each of the peak hour trip totals listed above yields totals of 109 and 138 trips, respectively, or a net new trip generation of 28 net new weekday peak hour trips and 36 net new Saturday peak hour trips. For purposes of this analysis, the new peak hour trips were assumed to be 50% inbound and 50% outbound during each peak hour. It should be noted that both peak hour volume totals are substantially below the threshold of 50 peak hour trips that Hawaii County typically uses as the minimum requiring a detailed traffic analysis. However, this analysis was completed to provide project stakeholders and decision-makers with a complete evaluation of potential long-term project impacts.

To estimate new daily traffic volumes, the peak hour volumes were divided by a peak hour factor of 15%, which is based on historic traffic observations of peak hour Park traffic compared to daily activity. This factor also reflects the more concentrated traffic generation for a Park with limited operating hours. The final trip generation estimate for the proposed project are shown in **Table 5.**

TABLE 5: ESTIMATED PROJECT TRIP GENERATION

Land Use	Weekday Daily[1]	Weekday PM Peak Hour			Saturday Daily	Saturday Midday Peak Hour		
		In	Out	Total		In	Out	Total
Enhanced KBSHP Facilities	186	14	14	28	240	18	18	36

5.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of traffic generated by the project assumes that nearly all of the new project-generated trips would approach and depart the site via the Māmalahoa Highway/Nāpō'opo'o Road intersection.

However, it is likely that a few of the project trips will originate from and depart to Pu`uhonua Road south of the site as visitors patronize both the State and National Historical Parks. Thus, 85% of new project trips or up to 30 trips are assumed to use Nāpōʻopoʻo Road and the remaining 15% or up to six (6) trips would use Pu`uhonua Road. Using the estimated trip generation and the distribution patterns discussed above, the traffic generated by the proposed project was assigned to the study intersections and the individual turning movements.

6.0 FUTURE (2037) PLUS PROJECT CONDITIONS

This section summarizes and presents an analysis of the potential impacts on the roadway system due to projected increases in traffic, including traffic generated by the project in 2037. The analysis compares the project levels of service at each study intersection under Future Baseline conditions against the "Plus Project" scenario to determine potential project traffic impacts.

6.1 PROPOSED ROADWAY MODIFICATIONS

As noted in Chapter 2 under Section 2.1: Project Description, the planned modifications to the roadway system include gating or securing vehicular access at the end of Beach Road, as well as at Nāpōʻopoʻo Landing to minimize traffic in the vicinity of the Pu`uhonua Road intersection. A new driveway serving the new KBSHP parking lot will be located on Nāpōʻopoʻo Road approximately 400 feet mauka of Pu`uhonua Road. No other modifications or improvements to roadways is proposed.

As noted previously, these changes will cause some existing volumes to shift away from the Nāpōʻopoʻo Road/Pu`uhonua Road-Beach Road intersection as Park patrons will be directed to the new parking lot before they ever get to the aforementioned intersection. Because some parking spaces will be provided at Nāpōʻopoʻo Landing to allow non-commercial vessel loading and unloading, some KBSHP-related traffic will continue to use the intersection; however, the turning movement volumes will shift away from Beach Road to the Landing access driveway. Parking at the landing will be monitored to prevent any long-term parking at this location.

6.2 FUTURE (2037) PLUS PROJECT INTERSECTION LEVEL OF SERVICE

The re-assigned traffic volumes plus the addition of new project trips resulting from project implementation were added to the Future (2037) Baseline volumes. **Figure 5** presents the anticipated Future (2037) Plus Project Weekday PM and Saturday PM peak hour volumes.

The volumes on **Figure 5** were used to analyze operations at the study locations using the aforementioned LOS methodology. The results of the LOS analysis for the study intersections are presented in **Table 6**, and detailed LOS results for intersection movements and corresponding LOS calculations are presented in **Appendix B.**



Figure 5
Peak Hour Traffic Volumes and Lane Configurations
Future (2037) plus Project Conditions

TABLE 6: FUTURE (2037) BASELINE PLUS PROJECT CONDITIONS – INTERSECTION OPERATIONS

Intersection	Traffic Control	Peak Hour	Future (2037) Baseline		Future (2037) Baseline Plus Project	
			Delay (sec/veh)[1]	LOS[2]	Delay (sec/veh)[1]	LOS[2]
1. Nāpōʻopoʻo Rd/Puʻuhonua Rd-Beach Road	Side Street Stop Control	PM	9.5	A	9.8	A
		SAT	9.6	A	10.0	B
2. Māmalahoa Hwy/Nāpōʻopoʻo Rd-Aliʻi Hwy	Signal	PM	18.0	B	18.5	B
		SAT	19.0	B	19.5	B

Source: Fehr & Peers, 2017.

Notes:
** Indicated oversaturated conditions. Delay cannot be calculated.
PM = Weekday PM peak hour SAT = Saturday Midday peak hour
[1] The vehicular delay for the worst movement is reported for side street stop-controlled intersections.
[2] Level of Service (LOS) calculations performed using the *2010 Highway Capacity Manual (HCM)* method.

The results presented in **Table 7** indicate that under Future (2037) Plus Project conditions, both study intersections are anticipated to operate acceptably at LOS B or better under both peak hours.

6.3 POTENTIAL INTERSECTION/ROADWAY IMPACTS

Based upon HDOT and County of Hawaii significance criteria and the results of the operations analysis, the proposed project is not expected to result in a significant peak hour traffic impact to the surrounding roadway network. While the proposed project will add traffic to Māmalahoa Highway, Aliʻi Highway, and Nāpōʻopoʻo Road, the existing capacity will allow the addition of peak hour vehicle trips to these roadways without substantially increasing travel times and delays for existing and future users. Project traffic added during other times of day is also expected to be adequately accommodated by the roadway system. Lastly, the relocation of the primary parking area for the Park will minimize the amount of Park-generated traffic using the Nāpōʻopoʻo Road/Puʻuhonua Road-Beach Road intersection, resulting in an overall benefit to the community. As such, no mitigation measures are required with implementation of the proposed project.

The potential addition of a small number of trips to Pu`uhonua Road south of the project site is not desirable given the one-lane configuration to the south. However, the addition of a small number of trips is not expected to cause any readily apparent roadway segment impacts. Given the direct route between the State and National Historical Parks and the use of smartphone GPS applications to map vehicle routing, it is inevitable that increased use of the Park will result in some new trips on this roadway. To discourage the use of this roadway by Park visitors traveling towards the NHP to the south, a "No Through Traffic" sign could be installed on the departure leg of Pu`uhonua Road immediately south of Nāpōʻopoʻo Road, but this modification would have to reviewed and approved by the County of Hawaii Public Works Department.

Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

7.0 SITE ACCESS AND CIRCULATION

This chapter includes a review of the site access and on-site circulation for vehicles, bicyclists and pedestrians.

7.1 SITE ACCESS

Primary vehicle access to the site will be provided by the new driveway on Nāpōʻopoʻo Road approximately 400 feet mauka of the Pu`uhonua Road-Beach Road intersection. The driveway is assumed to be a two-way driveway and should be designed to allow vehicles to turn onto and off of Nāpōʻopoʻo Road without causing any operational issues on the adjacent street.

While the exact location of the new site driveway has not been identified, the driveway should be located in such a way as to maximize sight distance in both directions. Sight distance is the distance at which the driver of a vehicle exiting the site driveway can see approaching traffic. This will allow a vehicle to enter the traffic stream without substantially delaying the approaching vehicle, but more importantly, so as not to cause a collision or evasive maneuver. A preliminary review of views along this section of roadway show that the driveway should be located roughly 415 feet mauka of the study intersection. Prior to finalizing design of the site and driveway, a detailed sight distance evaluation should be conducted using actual travel speeds and industry standards to locate the driveway and identify any potential sight impediments.

Wayfinding and warning signage should be installed in both directions on Nāpōʻopoʻo Road to indicate the presence of the upcoming driveway intersection and the need to be aware of potential vehicle conflicts at this location.

7.2 ON-SITE AND OFF-SITE CIRCULATION

A detailed site plan of the new parking lot was not available as part of the Master Planning process. When the internal circulation system is designed, it should consider several issues that could affect operations and safety:

- The driveway entrance should allow vehicles to completely exit Nāpōʻopoʻo Road without causing any queues back to the street. The driveway throat depth should be evaluated to help identify the minimum spacing between the first parking space and the driveway entrance/exit.

- One-way parking aisles will be acceptable as long as a re-circulation lane is provided within the site. If two-way parking and drive aisles are provided, "dead-end" aisles should be avoided to minimize multiple parking maneuvers and lot congestion.
- Defined pedestrian paths through or across the lot should be provided to minimize conflicts between vehicles and pedestrians.

The project also proposes to coordinate with Hawaii County staff to install a pedestrian path from the new approximate 50-space parking lot along Nāpōʻopoʻo Road to Nāpōʻopoʻo Landing. This will be a natural path of travel for visitors parking at the lot and returning to the Landing area, but will be challenging to implement given the street's narrow right-of-way and existing landscaping and private yards.

As noted under section 3.7, some vehicles are parked along upper Nāpōʻopoʻo Road by hikers accessing the top of Captain Cook Monument Trail (aka Kaʻawaloa Road) that provides pedestrian access to the Kaʻawaloa area of KBSHP. In general, this parking pattern is an existing condition that would otherwise exist regardless of project implmentation. However, enhancement of Park amenities that are part of the project could result in a small increase in demand for hiking this trail, which may result in additional parking demand of one or more vehicles at this location. Currently, the shoulder appears to provide enough space for five to six vehicles.

Upon completion of enhancements to the Kaʻawaloa area of the Park, off-street parking demand at the trailhead should be monitored to determine if vehicles are parking safely. If monitoring shows that some vehicles are parking illegally or unsafely, the project sponsor, in consultation with the County of Hawaii Public Works Department and adjacent property owners, should evaluate the feasibility for modifying the shoulder area and adjacent landscaping to allow additional parking along or near the road edge. Feasibility issues to be evaluated include available right-of-way, sight distance, adjacent slopes, and cost implications.

The number of bicycle trips generated by the project site is not expected to be significant in terms of the capacity of the adjacent streets, and no impacts to bicycle travel are anticipated. However, it is possible that some residents and/or visitors in the immediate Nāpōʻopoʻo village area may choose to bike to the park. In addition, employees may choose to park a bike at the site to make recreational or local trips. As such, a bicycle rack for up four (bicycles) should be provided in visible place that allows easy access to the adjacent streets.

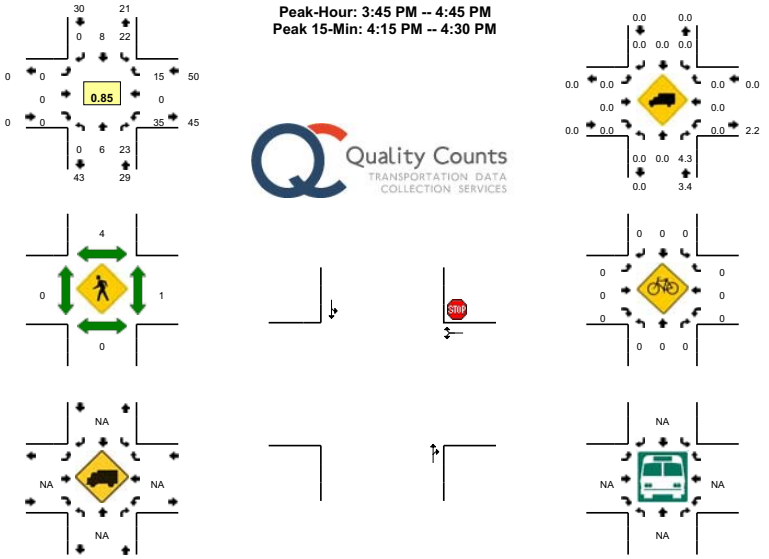
Kealakekua Bay State Historical Park Master Plan – Draft Transportation Impact Analysis Report
June 28, 2017

APPENDIX A: TRAFFIC COUNT DATA

Type of peak hour being reported: System Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Puuhonua Rd -- Lower Napoopoo Rd | **QC JOB #:** 13418902
CITY/STATE: Captain Cook, HI | **DATE:** Thu, Jun 18 2015

Peak-Hour: 3:45 PM -- 4:45 PM
Peak 15-Min: 4:15 PM -- 4:30 PM



15-Min Count Period Beginning At	Puuhonua Rd (Northbound)				Puuhonua Rd (Southbound)				Lower Napoopoo Rd (Eastbound)				Lower Napoopoo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	2	7	0	2	2	0	0	0	0	0	0	7	0	5	0	25	
3:15 PM	0	1	4	0	6	3	0	0	0	0	0	0	8	0	3	0	25	
3:30 PM	0	4	8	0	6	4	0	0	0	0	0	0	8	0	9	0	39	
3:45 PM	0	2	5	0	5	1	0	0	0	0	0	0	10	0	6	0	29	118
4:00 PM	0	1	4	0	6	1	0	0	0	0	0	0	7	0	3	0	22	115
4:15 PM	0	3	6	0	8	3	0	0	0	0	0	0	8	0	4	0	32	122
4:30 PM	0	0	8	0	3	3	0	0	0	0	0	0	10	0	2	0	26	109
4:45 PM	0	0	7	2	1	1	0	0	0	0	0	0	6	0	2	0	19	99
5:00 PM	0	1	4	0	0	3	0	0	0	0	0	0	5	0	3	0	16	93
5:15 PM	0	2	9	0	1	1	0	0	0	0	0	0	7	0	3	0	23	84
5:30 PM	0	3	12	0	4	2	0	0	0	0	0	0	4	0	2	0	27	85
5:45 PM	0	2	4	0	5	0	0	0	0	0	0	0	5	0	3	0	19	85

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	12	24	0	32	12	0	0	0	0	0	0	32	0	16	0	128
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				8				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

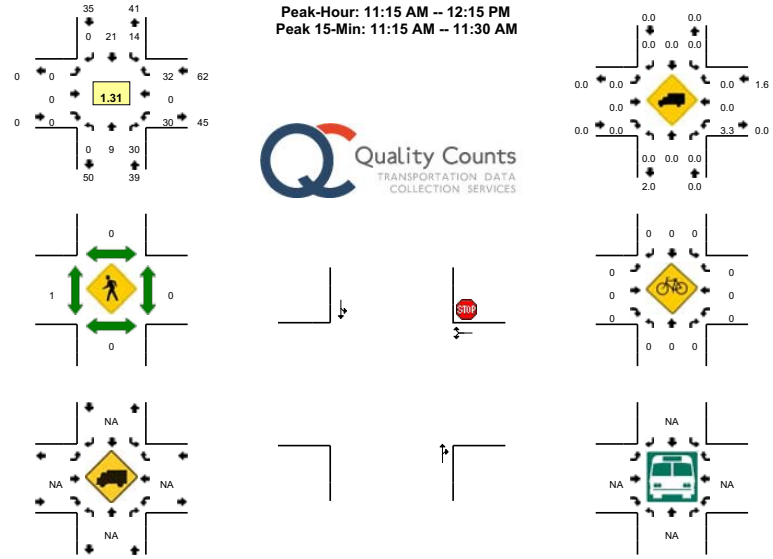
Comments:

Report generated on 6/25/2015 7:19 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Puuhonua Rd -- Lower Napoopoo Rd | **QC JOB #:** 13418907
CITY/STATE: Captain Cook, HI | **DATE:** Sat, Jun 20 2015

Peak-Hour: 11:15 AM -- 12:15 PM
Peak 15-Min: 11:15 AM -- 11:30 AM



15-Min Count Period Beginning At	Puuhonua Rd (Northbound)				Puuhonua Rd (Southbound)				Lower Napoopoo Rd (Eastbound)				Lower Napoopoo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
10:00 AM	0	1	12	0	4	4	0	0	0	0	0	0	4	0	5	0	30	
10:15 AM	0	2	5	0	3	5	0	0	0	0	0	0	8	0	6	0	29	
10:30 AM	0	3	6	0	3	2	0	0	0	0	0	0	8	0	4	0	26	
10:45 AM	0	1	11	0	4	5	0	0	0	0	0	0	4	0	11	0	36	121
11:00 AM	0	1	6	0	4	5	0	0	0	0	0	0	6	0	9	0	31	122
11:15 AM	0	1	6	0	2	3	0	0	0	0	0	0	4	0	9	1	26	119
11:30 AM	0	0	6	0	2	8	0	0	0	0	0	0	8	0	9	0	33	126
11:45 AM	0	0	8	0	1	6	0	0	0	0	0	0	7	0	8	0	30	120
12:00 PM	0	8	10	0	9	4	0	0	0	0	0	0	10	0	6	0	47	136
12:15 PM	0	1	9	0	9	6	0	0	0	0	0	0	9	0	5	0	39	149
12:30 PM	0	2	7	0	8	5	0	0	0	0	0	0	6	0	8	0	36	152
12:45 PM	0	4	8	0	5	2	0	0	0	0	0	0	3	0	7	0	29	151

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	4	24	0	8	12	0	0	0	0	0	0	16	0	36	4	104
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 6/25/2015 7:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Ali`i Hwy and Napo'opo'o Rd , Kamuela

Date: 5/2/2017
Day: Tuesday
Project #: 17-8039-001
City: Kamuela

Peak Hour Summary

Southbound Approach

Lanes	1	1	2		
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	46	181	32	140	PM

Ali`i Hwy

	AM Peak Hour	
	NOON Peak Hour	
	PM Peak Hour	415 PM

Napo'opo'o Rd

Lanes	AM	NOON	PM
1	0	0	39
2	0	0	66
1	0	0	40

Eastbound Approach

CONTROL
Signalized

Mamalahoa Hwy

Lanes	AM	NOON	PM
1	0	0	8
1	0	0	80
1	0	0	495
	0	0	382

Westbound Approach

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

AM	0	0	0	AM
NOON	0	0	0	NOON
PM	716	32	93	284 PM
		1	1	1 Lanes

Mamalahoa Hwy

Northbound Approach

Total Ins & Outs

			North Leg						
			0	0	AM				
			0	0	NOON				
			259	140	PM				
AM	NOON	PM				East Leg			
0	0	158				0	0	583	
0	0	145				0	0	382	
West Leg						AM	NOON	PM	
			0	0	AM				
			0	0	NOON				
			716	409	PM				
			South Leg						

Total Volume Per Leg

			North Leg						
			0		AM				
			0		NOON				
			399		PM				
AM	NOON	PM				East Leg			
0	0	303				0	0	965	
West Leg						AM	NOON	PM	
			0		AM				
			0		NOON				
			1125		PM				
			South Leg						

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Ali`i Hwy and Napo'opo'o Rd , Kamuela

Date: Estimated from 2015 and 2017 Wkday Data
Day: Saturday 2017
Project #:
City: Kamuela

Peak Hour Summary

Southbound Approach

Lanes	1	1	2		
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	44	116	35	151	PM

Ali`i Hwy

	AM Peak Hour	
	NOON Peak Hour	
	PM Peak Hour	

Napo'opo'o Rd

Lanes	AM	NOON	PM
1	0	0	36
2	0	0	60
1	0	0	53

Eastbound Approach

CONTROL
Signalized

Mamalahoa Hwy

Lanes	AM	NOON	PM
1	0	0	10
1	0	0	76
1	0	0	319
	0	0	417

Westbound Approach

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM		

AM	0	0	0	AM
NOON	0	0	0	NOON
PM	488	41	105	322 PM
		1	1	1 Lanes

Mamalahoa Hwy

Northbound Approach

Total Ins & Outs

			North Leg						
			0	0	AM				
			0	0	NOON				
			195	151	PM				
AM	NOON	PM				East Leg			
0	0	161				0	0	405	
0	0	149				0	0	417	
West Leg						AM	NOON	PM	
			0	0	AM				
			0	0	NOON				
			488	468	PM				
			South Leg						

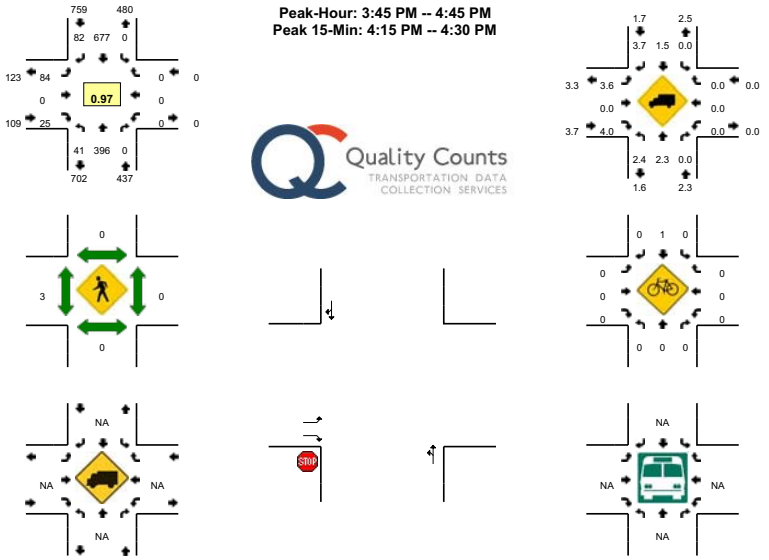
Total Volume Per Leg

			North Leg						
			0		AM				
			0		NOON				
			346		PM				
AM	NOON	PM				East Leg			
0	0	310				0	0	822	
West Leg						AM	NOON	PM	
			0		AM				
			0		NOON				
			956		PM				
			South Leg						

Type of peak hour being reported: System Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Mamalahoa Hwy -- Napoopoo Rd | **QC JOB #:** 13418901
CITY/STATE: Honaunau-Napoopoo, HI | **DATE:** Thu, Jun 18 2015

Peak-Hour: 3:45 PM -- 4:45 PM
Peak 15-Min: 4:15 PM -- 4:30 PM



15-Min Count Period Beginning At	Mamalahoa Hwy (Northbound)				Mamalahoa Hwy (Southbound)				Napoopoo Rd (Eastbound)				Napoopoo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	9	108	0	0	0	137	18	0	10	0	13	0	0	0	0	0	295	
3:15 PM	14	105	0	0	0	147	28	0	21	0	4	0	0	0	0	0	319	
3:30 PM	11	81	0	0	0	144	23	0	25	0	8	0	0	0	0	0	292	
3:45 PM	13	85	0	0	0	161	19	0	17	0	11	0	0	0	0	0	306	1212
4:00 PM	12	111	0	0	0	167	22	0	16	0	4	0	0	0	0	0	332	1249
4:15 PM	7	107	0	0	0	172	16	0	29	0	6	0	0	0	0	0	337	1267
4:30 PM	9	93	0	0	0	177	25	0	22	0	4	0	0	0	0	0	330	1305
4:45 PM	7	85	0	0	0	157	33	0	12	0	6	0	0	0	0	0	300	1299
5:00 PM	7	82	0	0	0	152	28	0	12	0	8	0	0	0	0	0	289	1256
5:15 PM	12	68	0	0	0	154	23	0	22	0	14	0	0	0	0	0	293	1212
5:30 PM	9	82	0	0	0	145	16	0	20	0	5	0	0	0	0	0	277	1159
5:45 PM	7	77	0	0	0	150	17	0	17	0	7	0	0	0	0	0	275	1134

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	428	0	0	0	688	64	0	116	0	24	0	0	0	0	0	1348
Heavy Trucks	0	4	0		0	16	0		8	0	0		0	0	0		28
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

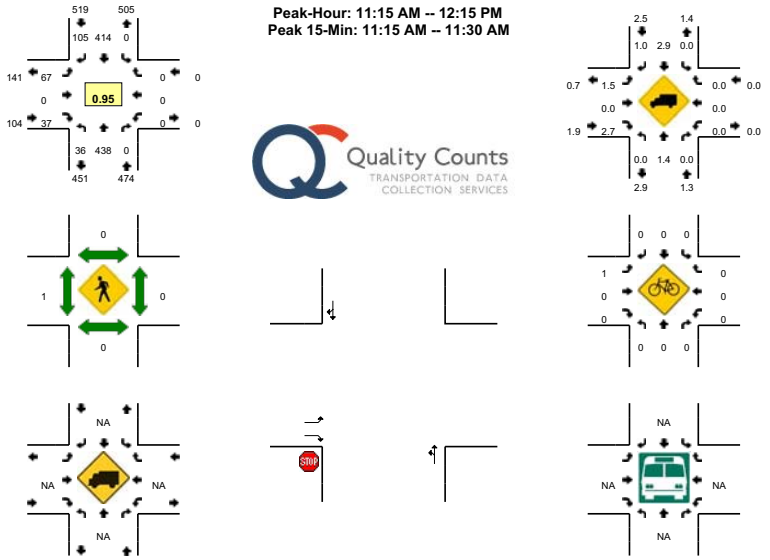
Comments:

Report generated on 6/25/2015 7:19 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Mamalahoa Hwy -- Napoopoo Rd | **QC JOB #:** 13418906
CITY/STATE: Honaunau-Napoopoo, HI | **DATE:** Sat, Jun 20 2015

Peak-Hour: 11:15 AM -- 12:15 PM
Peak 15-Min: 11:15 AM -- 11:30 AM



15-Min Count Period Beginning At	Mamalahoa Hwy (Northbound)				Mamalahoa Hwy (Southbound)				Napoopoo Rd (Eastbound)				Napoopoo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
10:00 AM	7	92	0	0	0	99	18	0	12	0	8	0	0	0	0	0	236	
10:15 AM	8	96	0	0	0	113	8	0	15	0	9	0	0	0	0	0	249	
10:30 AM	4	105	0	0	0	102	19	0	17	0	11	0	0	0	0	0	258	
10:45 AM	3	102	0	0	0	131	15	0	23	0	4	0	0	0	0	0	278	1021
11:00 AM	4	102	0	0	0	113	12	0	19	0	10	0	0	0	0	0	260	1045
11:15 AM	6	125	0	0	0	106	29	0	16	0	8	0	0	0	0	0	290	1086
11:30 AM	6	110	0	0	0	95	24	0	21	0	13	0	0	0	0	0	269	1097
11:45 AM	15	90	0	0	0	121	29	0	16	0	9	0	0	0	0	0	280	1099
12:00 PM	9	113	0	0	0	92	23	0	14	0	7	0	0	0	0	0	258	1097
12:15 PM	5	104	0	0	0	94	26	0	24	0	5	0	0	0	0	0	258	1065
12:30 PM	6	91	0	0	0	88	18	0	20	0	5	0	0	0	0	0	228	1024
12:45 PM	6	94	0	0	0	114	23	0	17	0	7	0	0	0	0	0	261	1005

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	500	0	0	0	424	116	0	64	0	32	0	0	0	0	0	1160
Heavy Trucks	0	4	0		0	8	0		0	0	0		0	0	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 6/25/2015 7:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX B: LOS CALCULATION WORKSHEETS

HCM 2010 TWSC — Existing PM Peak Hour
1: Pu'uhonua Rd/Beach Rd & Landing/Napo'opo'o Rd — 06/28/2017

Intersection													
Int Delay, s/veh	5.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Vol, veh/h	0	0	0	33	0	22	0	10	23	25	9	0	
Future Vol, veh/h	0	0	0	33	0	22	0	10	23	25	9	0	
Conflicting Peds, #/hr	5	0	7	4	0	2	7	0	4	2	0	5	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	3	2	2	
Mvmt Flow	0	0	0	42	0	28	0	13	29	32	12	0	

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	130	129	26	115	115	37	19	0	0	46	0	0
Stage 1	83	83	-	32	32	-	-	-	-	-	-	-
Stage 2	47	46	-	83	83	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	843	762	1050	862	775	1035	1597	-	-	1555	-	-
Stage 1	925	826	-	984	868	-	-	-	-	-	-	-
Stage 2	967	857	-	925	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	801	741	1042	843	754	1029	1591	-	-	1551	-	-
Mov Cap-2 Maneuver	801	741	-	843	754	-	-	-	-	-	-	-
Stage 1	921	806	-	981	866	-	-	-	-	-	-	-
Stage 2	938	855	-	902	806	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.3	0	5.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1591	-	-	-	909	1551	-	-
HCM Lane V/C Ratio	-	-	-	-	0.078	0.021	-	-
HCM Control Delay (s)	0	-	-	0	9.3	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0.1	-	-

Kealakekua Bay State Historic Park Master Plan Existing (2015) PM Peak Hour — Synchro 8 Report
F&P — Page 1

HCM 2010 Signalized Intersection Summary — Existing PM Peak Hour
2: Napo'opo'o Rd & Ali'i Hwy & Mamalahoa Hwy — 06/28/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	181	46	32	93	284	39	66	40	495	80	8
Future Volume (veh/h)	32	181	46	32	93	284	39	66	40	495	80	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	32	183	37	32	94	287	39	67	29	558	0	0
Adj No. of Lanes	1	2	0	1	1	1	1	1	0	2	0	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	665	132	415	421	722	158	110	48	817	0	364
Arrive On Green	0.04	0.23	0.23	0.04	0.23	0.23	0.09	0.09	0.09	0.23	0.00	0.00
Sat Flow, veh/h	1774	2946	584	1774	1863	1583	1774	1234	534	3548	0	1583
Grp Volume(v), veh/h	32	108	112	32	94	287	39	0	96	558	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1760	1774	1863	1583	1774	0	1768	1774	0	1583
Q Serve(g_s), s	0.6	2.4	2.5	0.6	2.0	5.8	1.0	0.0	2.5	6.9	0.0	0.0
Cycle Q Clear(g_c), s	0.6	2.4	2.5	0.6	2.0	5.8	1.0	0.0	2.5	6.9	0.0	0.0
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	399	400	397	415	421	722	158	0	158	817	0	364
V/C Ratio(X)	0.08	0.27	0.28	0.08	0.22	0.40	0.25	0.00	0.61	0.68	0.00	0.00
Avail Cap(c_a), veh/h	892	1851	1841	908	1949	2021	1113	0	1110	2969	0	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.3	15.3	15.3	13.3	15.1	8.6	20.3	0.0	21.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.0	0.3	0.4	0.8	0.0	3.7	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.3	0.3	1.0	3.7	0.5	0.0	1.4	3.4	0.0	0.0
LnGrp Delay(d),s/veh	13.3	15.6	15.7	13.3	15.3	9.0	21.1	0.0	24.7	17.8	0.0	0.0
LnGrp LOS	B	B	B	B	B	A	C		C	B		
Approach Vol, veh/h		252			413			135			558	
Approach Delay, s/veh		15.4			10.8			23.6			17.8	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.2	16.3		16.0	6.2	16.3		9.3
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0
Max Green Setting (Gmax), s	15.0	50.0		40.0	15.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	2.6	4.5		8.9	2.6	7.8		4.5
Green Ext Time (p_c), s	0.0	3.0		2.1	0.0	3.0		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 2010 TWSC — Existing Saturday MD Peak Hour 06/28/2017
1: Pu'uhonua Rd/Beach Rd & Landing/Napo'opo'o Rd

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	32	0	27	0	11	34	27	21	0
Future Vol, veh/h	0	0	0	32	0	27	0	11	34	27	21	0
Conflicting Peds, #/hr	5	0	7	4	0	2	7	0	4	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	3	2	2
Mvmt Flow	0	0	0	40	0	33	0	14	42	33	26	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	156	160	40	139	139	44	33	0	0	60	0	0
Stage 1	100	100	-	39	39	-	-	-	-	-	-	-
Stage 2	56	60	-	100	100	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	810	732	1031	831	752	1026	1579	-	-	1537	-	-
Stage 1	906	812	-	976	862	-	-	-	-	-	-	-
Stage 2	956	845	-	906	812	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	765	711	1023	812	731	1020	1573	-	-	1533	-	-
Mov Cap-2 Maneuver	765	711	-	812	731	-	-	-	-	-	-	-
Stage 1	902	791	-	973	860	-	-	-	-	-	-	-
Stage 2	922	843	-	883	791	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.4	0	4.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1573	-	-	-	896	1533	-	-
HCM Lane V/C Ratio	-	-	-	-	0.081	0.022	-	-
HCM Control Delay (s)	0	-	-	0	9.4	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0.1	-	-

HCM 2010 Signalized Intersection Summary — Existing Saturday MD Peak Hour 06/28/2017
2: Napo'opo'o Rd & Ali'i Hwy & Mamalahoa Hwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	116	44	41	105	322	36	60	53	319	76	10
Future Volume (veh/h)	35	116	44	41	105	322	36	60	53	319	76	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	38	126	38	45	114	350	39	65	46	215	268	0
Adj No. of Lanes	1	2	0	1	1	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	664	193	475	467	739	179	103	73	383	402	342
Arrive On Green	0.04	0.25	0.25	0.05	0.25	0.25	0.10	0.10	0.10	0.22	0.22	0.00
Sat Flow, veh/h	1774	2705	788	1774	1863	1583	1774	1016	719	1774	1863	1583
Grp Volume(v), veh/h	38	81	83	45	114	350	39	0	111	215	268	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1724	1774	1863	1583	1774	0	1736	1774	1863	1583
Q Serve(g_s), s	0.8	1.8	2.0	0.9	2.5	7.7	1.0	0.0	3.1	5.5	6.7	0.0
Cycle Q Clear(g_c), s	0.8	1.8	2.0	0.9	2.5	7.7	1.0	0.0	3.1	5.5	6.7	0.0
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	400	434	423	475	467	739	179	0	175	383	402	342
V/C Ratio(X)	0.10	0.19	0.20	0.09	0.24	0.47	0.22	0.00	0.63	0.56	0.67	0.00
Avail Cap(c_a), veh/h	849	1732	1687	914	1823	1892	1042	0	1019	1389	1459	1240
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.4	15.2	15.3	13.2	15.3	9.3	21.1	0.0	22.0	17.9	18.3	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.3	0.5	0.6	0.0	3.7	1.3	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.9	0.9	0.5	1.3	4.8	0.5	0.0	1.7	2.8	3.6	0.0
LnGrp Delay(d),s/veh	13.4	15.4	15.5	13.2	15.5	9.8	21.7	0.0	25.8	19.2	20.2	0.0
LnGrp LOS	B	B	B	B	B	A	C		C	B	C	
Approach Vol, veh/h		202			509			150			483	
Approach Delay, s/veh		15.1			11.4			24.7			19.8	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	18.0		16.0	6.6	18.3		10.2
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0
Max Green Setting (Gmax), s	15.0	50.0		40.0	15.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	2.9	4.0		8.7	2.8	9.7		5.1
Green Ext Time (p_c), s	0.0	3.1		2.3	0.0	3.1		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 2010 TWSC — Future (2037) PM Peak Hour
1: Pu'uhonua Rd/Beach Rd & Landing/Napo'opo'o Rd — 06/28/2017

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	40	0	27	0	12	28	31	11	0
Future Vol, veh/h	0	0	0	40	0	27	0	12	28	31	11	0
Conflicting Peds, #/hr	5	0	7	4	0	2	7	0	4	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	3	2	2
Mvmt Flow	0	0	0	51	0	35	0	15	36	40	14	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	157	156	28	138	138	42	21	0	0	55	0	0
Stage 1	101	101	-	37	37	-	-	-	-	-	-	-
Stage 2	56	55	-	101	101	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	809	736	1047	833	753	1029	1595	-	-	1544	-	-
Stage 1	905	811	-	978	864	-	-	-	-	-	-	-
Stage 2	956	849	-	905	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	761	712	1039	811	729	1023	1589	-	-	1540	-	-
Mov Cap-2 Maneuver	761	712	-	811	729	-	-	-	-	-	-	-
Stage 1	901	787	-	975	862	-	-	-	-	-	-	-
Stage 2	921	847	-	878	787	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.5	0	5.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1589	-	-	-	885	1540	-	-
HCM Lane V/C Ratio	-	-	-	-	0.097	0.026	-	-
HCM Control Delay (s)	0	-	-	0	9.5	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0.1	-	-

HCM 2010 Signalized Intersection Summary — Future (2037) PM Peak Hour
2: Napo'opo'o Rd & Ali'i Hwy & Mamalahoa Hwy — 06/28/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	221	56	39	113	347	48	81	49	604	98	10
Future Volume (veh/h)	39	221	56	39	113	347	48	81	49	604	98	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	39	223	48	39	114	351	48	82	38	681	0	0
Adj No. of Lanes	1	2	0	1	1	1	1	1	0	2	0	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	711	150	397	455	796	189	128	59	916	0	409
Arrive On Green	0.04	0.24	0.24	0.04	0.24	0.24	0.11	0.11	0.11	0.26	0.00	0.00
Sat Flow, veh/h	1774	2909	615	1774	1863	1583	1774	1206	559	3548	0	1583
Grp Volume(v), veh/h	39	134	137	39	114	351	48	0	120	681	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1754	1774	1863	1583	1774	0	1764	1774	0	1583
Q Serve(g_s), s	0.9	3.5	3.6	0.9	2.8	8.1	1.4	0.0	3.7	10.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.5	3.6	0.9	2.8	8.1	1.4	0.0	3.7	10.0	0.0	0.0
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	378	432	428	397	455	796	189	0	188	916	0	409
V/C Ratio(X)	0.10	0.31	0.32	0.10	0.25	0.44	0.25	0.00	0.64	0.74	0.00	0.00
Avail Cap(c_a), veh/h	773	1552	1539	792	1634	1797	934	0	928	2489	0	1111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	17.6	17.7	15.0	17.3	9.1	23.4	0.0	24.4	19.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.0	0.3	0.4	0.7	0.0	3.6	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	1.8	0.4	1.5	5.4	0.7	0.0	2.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	15.0	18.0	18.1	15.1	17.6	9.5	24.1	0.0	28.0	20.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	A	C		C	C		
Approach Vol, veh/h		310			504			168			681	
Approach Delay, s/veh		17.7			11.7			26.9			20.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	19.4		19.7	6.8	19.4		11.1
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0
Max Green Setting (Gmax), s	15.0	50.0		40.0	15.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	2.9	5.6		12.0	2.9	10.1		5.7
Green Ext Time (p_c), s	0.0	3.9		2.7	0.0	3.8		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 2010 TWSC — Future (2037) Weekend MD Peak Hour
1: Pu'uhonua Rd/Beach Rd & Landing/Napo'opo'o Rd — 06/28/2017

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	39	0	33	0	13	41	33	26	0
Future Vol, veh/h	0	0	0	39	0	33	0	13	41	33	26	0
Conflicting Peds, #/hr	5	0	7	4	0	2	7	0	4	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	3	2	2
Mvmt Flow	0	0	0	48	0	41	0	16	51	41	32	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	188	192	46	166	166	50	39	0	0	71	0	0
Stage 1	121	121	-	45	45	-	-	-	-	-	-	-
Stage 2	67	71	-	121	121	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	772	703	1023	798	727	1018	1571	-	-	1523	-	-
Stage 1	883	796	-	969	857	-	-	-	-	-	-	-
Stage 2	943	836	-	883	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	721	679	1015	776	703	1012	1565	-	-	1519	-	-
Mov Cap-2 Maneuver	721	679	-	776	703	-	-	-	-	-	-	-
Stage 1	880	771	-	966	855	-	-	-	-	-	-	-
Stage 2	903	834	-	856	771	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.6	0	4.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1565	-	-	-	869	1519	-	-
HCM Lane V/C Ratio	-	-	-	-	0.102	0.027	-	-
HCM Control Delay (s)	0	-	-	0	9.6	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0.1	-	-

HCM 2010 Signalized Intersection Summary — Future (2037) Weekend MD Peak Hour
2: Napo'opo'o Rd & Ali'i Hwy & Mamalahoa Hwy — 06/28/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	142	54	50	128	393	44	73	65	389	93	12
Future Volume (veh/h)	43	142	54	50	128	393	44	73	65	389	93	12
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	47	154	49	54	139	427	48	79	59	262	326	0
Adj No. of Lanes	1	2	0	1	1	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	721	222	466	511	814	210	117	88	425	447	380
Arrive On Green	0.04	0.27	0.27	0.05	0.27	0.27	0.12	0.12	0.12	0.24	0.24	0.00
Sat Flow, veh/h	1774	2666	821	1774	1863	1583	1774	992	741	1774	1863	1583
Grp Volume(v), veh/h	47	100	103	54	139	427	48	0	138	262	326	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1718	1774	1863	1583	1774	0	1732	1774	1863	1583
Q Serve(g_s), s	1.2	2.7	2.9	1.3	3.6	11.1	1.5	0.0	4.7	8.2	10.0	0.0
Cycle Q Clear(g_c), s	1.2	2.7	2.9	1.3	3.6	11.1	1.5	0.0	4.7	8.2	10.0	0.0
Prop In Lane	1.00		0.48	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	377	479	465	466	511	814	210	0	205	425	447	380
V/C Ratio(X)	0.12	0.21	0.22	0.12	0.27	0.52	0.23	0.00	0.67	0.62	0.73	0.00
Avail Cap(c_a), veh/h	727	1427	1385	809	1502	1657	858	0	838	1145	1202	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.0	17.5	17.5	14.9	17.6	10.0	24.8	0.0	26.2	21.0	21.7	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.0	0.3	0.5	0.5	0.0	3.8	1.5	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.4	0.7	1.9	7.4	0.8	0.0	2.5	4.2	5.4	0.0
LnGrp Delay(d),s/veh	15.1	17.7	17.8	14.9	17.9	10.5	25.3	0.0	30.0	22.5	24.0	0.0
LnGrp LOS	B	B	B	B	B	B	C		C	C	C	
Approach Vol, veh/h		250			620			186			588	
Approach Delay, s/veh		17.2			12.6			28.8			23.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	22.3		19.9	7.3	22.5		12.3
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0
Max Green Setting (Gmax), s	15.0	50.0		40.0	15.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	3.3	4.9		12.0	3.2	13.1		6.7
Green Ext Time (p_c), s	0.0	3.9		2.9	0.0	3.9		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.0
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 2010 TWSC — Future (2037) plus Project PM Peak Hour
1: Pu'uhonua Rd/Beach Rd & Landing/Napo'opo'o Rd — 06/28/2017

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	6	40	18	9	6	6	28	16	5	0
Future Vol, veh/h	0	15	6	40	18	9	6	6	28	16	5	0
Conflicting Peds, #/hr	5	0	7	4	0	2	7	0	4	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	3	2	2
Mvmt Flow	0	19	8	51	23	12	8	8	36	21	6	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	117	117	20	113	99	35	13	0	0	48	0	0
Stage 1	54	54	-	45	45	-	-	-	-	-	-	-
Stage 2	63	63	-	68	54	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	859	773	1058	864	791	1038	1606	-	-	1553	-	-
Stage 1	958	850	-	969	857	-	-	-	-	-	-	-
Stage 2	948	842	-	942	850	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	813	753	1050	823	771	1032	1600	-	-	1549	-	-
Mov Cap-2 Maneuver	813	753	-	823	771	-	-	-	-	-	-	-
Stage 1	950	835	-	961	850	-	-	-	-	-	-	-
Stage 2	905	835	-	897	835	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.8	1.1	5.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1600	-	-	819	831	1549	-	-
HCM Lane V/C Ratio	0.005	-	-	0.033	0.103	0.013	-	-
HCM Control Delay (s)	7.3	0	-	9.5	9.8	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

HCM 2010 Signalized Intersection Summary — Future (2037) plus Project PM Peak Hour
2: Napo'opo'o Rd & Ali'i Hwy & Mamalahoa Hwy — 06/28/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	221	60	42	113	347	52	89	52	604	106	10
Future Volume (veh/h)	39	221	60	42	113	347	52	89	52	604	106	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	39	223	52	42	114	351	53	90	42	686	0	0
Adj No. of Lanes	1	2	0	1	1	1	1	1	0	2	0	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	689	158	391	453	794	204	138	65	917	0	409
Arrive On Green	0.04	0.24	0.24	0.04	0.24	0.24	0.12	0.12	0.12	0.26	0.00	0.00
Sat Flow, veh/h	1774	2863	654	1774	1863	1583	1774	1203	561	3548	0	1583
Grp Volume(v), veh/h	39	136	139	42	114	351	53	0	132	686	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1747	1774	1863	1583	1774	0	1764	1774	0	1583
Q Serve(g_s), s	0.9	3.7	3.8	1.0	2.9	8.3	1.6	0.0	4.2	10.4	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.7	3.8	1.0	2.9	8.3	1.6	0.0	4.2	10.4	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	374	426	421	391	453	794	204	0	203	917	0	409
V/C Ratio(X)	0.10	0.32	0.33	0.11	0.25	0.44	0.26	0.00	0.65	0.75	0.00	0.00
Avail Cap(c_a), veh/h	759	1519	1500	773	1599	1768	914	0	908	2437	0	1087
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.5	18.2	18.2	15.5	17.8	9.3	23.5	0.0	24.6	19.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.5	0.0	0.3	0.4	0.7	0.0	3.5	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	1.9	0.5	1.5	5.5	0.8	0.0	2.2	5.2	0.0	0.0
LnGrp Delay(d),s/veh	15.5	18.6	18.7	15.5	18.1	9.7	24.2	0.0	28.1	21.1	0.0	0.0
LnGrp LOS	B	B	B	B	B	A	C		C	C		
Approach Vol, veh/h		314			507			185			686	
Approach Delay, s/veh		18.3			12.1			27.0			21.1	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	19.5		20.0	6.8	19.6		11.7
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0
Max Green Setting (Gmax), s	15.0	50.0		40.0	15.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	3.0	5.8		12.4	2.9	10.3		6.2
Green Ext Time (p_c), s	0.0	3.9		2.7	0.0	3.9		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 2010 TWSC — Future (2037) plus Project Wknd MD Peak Hour
1: Pu'uhonua Rd/Beach Rd & Landing/Napo'opo'o Rd — 06/28/2017

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	6	39	20	13	6	7	41	18	20	0
Future Vol, veh/h	0	15	6	39	20	13	6	7	41	18	20	0
Conflicting Peds, #/hr	5	0	7	4	0	2	7	0	4	2	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	3	3	2	2
Mvmt Flow	0	19	7	48	25	16	7	9	51	22	25	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	150	154	39	142	129	43	32	0	0	63	0	0
Stage 1	76	76	-	53	53	-	-	-	-	-	-	-
Stage 2	74	78	-	89	76	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	818	738	1033	828	762	1027	1580	-	-	1533	-	-
Stage 1	933	832	-	960	851	-	-	-	-	-	-	-
Stage 2	935	830	-	918	832	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	768	718	1025	788	742	1021	1574	-	-	1529	-	-
Mov Cap-2 Maneuver	768	718	-	788	742	-	-	-	-	-	-	-
Stage 1	925	816	-	953	844	-	-	-	-	-	-	-
Stage 2	886	824	-	874	816	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	10	0.8	3.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1574	-	-	785	807	1529	-	-
HCM Lane V/C Ratio	0.005	-	-	0.033	0.11	0.015	-	-
HCM Control Delay (s)	7.3	0	-	9.7	10	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

HCM 2010 Signalized Intersection Summary Future (2037) plus Project Wknd MD Peak Hour
2: Napo'opo'o Rd & Ali'i Hwy & Mamalahoa Hwy 06/28/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	142	58	53	128	393	48	81	68	389	101	12
Future Volume (veh/h)	43	142	58	53	128	393	48	81	68	389	101	12
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	47	154	53	58	139	427	52	88	62	266	329	0
Adj No. of Lanes	1	2	0	1	1	1	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	698	232	460	509	813	224	129	91	426	448	380
Arrive On Green	0.04	0.27	0.27	0.05	0.27	0.27	0.13	0.13	0.13	0.24	0.24	0.00
Sat Flow, veh/h	1774	2611	868	1774	1863	1583	1774	1019	718	1774	1863	1583
Grp Volume(v), veh/h	47	103	104	58	139	427	52	0	150	266	329	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1710	1774	1863	1583	1774	0	1736	1774	1863	1583
Q Serve(g_s), s	1.2	2.9	3.0	1.5	3.7	11.4	1.7	0.0	5.2	8.5	10.3	0.0
Cycle Q Clear(g_c), s	1.2	2.9	3.0	1.5	3.7	11.4	1.7	0.0	5.2	8.5	10.3	0.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	373	473	457	460	509	813	224	0	219	426	448	380
V/C Ratio(X)	0.13	0.22	0.23	0.13	0.27	0.53	0.23	0.00	0.68	0.62	0.74	0.00
Avail Cap(c_a), veh/h	714	1397	1349	791	1470	1630	840	0	822	1120	1176	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.5	18.1	18.1	15.3	18.1	10.3	24.9	0.0	26.5	21.5	22.2	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.3	0.0	0.3	0.5	0.5	0.0	3.7	1.5	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.4	1.5	0.7	1.9	7.5	0.9	0.0	2.7	4.3	5.6	0.0
LnGrp Delay(d),s/veh	15.6	18.3	18.4	15.4	18.4	10.8	25.4	0.0	30.2	23.0	24.6	0.0
LnGrp LOS	B	B	B	B	B	B	C		C	C	C	
Approach Vol, veh/h		254			624			202			595	
Approach Delay, s/veh		17.8			12.9			29.0			23.9	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	22.4		20.2	7.3	22.8		13.0
Change Period (Y+Rc), s	4.5	5.5		5.0	4.5	5.5		5.0
Max Green Setting (Gmax), s	15.0	50.0		40.0	15.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	3.5	5.0		12.3	3.2	13.4		7.2
Green Ext Time (p_c), s	0.0	4.0		2.9	0.0	3.9		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX C: VISITOR AND LOCAL RESIDENT TRAFFIC COUNTS

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97224
971-223-0003
www.qualitycounts.net

Site Code: 13418904
Location: Lower Napoopoo Rd -- Puuhonua Rd
Date: 6/18/2015 - Thursday Weekday

	Puuhonua Rd (Southbound)			Lower Napoopoo Rd (Westbound)			Puuhonua Rd (Northbound)			Interval Totals	Hourly Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
3:45 PM	0	1	5	6	0	10	5	2	0	29	
4:00 PM	0	1	6	3	0	7	4	1	0	22	
4:15 PM	0	3	8	4	0	8	6	3	0	32	
4:30 PM	0	3	3	2	0	10	8	0	0	26	109
4:45 PM	0	1	1	2	0	6	7	0	0	17	97
5:00 PM	0	3	0	3	0	5	4	1	0	16	91
Totals	0	12	23	20	0	46	34	7	0		

Tourist Totals	0	6	13	9	0	2	11	4	0
Resident/Local T	0	6	10	11	0	44	23	3	0

Int. Peak

52% **of people traveling to/from Beach Road are visitors**
48% Resident Local

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97224
971-223-0003
www.qualitycounts.net

	Puuhonua Rd (Southbound)			Lower Napoopoo Rd (Westbound)			Puuhonua Rd (Northbound)			Interval Totals	Hourly Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
3:45 PM	0	1	3	2	0	1	3	2	0	12	
4:00 PM	0	1	4	1	0	0	1	0	0	7	
4:15 PM	0	1	4	3	0	0	1	1	0	10	
4:30 PM	0	2	2	2	0	0	4	0	0	10	39
4:45 PM	0	1	0	1	0	1	1	0	0	4	31
5:00 PM	0	0	0	0	0	0	1	1	0	2	26
Totals	0	6	13	9	0	2	11	4	0		

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97224
971-223-0003
www.qualitycounts.net

	Puuhonua Rd (Southbound)			Lower Napoopoo Rd (Westbound)			Puuhonua Rd (Northbound)			Interval Totals	Hourly Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
3:45 PM	0	0	2	4	0	9	2	0	0	17	
4:00 PM	0	0	2	2	0	7	3	1	0	15	
4:15 PM	0	2	4	1	0	8	5	2	0	22	
4:30 PM	0	1	1	0	0	10	4	0	0	16	70
4:45 PM	0	0	1	1	0	5	6	0	0	13	66
5:00 PM	0	3	0	3	0	5	3	0	0	14	65
Totals	0	6	10	11	0	44	23	3	0		

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97224
971-223-0003
www.qualitycounts.net

Site Code: 13418905
Location: Lower Napoopoo Rd -- Puuhonua Rd
Date: 6/20/2015 Saturday

	Puuhonua Rd (Southbound)			Lower Napoopoo Rd (Westbound)			Puuhonua Rd (Northbound)			Interval Totals	Hourly Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
11:00 AM	0	5	4	9	0	6	6	1	0	31	
11:15 AM	0	3	2	9	0	4	6	1	0	25	
11:30 AM	0	8	2	9	0	8	6	0	0	33	
11:45 AM	0	6	1	8	0	7	8	0	0	30	119
12:00 PM	0	4	9	6	0	10	10	8	0	47	135
12:15 PM	0	6	9	5	0	9	9	1	0	39	149
Totals	0	32	27	46	0	44	45	11	0		

Tourist Totals	0	18	17	31	0	6	13	6	0
Resident/Local T	0	14	10	15	0	38	32	5	0

Int. Peak

62% **of people traveling to/from Beach Road are visitors**
38% Resident Local

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97224
971-223-0003
www.qualitycounts.net

	Puuhonua Rd (Southbound)			Lower Napoopoo Rd (Westbound)			Puuhonua Rd (Northbound)			Interval Totals	Hourly Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
11:00 AM	0	4	3	7	0	0	1	0	0	15	
11:15 AM	0	3	1	7	0	0	4	0	0	15	
11:30 AM	0	4	2	6	0	1	0	0	0	13	
11:45 AM	0	4	1	7	0	3	2	0	0	17	60
12:00 PM	0	1	5	2	0	1	4	6	0	19	64
12:15 PM	0	2	5	2	0	1	2	0	0	12	61
Totals	0	18	17	31	0	6	13	6	0		

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97224
971-223-0003
www.qualitycounts.net

	Puuhonua Rd (Southbound)			Lower Napoopoo Rd (Westbound)			Puuhonua Rd (Northbound)			Interval Totals	Hourly Totals
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
11:00 AM	0	1	1	2	0	6	5	1	0	16	
11:15 AM	0	0	1	2	0	4	2	1	0	10	
11:30 AM	0	4	0	3	0	7	6	0	0	20	
11:45 AM	0	2	0	1	0	4	6	0	0	13	59
12:00 PM	0	3	4	4	0	9	6	2	0	28	71
12:15 PM	0	4	4	3	0	8	7	1	0	27	88
Totals	0	14	10	15	0	38	32	5	0		

Appendix F

Water Usage Calculations

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

RECEIVED
2017 OCT -2 AM 11:12
BELT COLLINS HAWAII

September 28, 2017

Mr. John Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

Dear Mr. Kirkpatrick:

Subject: Water Usage Calculations for Kealakekua Bay State Historical Park Master Plan
Tax Map Key (3) 8-1-007:050; 8-1-010:001; 8-1-011:001, 003 to 014, 016;
8-2-004:001, 002, 008 to 010, 015

We have reviewed the subject water demand calculations showing the estimated water demand based on the proposed interpretive center on Tax Map Key 8-2-004:001 within the master plan area and find them acceptable. Based on the water demand calculations, the estimated average daily usage is 2,100 gallons per day (GPD), or six (6) equivalent units of water at 400 GPD per unit. A 1-inch meter is adequate to accommodate the proposed demand.

Prior to granting water service, the following conditions must be met:

1. Construct necessary water system improvements, which shall include, but not be limited to:

   a. installation of an appropriately-sized service lateral to accommodate a 1-inch meter,

   b. installation of a reduced pressure type backflow prevention assembly within five (5) feet of the meter on private property, the installation of which must be inspected and approved by the Department before water service can be activated, and

   c. subject to other agencies' requirements to construct improvements within the road right-of-way fronting the property affected by the proposed development, the applicant shall be responsible for the relocation and adjustment of the Department's affected water system facilities, should they be necessary.

   Submit construction plans, prepared by a professional engineer licensed in the State of Hawai'i, for review and approval.

2. Remit the prevailing facilities charge balance, which is subject to change, as shown below:

   FACILITIES CHARGE (FC):

Six (6) additional units @ $5,500.00/unit	$33,000.00
Total FC	$33,000.00

   This is due and payable upon completion of the installation of the required water system improvements and prior to final approval being granted.

Please keep in mind that this letter shall not be construed as a water commitment. In other words, unless a water commitment is officially effected, water availability is subject to change, depending on the water situation.

Should there be any questions, please contact Mr. Ryan Quitoriano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

Keith K. Okamoto, P.E.
Manager-Chief Engineer

RQ:dfg

copy – Ms. Martha Yent, State of Hawai'i, Department of Land and Natural Resources, Division of State Parks

PROJECT: Kealakekua Bay State Park
CLIENT: State of Hawaii
SUBJECT: Water Usage Calculations

JOB NO: 2015.70.0200
DATE: 12-Jun-17
BY: AK/JS

This assessment is for water usage calculations for total estimated daily water usage in gallons per day (gpd) and estimated peak flow in gallons per minute (gpm) for the proposed improvements at Kealakekua Bay Historic Park, as requested by the Department of Water Supply in their letter dated May 25, 2017.

The proposed improvements at Kealakekua Bay Historic Park include an approximately 1,500 square foot (sf) interpretive center and a 50-stall parking lot with landscaping located along Lower Nāpōʻopoʻo Road at tax map key(tmk): (3) 8-2-004:001. The interpretive center is estimated to include men's and women's restroom facilities, a kitchen sink and mop sink. The men's restroom is estimated to consist of one toilet, one urinal and one wash sink. The women's restroom is estimated to consist of two toilets and one wash sink. The total property area is 2.797 acres. The proposed developed area is estimated at 1.0 acres

Total Estimated Daily Water Usage (gpd)
Average Daily Demand = 4,000 gallons per acre (per Water System Standards, Table 100-18)

Estimated Daily Water Usage = Average Daily Demand x Proposed Developed Area
4,000 gallons per acre x 1.0 acres
4,000 gpd

In 2016, the Kealakekua State Historical Park restroom pavilion and approximately 5,000 sf grassed area on the 3.24 acre tmk: (3) 8-2-004:009 had the following water usage.
Existing Daily Water Usage = 835 gpd (per Department of Water Supply)

The difference in the existing daily water usage of 835 gpd at the existing park facility and the projected daily water usage of 4,000 gpd based on the Water System Standards for the proposed interpretive center is significant. The existing site has minimal landscape area.

To calculate the estimated daily water usage for the interpretive center, the existing restroom pavilion water use is added to a calculated landscape irrigation water use.

Estimated Daily Water Usage = Exist Pavilion Daily Water Use + Landscape Irrigation Water Use
Existing Pavilion Daily Water Use = 835 gpd
Landscape Irrigation Water Use:
Landscape Irrigation Water Requirements: 1.25 inches/ week or 0.10 feet/week
Landscape Area: 11,400 sf (see attached sketch)
Landscape Irrigation Water Use = 0.10 feet/week x 11,400 square feet
= 1,140 cubic feet/week x (week/7 days)
= 163 cubic feet/day x (7.48 gallons/cubic foot)
= 1,219 gallons/day
Estimated Daily Water Usage = 835 gpd + 1,219 gpd = 2,054 gpd
Estimated Daily Water Usage = 2,100 gpd

PROJECT: Kealakekua Bay State Park
CLIENT: State of Hawaii
SUBJECT: Water Usage Calculations

JOB NO: 2015.70.0200
DATE: 12-Jun-17
BY: AK/JS

Total Estimated Peak Flow (gpd)
Total Estimated Peak Flow = Peak Domestic Flow + Peak Irrigation Flow

Note, irrigation should be conducted during off-peak domestic flow hours, during the early morning or evening hours when the park is closed. The estimated peak flow will be the higher of either the peak domestic flow or peak irrigation flow.

Peak Domestic Flow. Calculated based on the estimated fixture units in the interpretive center.

Interpretive Center			
Fixture Type	**Number of Fixtures**	**Fixture Units**	**Total Fixture Units**
Washup Sink	2	2.0	4.0
Service Sink	1	3.0	3.0
Kitchen Sink	1	1.5	1.5
Toilet	3	5.0	15.0
Urinal	1	4.0	4.0
Drinking Fountain	1	0.5	0.5
Hose Bibb	1	2.5	2.5
Additional Hose Bibb	1	1.0	1.0
TOTAL			**31.5**

Reference: Fixture Units based on Uniform Plumbing Code Table A-2, see attached.

Peak Domestic Flow = 42 gpm (from Uniform Plumbing Code, Chart A-3, see attached)

Irrigation Peak Flow = 37.5 gpm (based on residential landscape irrigation systems In Kealakekua)

Total Estimated Peak Flow = 42 gpm



This work was prepared by me
or under my supervision
April 30, 2018
Expiration Date of the License

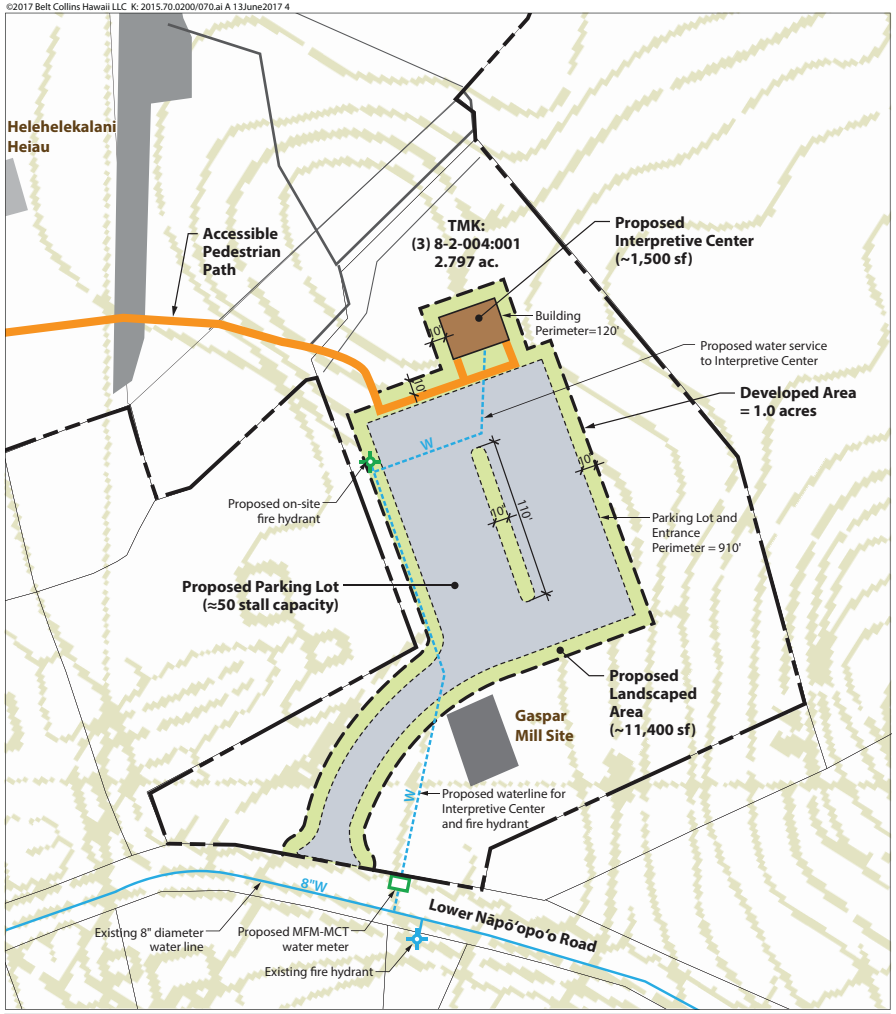


Figure 1
SITE PLAN
Kealakekua Bay State Historical Park
South Kona, Hawai'i

Inch	mm
1/2	15
3/4	20
1	25

TABLE A-2
Water Supply Fixture Units (WSFU) and Minimum Fixture Branch Pipe Sizes[3]

Appliances, Appurtenance, or Fixtures[2]	Minimum Fixture Branch Pipe Size[1,4]	Private	Public	Assembly[6]
Bathtub or Combination Bath/Shower (fill)	1/2"	4.0	4.0	
3/4" Bathtub Fill Valve	3/4"	10.0	10.0	
Bidet	1/2"	1.0		
Clothes Washer	1/2"	4.0	4.0	
Dental Unit, cuspidor	1/2"		1.0	
Dishwasher, domestic	1/2"	1.5	1.5	
Drinking Fountain or Watercooler	1/2"	0.5	0.5	0.75
Hose Bibb	1/2"	2.5	2.5	
Hose Bibb, each additional[7]	1/2"	1.0	1.0	
Lavatory	1/2"	1.0	1.0	1.0
Lawn Sprinkler, each head[5]		1.0	1.0	
Mobile Home, each (minimum)		12.0		
Sinks				
Bar	1/2"	1.0	2.0	
Clinic Faucet	1/2"		3.0	
Clinic Flushometer Valve with or without faucet	1"		8.0	
Kitchen, domestic	1/2"	1.5	1.5	
Laundry	1/2"	1.5	1.5	
Service or Mop Basin	1/2"	1.5	3.0	
Washup, each set of faucets	1/2"		2.0	
Shower	1/2"	2.0	2.0	
Urinal, 1.0 GPF	3/4"	3.0	4.0	5.0
Urinal, greater than 1.0 GPF	3/4"	4.0	5.0	6.0
Urinal, flush tank	1/2"	2.0	2.0	3.0
Washfountain, circular spray	3/4"		4.0	
Water Closet, 1.6 GPF Gravity Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Valve	1"	5.0	5.0	8.0
Water Closet, greater than 1.6 GPF Gravity Tank	1/2"	3.0	5.5	7.0
Water Closet, greater than 1.6 GPF Flushometer Valve	1"	7.0	8.0	10.0

Notes:

1. Size of the cold branch outlet pipe, or both the hot and cold branch outlet pipes.
2. Appliances, Appurtenances, or Fixtures not included in this Table may be sized by reference to fixtures having a similar flow rate and frequency of use.
3. The listed fixture unit values represent their total load on the cold water service. The separate cold water and hot water fixture unit value for fixtures having both cold and hot water connections may each be taken as three-quarters (3/4) of the listed total value of the fixture.
4. The listed minimum supply branch pipe sizes for individual fixtures are the nominal (I.D.) pipe size.
5. For fixtures or supply connections likely to impose continuous flow demands, determine the required flow in gallons per minute (GPM) and add it separately to the demand (in GPM) for the distribution system or portions thereof.
6. Assembly [Public Use (See Table 4-1)].
7. Reduced fixture unit loading for additional hose bibbs as used is to be used only when sizing total building demand and for pipe sizing when more than one hose bibb is supplied by a segment of water distributing pipe. The fixture branch to each hose bibb shall be sized on the basis of 2.5 fixture units.

Chart A-3
Enlarged Scale Demand Load

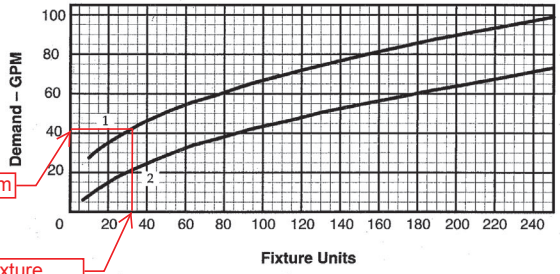
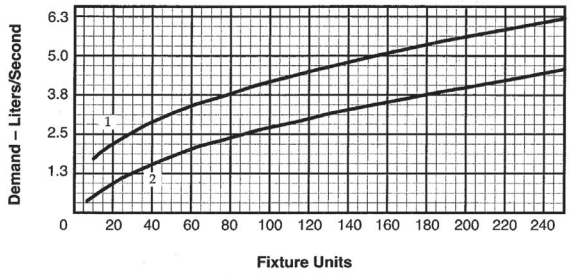


Chart A-3 (Metric)
Enlarged Scale Demand Load



Appendix G

Kealakekua Bay State Historic Park Stakeholder Survey

Kealakekua Bay State Historic Park Stakeholder Survey

Summary of Responses Presented at Nāpōʻopoʻo in August 2016

The survey ran for two weeks in May 2016. It was sent to some 311 addresses. The survey was designed by Belt Collins Hawaii LLC with input from the Division of State Parks (DSP). The objective of the survey was to learn in some detail how stakeholders assess conditions at the Park and various potential changes.

Of those invited:

251	opened the survey, of whom
175	responded to the survey
5	opted out[1]
7	were not deliverable.

The survey invitation went to e-mail addresses collected by DSP and Belt Collins Hawaii. These addresses came from sign-in sheets at meetings and discussions in 2015 and early 2016, and from the permittee list for vessels in Kealakekua Bay. **This is not a random sample:** It is a selection of persons who have already indicated that they are concerned about the bay. By zip code, nearly 40% of respondents were from Captain Cook, 6% from Kealakekua, and nearly 40% from Kailua Kona. Nearly all the remainder were from other places on the Big Island.

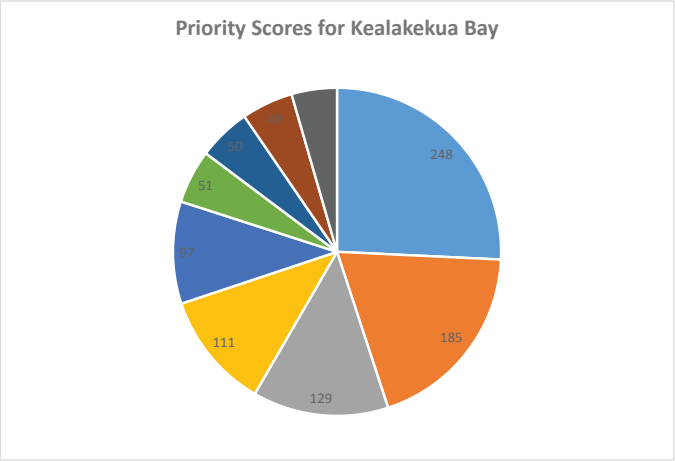
In analyzing the survey, **we looked for consensus**. We didn't find 100% agreement, but there were clearly some general points of agreement. First of all**, there was general agreement on priorities – "the top needs for Kealakekua Bay":**

1. Access and use of the park for recreation (Score = 248)
2. Protection of the natural and cultural resources (Score = 185)
3. Enforcement of laws and rules (Score = 129)

SCORE: If someone listed a priority as 1st, it scored as 3; if someone listed it as 2nd, it scored as 2; if someone listed it as 3rd, it scored as 1. These scores simply add up the number of 1st to 3rd priority votes that survey respondents provided.

[1] SurveyMonkey knows these people opted out, but we do not, so they may still receive updates from us about the Master Plan process.

Here is the distribution of all these scores:



Score	Priority
248	Access for recreation
185	Protect resources
129	Enforcement
111	Developing new facilities
97	Creating a sense of place
51	Interpretive program
50	Visitor services and park presence
49	Commercial venues
43	Access for cultural practitioners + vessel safe haven

Points of agreement -- defined as 88 or more responses out of 175, a majority of those who might have answered – can be listed here:

Kaʻawaloa:

- **Provide maintenance (144)**
- Stabilize walls (112)
- Remove alien vegetation (91)
- Provide self-guided tours (107)
- Develop interpretive trails of the archaeological complex (91)
- Provide enforcement on site (105)
- Allow non-commercial non-motorized vessels with permits to land (125)
- Allow commercial non-motorized vessels with permits to land (104)

Kaʻawaloa Cove and the Bay:

- Prohibit commercial vessels for 1 or 2 days a week (121)
- Establish a "no motor boat" boundary near the Cove (113)
- Establish and enforce a dolphin rest area (101)

Nāpōʻopoʻo Beach

- Allow non-motorized vessel launch (106)

Nāpōʻopoʻo Section of the Park

- **Provide a restroom if develop Parcel 1 (133)**
- Provide interpretive exhibits on Parcel 1 (96)
- Clear vegetation around the heiau; restore the cultural landscape (90)
- Provide an interpretive trail around the heiau and pond (90)

Nāpōʻopoʻo Landing

- **Allow non-commercial vessel launch (144)**
- Provide toilets (113)
- Drop off of vessels (99)
- Interpretive signs for visitors (93)

So, what I see here is a broad agreement on the value of Kealakekua Bay, and the importance of supporting recreational uses. Earlier, we tried to present fully detailed alternatives and heard that none of these were quite right. This time we're hearing that a lot of the things we considered fit with the views of many people in the community.

Appendix H

Comments on the Environmental Impact Statement Preparation Notice

National Park Service
U.S. Department of the Interior

Pu'uhonua o Hōnaunau
National Historical Park

P.O. Box 129
Hōnaunau, Hawai'i
96726

(808)328-2326 phone
(808)328-9485 fax

Pu'uhonua o Hōnaunau

1.A.2 (PUHO)

May 23, 2017

John T. Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Subject: National Park Service Comments on the Environmental Impact Statement Preparation Notice for Kealakekua Bay State Historical Park Master Plan

Aloha Mr. Kirkpatrick:

Thank you for providing an opportunity to comment on the Environmental Impact Statement Preparation Notice (EISPN) for the Kealakekua Bay State Historical Park Master Plan, South Kona, Hawai'i County, Hawai'i. The Department of Land and Natural Resources, State of Hawai'i, is proposing to preserve and interpret the natural, cultural and historic resources of the Park while enhancing recreation. New facilities are proposed to include an interpretive center, restroom, a parking lot, and interpretive trails.

Pu'uhonua o Hōnaunau National Historical Park lies four miles south of Kealakekua Bay State Historical Park and encompasses 420 acres. Known as City of Refuge National Historical Park when formally established in 1961, the park protects and interprets the *wahi pana* and interconnected resources of the Hōnaunau, Keōkea, and Ki'ilae *ahupua'a*, so traditional Hawaiian values and practices will thrive now and into the future. The park protects one of the best preserved pu'uhonua in the Hawaiian Islands, a sacred place of refuge that exemplifies the important role of the kapu system in governing Hawaiian society. The reconstructed Hale o Keawe, where the sacred bones of Hawai'i's paramount chiefs were cared for, imparts a strong spiritual power that is still felt today. Across its expanse, the park protects archeological and cultural landscapes and seascapes where commoners and chiefs lived, which have great potential to reveal new insights about daily Hawaiian life from the pre-contact times to the late 1920's. The religious and cultural significance of the lands the park encompasses continue to connect visitors, multi-generational communities and cultural practitioners to its resources and inspires collaboration.

Approximately 421,000 visitors came to Pu'uhonua o Hōnaunau NHP in 2016 (https://irma.nps.gov/Stats/). Local residents, cultural practitioners and visitors from around the world come to Hōnaunau to experience its peace, unique seascape, cultural landscapes and natural history, to exercise traditional Hawaiian practices, and to learn.

The objectives described in the EISPN for development and management of the State Park are to preserve the *wahi pana* and to support recreational uses in a manner that does not impact the cultural values. Many of the proposed actions will, if met, greatly enhance the ability of the DLNR to preserve, protect, and interpret the history and cultural significance of Kealakekua Bay, Ka'awaloa, Kekua, and Napo'opo'o which are intimately tied to the Pu'uhonua o Hōnaunau and the lands which adjoin them.

The NPS respectfully asks that the Draft Environmental Impact Statement (DEIS) address, through its Traffic Study, potential impacts related to road safety and infrastructure along the coastal road that links the two parks by way of the lands of Kē'ēi, potential changes to marine recreational uses that might have an impact on the traditional and recreational uses of Hōnaunau Bay, and anticipated changes in visitor use patterns. The NPS supports the objective to manage visitation at Ka'awaloa through the long-term support of a Park Manager, interpretive staff, park caretakers and enforcement, and suggests that long-term vegetation management and cultural resource preservation strategies, particularly for park trails, be clearly described in the DEIS.

If you have any questions please do not hesitate to contact me at (808) 328-2326 x1101, or by email at William_Thompson@nps.gov. You may also contact MaryAnne Maigret, Acting Integrated Resources Manager at (808) 328-2326 x1104, or by email at MaryAnne_Maigret@nps.gov.

Sincerely,

For
William Thompson
Acting Superintendent

cc.
Melia Lane-Kamahele, NPS Honolulu Regional Office
Dr. Alan Downer, State Historic Preservation Office
Katariina Tuovinen, NPS PWR Deputy Regional Director

EXPERIENCE YOUR AMERICA
The National Park Service cares for special places saved by the American people so that all may experience our heritage.

October 2, 2017
2015.70.0200 / 17P-090

Mr. William Thompson, Acting Superintendent
Pu'uhonua o Hōnaunau National Historical Park
P.O. Box 129
Hōnaunau, Hawai'i 96726

Dear Mr. Thompson:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your letter of May 23, 2017. The responses to your comments below follow the order of topics in your letter.

Traffic - between Pu'uhonua o Hōnaunau and Nāpō'opo'o: The traffic assessment and the EIS will consider impacts to the coastal road.

Marine Recreation in the Coastal Waters along Pu'uhonua Road: The proposed Master Plan does not include any recreational use south of Nāpō'opo'o. No facilities for motorized vessels are included in the Master Plan. While the topic will be discussed in the Draft Environmental Impact Statement (DEIS), at this point, the Master Plan does not appear to have an impact in this area. If you have further thoughts or evidence that bears on this issue, we would welcome more input from you.

Long Term Vegetation and Cultural Resource Management Strategies: Vegetation removal in KBSHP is done under the supervision of a trained and experienced archaeologist. Trails and any structures within the Park will be designed and developed on the basis of past and ongoing archaeological studies to avoid any impact on historic and cultural resources. The DEIS will discuss this process.

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@bchdesign.com
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OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

RECEIVED
2017 MAY -8 PM 2:43
BELT COLLINS HAWAII

Ref. No. P-15594

May 5, 2017

Mr. John T. Kirkpatrick
Senior Socio-economic Analyst
Belt Collins Hawaii, LLC
2153 N. King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Kirkpatrick:

Subject: Environmental Impact Statement Preparation Notice – Kealakekua Bay State Historical Park Mater Plan, South Kona, Hawaii County
TMK: (3) 8-1-007: 050; 8-1-010: 001; 8-1-011: 001, 003 to 014, 016; 8-2-004: 001, 002, 008 to 010, 015

Thank you for the opportunity to provide comments on this Environmental Impact Statement Preparation Notice (EISPN) for the Kealakekua Bay State Historic Park (KBSHP) Master Plan. The EISPN request review material was transmitted to our office via letter dated April 21, 2017.

The KBSHP Master Plan calls for phased implementation based on identified priorities and funding. The proposed action and alternatives evaluated in the forthcoming Draft Environmental Impact Statement (DEIS) will evaluate levels of development and sustainable strategies for preservation, interpretation, and visitation while improving access to the park.

The master plan includes basic visitor facilities to address sanitation, visitation, and interpretation. Infrastructure and amenities upgrades include a new parking area, restrooms, an interpretive center, and hiking trails. The establishment of a spinner dolphin rest area promotes respect for the marine resources. The Plan will also addresses safety issues for swimmers and snorkelers. The proposed parking at Napoopoo and use of Napoopoo Landing are intended to reduce impacts of visitation on the community while encouraging safe use of watercraft by local residents and visitors alike.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. Pursuant to Hawaii Administrative Rules (HAR) § 11-200-17(h) – relationship of the proposed action to land use plans, policies, and controls for the affected area; this project must demonstrate that it is consistent with state environmental, social, and

economic goals and land-use policies. Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Planning Act, provides goals, objectives, policies, and priority guidelines for growth, development, and the allocation of resources throughout the state in areas of state interest.

The DEIS should contain an analysis on the Hawaii State Planning Act to include a discussion on the project's ability to meet all of the goals, objectives, policies, and priority guidelines or clarify where it is in conflict with them. If any of these themes are not applicable to the project, the analysis should affirmatively state such determination, followed by discussion paragraphs.

2. The coastal zone management (CZM) area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" (see HRS § 205A-1).

   HRS Chapter 205A-5(b) requires all state and county agencies to enforce the CZM objectives and policies. The DEIS should include an assessment as to how the proposed action conforms to the goals and objectives of the Hawaii CZM program as listed in HRS § 205A-2. Compliance with HRS § 205A-2 is an important component for satisfying the requirements of HRS Chapter 343.

3. The EISPN acknowledges that this project site is located within the Special Management Area (SMA) of the County of Hawaii and may subject to a shoreline determination. Please contact the Department of Planning, County of Hawaii on the regulatory requirements on SMA use and shoreline setbacks.

4. Section 4.1.2, page 25 of the EISPN states that the work to clean and renew the Napoopoo historic area would come under the authority of the U.S. Army Corps of Engineers which has oversight over activity that modifies a harbor under the Rivers and Harbors Act of 1899.

   As listed in Section 4.4, Table 2, page 27 of the EISPN, if a federal permit is required for the alteration of the port facility wharf at Napoopoo Landing or jetty at Kaawaloa, then a Federal Consistency review may also be necessary.

   The national Coastal Zone Management Act (CZMA) requires that federal actions be consistent with approved state coastal programs enforceable policies. A Federal action is defined by the CZMA to include federal permits or approvals.

   OP is the lead state agency with the authority to conduct Federal Consistency

reviews. If a federal permit is needed, please contact our office on the policies and procedures involved in a Federal Consistency Review.

5. Pursuant to HAR § 11-200-17(i) – probable impact of the proposed action on the environment, and impacts of the natural and human environment – in order to ensure that the coastal resources near KBSHP remain protected, the negative effects of stormwater inundation ensuing from development activities within the park should be evaluated.

   The DEIS should summarize the potential impact to nearshore marine and surface water resources from construction activities, as well as the cumulative impact of land-based pollutants and soil erosion carried by stormwater runoff on the coastal ecosystem. Related issues that should be evaluated include, but are not limited to, land use classification, flooding issues, current erosion hazards, as well as the expected speed and volume of storm runoff. Pursuant to HAR § 11-200-17(m) – consider mitigation measures proposed to avoid, minimize, rectify, or reduce impact; these items, as well as the marine water quality classification, should be considered when developing mitigation measures for the protection of surface water resources and coastal ecosystem.

   The increase of hardened surfaces from the creation of a parking area and infrastructure improvements throughout the park may result in increased stormwater flow. The DEIS should include an examination of stormwater mitigation strategies. Mitigation strategies can include erosion control protection, site development, and pollution control measures. An effective stormwater runoff control method is the use of low impact development (LID) design features, such as bio-retention basins, native plant rain gardens, grassed swales, and permeable pavers for walkways and parking areas that treat stormwater onsite.

   OP has developed resources available to assist in the development of projects which may assist in the mitigation of sediment loss and stormwater control. We recommend consulting these guidance documents and stormwater evaluative tools when developing strategies to address polluted runoff. They offer useful techniques to keep land-based pollutants and sediment in place and prevent contaminating nearshore waters.

   - Hawaii Watershed Guidance provides direction on mitigation strategies for urban development activities that will safeguard watersheds and implement

watershed plans http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/HI Watershed Guidance Final.pdf

- Stormwater Impact Assessments can be used to identify and evaluate information on hydrology, stressors, sensitivity of aquatic and riparian resources, and management measures to control runoff, as well as consider secondary and cumulative impacts to the area http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_impact/final_stormwater_impact_assessments_guidance.pdf
- Low Impact Development (LID), A Practitioners Guide covers a range of structural best management practices (BMP's) for stormwater control management and layout that minimizes environmental impacts http://files.hawaii.gov/dbedt/op/czm/initiative/lid/lid_guide_2006.pdf

We have no further comments at this time. If you have any questions regarding this comment letter, please contact Joshua Hekekia of our office at (808) 587-2845.

Sincerely,

Leo R. Asuncion
Director

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-059

Mr. Leo Asuncion
Office of Planning
State of Hawai'i
235 S. Beretania Street, 6th floor
Honolulu, HI 96813

Dear Mr. Asuncion:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your letter of May 5, 2017. The responses to your comments below follow the order of topics in your letter.

1. The Draft Environmental Impact Statement (DEIS) will consider the Hawai'i State Planning Act and the relation of the action alternatives under study to that act.
2. The DEIS will include an assessment of the conformance of the proposed action to the Hawai'i Coastal Zone Management policies and objectives.
3. The Planning Department of the County of Hawai'i is aware that action along the shoreline at KBSHP would come under its review since it is in the Shoreline Management Area. A Shoreline Setback Variance also may be required with a certified shoreline map.
4. After further design, any new or modified structures proposed along the shoreline will seek a permit from the U.S. Army Corps of Engineers for review and approval. Similarly, your Office will be asked to assess whether a Federal Consistency Review is needed, and, if so, to make such a determination. Department of Health will also require a Water Quality Certification to mitigate any impacts to waters of the United States.
5. The DEIS will include accounts of drainage and of the marine ecosystem. Storm water flows from new impervious surfaces will be estimated, and techniques to control such flows on site will be identified. The guidance documents you cite will be consulted.

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,
BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:
EPO 17-097

May 4, 2017

Mr. John Kirkpatrick
Belt Collins Hawaii LLC
2153 N. King Street, Suite 200
Honolulu, Hawaii 96819
Email: jkirkpatrick@bchdesign.com

Dear Mr. Kirkpatrick:

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) Kealakekua Bay State Historical Park Master Plan, South Kona, Hawaii
TMK: (3) 8-1-007:050, 8-1-010:001I 8-1-011:001, 003 to 014, 8-2-004:001, 002, 008 to 010

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your EISPN to our office via the OEQC link:
http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Hawaii/2010s/2017-04-23-HA-EISPN-Kealakekua-Bay-Master-Plan.pdf

We understand from the OEQC publication form project summary that "*The Master Plan calls for steps that can be implemented with modest funding and without relying on additional land acquisition. The Master Plan includes basic visitor facilities – parking and restrooms. It includes an interpretive center and trails that can help visitors learn about history and cultural resources. It limits access to Ka'awaloa and to the spinner dolphin rest area, sites where visitors could affect both resources and the overall ambiance of the park. It addresses safety issues for swimmers in Ka'awaloa Cove. The proposed parking arrangements and use of Nāpō'opo'o Landing are intended to reduce impacts of visitation on the community while encouraging safe use of watercraft by local residents and visitors alike.*"

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments and available strategies to support sustainable and healthy design are provided at: http://health.hawaii.gov/epo/landuse. Projects are required to adhere to all applicable standard comments. EPO has recently updated the environmental Geographic Information System (GIS) website page. It now compiles various maps and viewers from our environmental health programs. The eGIS website page is continually updated so please visit it regularly at: http://health.hawaii.gov/epo/egis

In 2015, Hawaii passed Act 97 which amended Hawaii's Renewable Portfolio Standards by setting a goal for Hawaii to become one hundred percent renewable by the year 2045. To reach this goal Hawaii should transform its transportation sector from the use of fossil fuels to renewable fuel, electric vehicles (EV)s, and public transit systems including bikeshare programs. To address "range anxiety" and facilitate the adoption of EVs, it is essential that EV charging stations be added to any planned parking areas open to the EV driving public. All future plans should strive to encourage the use of personal bicycles though the development of designated bike lanes and class A bike trails. All efforts should be made to reduce harmful vehicle emissions, reduce vehicle miles travelled (VMT's), encourage alternative modes of transport and increase physical activity.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: https://eha-cloud.doh.hawaii.gov. This site provides links to our e-Permitting Portal, Environmental Health Warehouse,

Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

We suggest you review the requirements of the Clean Water Branch (Hawaii Administrative Rules {HAR}, Chapter 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: http://health.hawaii.gov/cwb. If you have any questions, please contact the Clean Water Branch (CWB), Engineering Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

If temporary fugitive dust emissions could be emitted when the project site is prepared for construction and/or when construction activities occur, we recommend you review the need and/or requirements for a Clean Air Branch (CAB) permit (HAR, Chapter 11-60.1 "Air Pollution Control"). Effective air pollution control measures need to be provided to prevent or minimize any fugitive dust emissions caused by construction work from affecting the surrounding areas. This includes the off-site roadways used to enter/exit the project. The control measures could include, but are not limited to, the use of water wagons, sprinkler systems, and dust fences. For questions contact the Clean Air Branch via e-mail at: Cab.General@doh.hawaii.gov or call (808) 586-4200.

You may also wish to review the draft Office of Environmental Quality Control (OEQC) viewer at: http://eha-web.doh.hawaii.gov/oeqc-viewer. This viewer geographically shows where some previous Hawaii Environmental Policy Act (HEPA) {Hawaii Revised Statutes, Chapter 343} documents have been prepared.

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed a new environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: http://www.epa.gov/ejscreen.

Hawaii's climate is changing. Sea level rise and the associated coastal impacts have the potential to harm an array of natural and built environments in Hawaii. For additional information on projected sea level rise in Hawaii, EPO recommends that you visit the following informative links:

- State of Hawaii Climate Adaptation Portal: http://climateadaptation.hawaii.gov
- University of Hawaii, Manoa, School of Ocean and Earth Sciences and Technology, Coastal Geology Group: http://www.soest.hawaii.edu/coasts/index.html
- US Environmental Protection Agency – Climate Impacts on Coastal Areas: https://www.epa.gov/climate-impacts/climate-impacts-coastal-areas

We request that you utilize all this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design. Thank you for the opportunity to comment.

Mahalo nui loa,

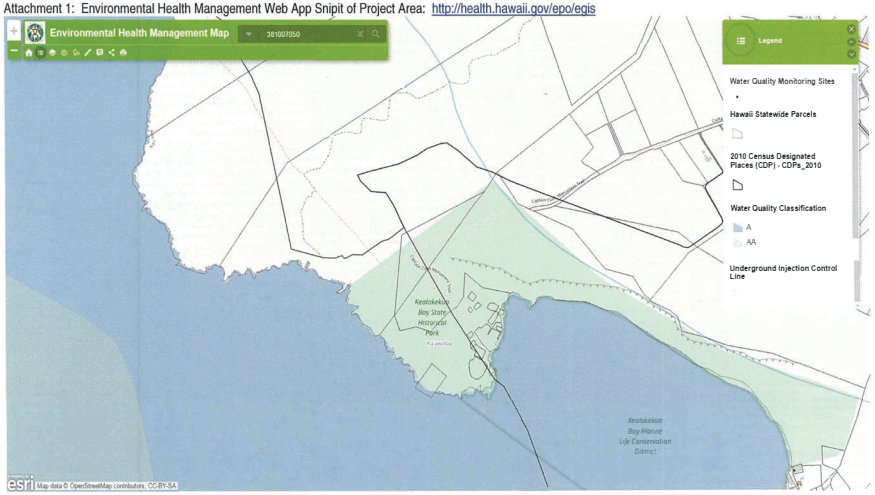
Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

LM:nn

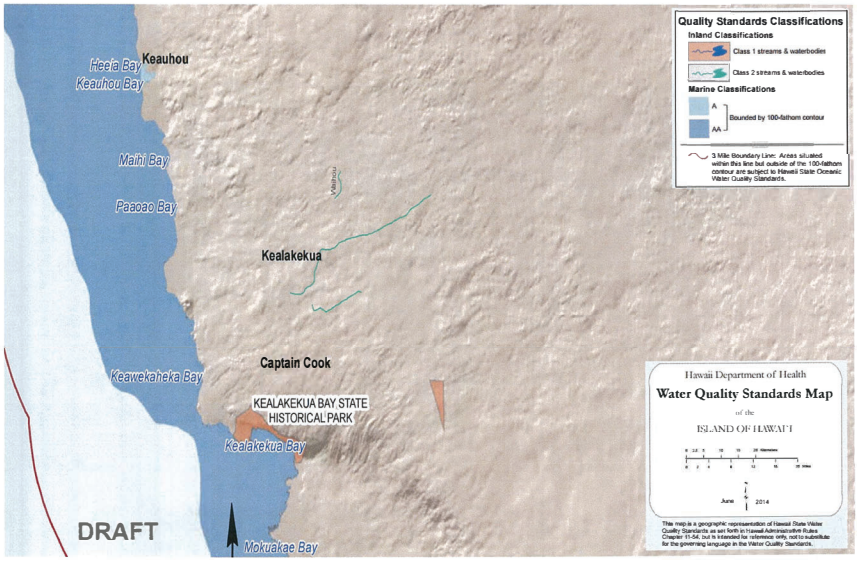
Attachment 1: Environmental Health Management Web App Snipit of Project Area: http://health.hawaii.gov/epo/egis
Attachment 2: Clean Water Branch: Water Quality Standards Map - Hawaii
Attachment 3: U.S. EPA EJSCREEN Report for Project Area

c: Martha Yent, Division of State Parks (via email: martha.e.vent@hawii.gov)
Gov. David Ige (via email: http://governor.hawaii.gov/co
DOH: DHO HI, CWB, CAB {via email only}

Attachment 1: Environmental Health Management Web App Snipit of Project Area: http://health.hawaii.gov/epo/egis



Attachment 2: Clean Water Branch: Water Quality Standards Map - Hawaii



Attachment 3: U.S. EPA EJSCREEN Report for Project Area

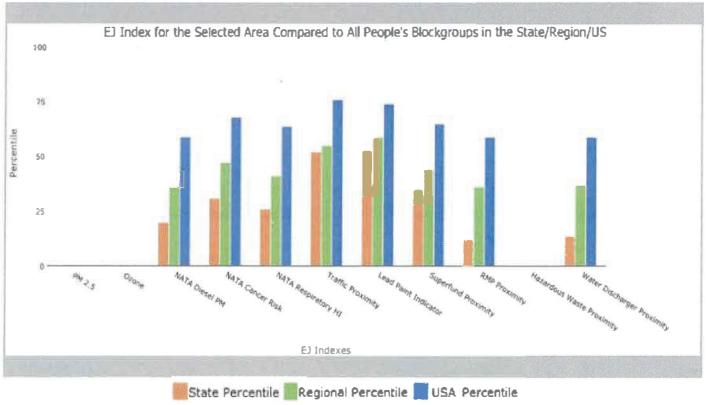
EJSCREEN Report (Version 2016)

1 mile Ring Centered at 19.482638,-155.933140, HAWAII, EPA Region 9

Approximate Population: 218

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	20	36	59
EJ Index for NATA* Air Toxics Cancer Risk	31	47	68
EJ Index for NATA* Respiratory Hazard Index	26	41	64
EJ Index for Traffic Proximity and Volume	52	55	76
EJ Index for Lead Paint Indicator	53	59	74
EJ Index for Superfund Proximity	35	44	65
EJ Index for RMP Proximity	12	36	59
EJ Index for Hazardous Waste Proximity*	N/A	N/A	N/A
EJ Index for Water Discharger Proximity	14	37	59



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report (Version 2016)

1 mile Ring Centered at 19.482638,-155.933140, HAWAII, EPA Region 9

Approximate Population: 218

Input Area (sq. miles): 3.14



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0
National Pollutant Discharge Elimination System (NPDES)	0

EPA United States Environmental Protection Agency

EJSCREEN Report (Version 2016)

1 mile Ring Centered at 19.482638,-155.933140, HAWAII, EPA Region 9

Approximate Population: 218

Input Area (sq. miles): 3.14

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m³)	N/A	N/A	N/A	9.37	N/A	9.32	N/A
Ozone (ppb)	N/A	N/A	N/A	51	N/A	47.4	N/A
NATA* Diesel PM (µg/m³)	0.0143	0.149	8	0.978	<50th	0.937	<50th
NATA* Cancer Risk (lifetime risk per million)	25	34	9	43	<50th	40	<50th
NATA* Respiratory Hazard Index	0.5	1	9	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	130	990	48	1100	40	590	56
Lead Paint Indicator (% Pre-1960 Housing)	0.13	0.16	56	0.24	48	0.3	40
Superfund Proximity (site count/km distance)	0	0.098	29	0.15	13	0.13	16
RMP Proximity (facility count/km distance)	0	0.19	3	0.57	1	0.43	1
Hazardous Waste Proximity+ (facility count/km distance)	N/A	0.14	N/A	0.14	N/A	0.11	N/A
Water Discharger Proximity (facility count/km distance)	0	0.34	6	0.2	3	0.31	1
Demographic Indicators							
Demographic Index	53%	52%	55	47%	60	36%	76
Minority Population	75%	77%	35	58%	64	37%	82
Low Income Population	31%	26%	65	36%	47	35%	49
Linguistically Isolated Population	0%	6%	23	9%	19	5%	44
Population With Less Than High School Education	2%	9%	15	17%	12	14%	12
Population Under 5 years of age	7%	6%	59	7%	52	6%	56
Population over 64 years of age	18%	15%	66	13%	80	14%	76

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

+ The hazardous waste environmental indicator and the corresponding EJ index will appear as N/A if there are no hazardous waste facilities within 50 km of a selected location.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

May 03, 2017 3/3

BELT COLLINS®

October 2, 2017
2015.70.0200 / 17P-084

Ms. Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office
Hawai'i State Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

Dear Ms. McIntyre:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your letter of May 4, 2017. The responses to your comments below follow the order of topics in your letter.

1. Sustainable land use and the guidance your Department offers to such land use will be considered in the Draft Environmental Impact Statement (DEIS) and the design process.
2. The parking lot will be designed to meet State and County standards. While the proposed parking lot is smaller than those for which electric vehicle charging is mandated under Act 89 of 2012, vehicle charging will be considered in design of the lot.
3. Copies of the DEIS will be sent to the Department of Health and the Army Corps of Engineers. Regulations of discharges and fugitive dust will be followed during construction and afterwards.
4. Thank you for providing maps and EJSCREEN data. We note that the two maps you provide show the marine environment differently, with one treating the waters within the Park as Class AA and the other as Class A.
5. Climate change impacts and sea water rise will be of concern with regard to this coastal area. The DEIS will explicitly consider climate change impacts.

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@bchdesign.com

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OFFICE OF
ENVIRONMENTAL QUALITY CONTROL

DAVID Y. IGE
GOVERNOR

SCOTT GLENN
DIRECTOR

DEPARTMENT OF HEALTH | 235 South Beretania Street, Suite 702, Honolulu, HI 96813 | oeqchawaii@doh.hawaii.gov
(808) 586-4185

May 1, 2017

The Honorable David Ige
Governor
State of Hawai'i
Executive Chambers, State Capitol
Honolulu, HI 96813

Dear Governor Ige,

Subject: Environmental Impact Statement (EIS) Preparation Notice (EISPN) for Kealakekua Bay State Historical Park Master Plan Improvements

The Office of Environmental Quality Control (OEQC) has reviewed the EISPN for the subject project and offers the following comment:

1. Section 1.8 (page 9) says the action hits triggers 1-4 of Hawai'i Revised Statutes, Chapter 343, section 5(a) (use of state/county lands/funds; use within a conservation district; use within a shoreline area; and use within a historic site). However, the publication form lists triggers 1-3 and 8 (construction of a helicopter facility). It appears the action hits triggers 1-4 and 8. Please ensure consistency with this important point going forward.

2. Pages 14-16 identify several proposed facilities, including a 50-stall parking lot, two interpretive centers, concessionaire storage and shelters, and DLNR storage. In the Draft EIS, please show that these facilities are necessary, to what degree the added impervious surface area would increase stormwater runoff, and how those effects will be mitigated. The OEQC recommends incorporating low impact development (LID) strategies, including minimizing impervious surface areas (with pavers or pervious pavements) to help groundwater recharge and decrease stormwater runoff, as well as ensuring source reduction, reuse, and recycling throughout the project life. Resources for LID and green buildings can be found here: http://planning.hawaii.gov/lud/.

3. In general, the OEQC recommends considering climate change for this and all future projects. Changing weather patterns in the Pacific are projected to result in localized increased precipitation severity, such as periodic extreme heavy downpours. Please consider the fact that accelerating climate change may result in sea level rise and higher flood levels and frequencies. More information can be found at https://www3.epa.gov/climatechange/impacts/islands.html.

Thank you for the opportunity to comment on the EISPN. We look forward to a response that will also be included in the Draft EIS. If you have any questions, please contact our office at (808) 586-4185.

Sincerely,

Scott Glenn, Director

cc: Martha Yent, Division of State Parks, Department of Land and Natural Resources, State of Hawai'i
John Kirkpatrick, Belt Collins Hawaii LLC

17-469

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-071

Mr. Scott J. Glenn, Director
Office of Environmental Quality Control
State of Hawai'i
Department of Health
235 S. Beretania, Suite 702
Honolulu, HI 96813

Dear Mr. Glenn:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your letter of May 1, 2017. The responses to your comments below follow the numbering in your letter.

1. As you note, the EISPN does not report the triggers for the project consistently. In future submittals, all five triggers (No. 1-4, 8) will be identified.
2. The Draft Environmental Impact Statement (DEIS) will provide more information about the need for particular facilities in the Proposed Action. The State Department of Land and Natural Resources recognizes the value of Low Impact Development (LID), and will take LID strategies into account as it moves into the design phase.
3. The DEIS will include a discussion of climate change and the potential impact of sea level rise on the State Historical Park, with or without the Proposed Action.

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@bchdesign.com
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DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 23, 2017

Belt Collins Hawaii LLC
Attention: Mr. John Kirkpatrick
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

via email: jkirkpatrick@bchdesign.com

Dear Mr. Kirkpatrick:

SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the (a) Division of Boating & Ocean Recreation, (b) Engineering Division, (c) Division of State Parks, (d) Land Division – Hawaii District and (e) Division of Forestry & Wildlife on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

5529

DAVID Y. IGE
GOVERNOR OF HAWAII

RECEIVED
APR 25 2017
Division of Aquatic Resources
DAR-5529

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 26, 2017

MEMORANDUM

RECEIVED
2017 MAY 24 AM 10:55
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII
RECEIVED
LAND DIVISION

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan
LOCATION: S. Kona, Island of Hawaii; TMK: (3) 8-1-007:050, 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2-004:001, 002, 008 to 010, and 015
APPLICANT: Department of Land and Natural Resources

Transmitted for your review and comment is information on the above-referenced EISPN. We would appreciate your comments on this EISPN. Please submit any comments by **May 22, 2017**.

The EISPN can be found on-line at: http://health.hawaii.gov/oegc/ (Click on the Current Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: Bruce S. Anderson
Bruce S. Anderson, Ph.D., DAR Administrator
Print Name:
Date: 5/22/17

cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 22 May, 2017
DAR # 5529

MEMORANDUM
TO: Bruce S. Anderson, PhD
DAR Administrator

FROM: William J. Walsh PhD WJW PA, Aquatic Biologist

SUBJECT: Kealakekua Bay State Historical Park, Environmental Master Plan Environmental Impact Statement Preparation Notice

Request Submitted by: Department of Land and Natural Resources (DLNR)

Location of Project: South Kona, Hawai'i County

Brief Description of Project:

State Parks' goal is to preserve and interpret the natural, cultural and historic resources of the Park while enhancing access and recreation for park users. New facilities will include restrooms, an interpretive center, a parking lot, and interpretive trails.

Comments:
☐ No Comments ☒ Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: Bruce S. Anderson Date: 5/22/17
Bruce S. Anderson, PhD
DAR Administrator

DAR # 5529

Comments

The EIS Preparation Notice makes no mention of the Kealakekua Stewardship Area Management Plan which was released by the Department of Land and Natural Resources (DLNR) in 2009. DLNR's Divisions of State Parks, Boating and Ocean Recreation, Aquatic Resources, Conservation and Resources Enforcement, Historic Preservation, Forestry and Wildlife and Land Management worked jointly to develop management recommendations based on multiple past rounds of public input and comment and articulated in the 2006 Hawai'i Ocean Resources Management Plan (ORMP).

This unified DLNR effort emphasized preservation of the historical and cultural integrity of Kealakekua Bay and surrounding areas and their fragile natural resources. It took into account DLNR's role in managing the Keopuka, Ka'awaloa, Kealakekua, Ke'ei and Honaunau watersheds encompassing the coastal stretch from Keawekaheka Bay on the north to just south of Honaunau Bay. The Department aimed to balance and transition recreational and commercial use to enhance both resource conservation and the social well-being of neighboring communities. This approach was consistent with the constitutional mandate of the DLNR to protect and conserve natural resources of the State of Hawai'i for the benefit of present and future generations.

The Management Plan identified 29 problems occurring in the Kealakekua Bay area and proposed 146 recommendations to address the problems. The management actions were based on previous public input and comment to the department, and thus represented a unique opportunity to establish reasonable, predictable and regulated levels of use that prioritized resource protection. Following release of the plan, DLNR advertised a public comment period where comments could be made directly on it's website or submitted to DLNR.

Subsequently, a research team from the University of Hawai'i at Mānoa and Oregon State University conducted a community survey to obtain additional public input on the recommendations of the Kealakekua Stewardship Management Plan. The goal of this project was to conduct a rigorous scientific survey of community members residing near Kealakekua Bay by asking them about their perceptions of conditions at the bay and attitudes toward the proposed Stewardship Management Plan. Data were obtained from an onsite survey administered door-to-door to adult residents of households in the three major communities and towns nearest to Kealakekua Bay – Napo'opo'o, Honaunau, Captain Cook, and Kealakekua. Questionnaires were administered to 472 separate households and 316 questionnaires were completed - a 67% overall response rate (Needam and Szuster 2010)

These previous efforts cannot be overlooked and need to be considered in the EIS of the Kealakekua Bay State Historical Park Master Plan.

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-058

Bruce S. Anderson, Ph.D., Administrator
Division of Aquatic Resources
State of Hawai'i
Department of Land and Natural Resources
1151 Punchbowl Street, Suite 330
Honolulu, HI 96813

Dear Dr. Anderson:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your comments sent as of May 22, 2017. The responses to comments below follow the order in your communication.

1. The Division of State Parks is cognizant of the Draft Stewardship Area Management Plan issued in 2009. That plan and its recommendations are discussed in the Master Plan and will be discussed in the Draft Environmental Impact Statement (DEIS).

2. The EIS will discuss the local community outreach effort conducted in connection with the Stewardship Area Management Plan, along with subsequent surveys and discussions.

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 26, 2017

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan
LOCATION: S. Kona, Island of Hawaii; TMK: (3) 8-1-007:050, 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2-004:001, 002, 008 to 010, and 015
APPLICANT: Department of Land and Natural Resources

Transmitted for your review and comment is information on the above-referenced EISPN. We would appreciate your comments on this EISPN. Please submit any comments by **May 22, 2017**.

The EISPN can be found on-line at: http://health.hawaii.gov/oeqc/ (Click on the Current Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed:

Print Name: Edward R. Underwood
Date: 4/25/17

cc: Central Files

APR26'17PM 2:26BOR ADM

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-092

Mr. Edward Underwood
Division of Boating and Ocean Recreation
State of Hawai'i
Department of Land and Natural Resources
1151 Punchbowl Street, Suite 330
Honolulu, HI 96813

Dear Mr. Underwood:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. Your response dated April 28, 2017, indicated that the Division of Boating and Ocean Recreation, has no comments at this time.

Thank you for your response. A copy of the Draft Environmental Impact Statement will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

May 18, 2017

RECEIVED
2017 MAY 18 PM 1:15
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII
LAND DIVISION

TO: Russell Y. Tsuji, Administrator
Land Division

ATTN: Lydia Morikawa

FROM: James Cogswell
Wildlife Program Manager

SUBJECT: Division of Forestry and Wildlife Comments on the Environmental Impact Statement Preparation Notice (EISPN) for Kealakekua Bay State Historical Park Master Plan

The Department of Forestry and Wildlife has received your inquiry regarding the EISPN for the proposed Kealakekua Bay State Historical Park Master Plan located in South Kona, Hawaii, TMKs: (3) 8-1-007:050; 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2- 004:001, 002, 008 to 010, 015. The proposed action on a total of approximately 537 acres includes construction of basic visitor facilities, additional parking, restrooms, interpretive center and trails.

The State and Federally listed Hawaiian hoary bat or 'Ōpe'ape'a (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the proposed project. Hawaiian hoary bats roost in both exotic and native trees. If any trees are planned for removal during the bat breeding season there is a risk of injury or mortality to juvenile bats. To minimize the potential for impacts to this species, site clearing should be timed to avoid disturbance to breeding Hawaiian hoary bats; woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15).

DOFAW would like to ensure that effective avoidance measures are in place to prevent adverse impacts to native seabirds. DOFAW strongly recommends the use of only "seabird-friendly lighting" to prohibit night-time construction during the seabird nesting season beginning in March through mid-December. DOFAW Wildlife Biologists will be able to provide technical assistance in developing "seabird-friendly lighting."

The Hawaiian goose, or Nēnē (*Branta sandvicensis*) has the potential to occur in the project vicinity. DOFAW is concerned about attracting vulnerable birds to areas that may host non-native predators such as cats, rodents, and mongoose. Additionally, improvements to the park are likely to increase the number of park users and may generate more trash. We recommend taking action to minimize predator presence; place bait stations for rodents and mongoose, and provide covered trash receptacles. If a Nēnē nest should be observed on the project site notification to DOFAW Staff is requested.

We appreciate your efforts to work with our office for the conservation of native species. If you have any questions, please contact Kate Cullison, Conservation Initiatives Coordinator at Katherine.cullison@hawii.gov or (808) 587-4148.

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-064

Mr. James Cogswell, Wildlife Program Manager
Division of Forestry and Wildlife
State of Hawai'i
Department of Land and Natural Resources
1151 Punchbowl Street, Suite 330
Honolulu, HI 96813

Dear Mr. Cogswell:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. Your comments include detailed guidance on strategies to minimize or avoid impacts to listed species, notably the Hawaiian hoary bat, native seabirds, and nēnē geese. The Draft Environmental Impact Statement (DEIS) will include a biological survey, dealing in part with the presence of local wildlife. The DEIS will also include mitigating strategies along the lines you discuss.

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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'17 APR 26 AM 11:58 ENGINEERING

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 26, 2017

DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII
2017 MAY -5 AM 11:25
RECEIVED LAND DIVISION

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: TO: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan
LOCATION: S. Kona, Island of Hawaii; TMK: (3) 8-1-007:050, 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2-004:001, 002, 008 to 010, and 015
APPLICANT: Department of Land and Natural Resources

Transmitted for your review and comment is information on the above-referenced EISPN. We would appreciate your comments on this EISPN. Please submit any comments by **May 22, 2017**.

The EISPN can be found on-line at: http://health.hawaii.gov/oeqc/ (Click on the Current Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached.

Signed:
Print Name: Carty S. Chang, Chief Engineer
Date: 5/3/17

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
Ref: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a designated Flood Hazard.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zone designations can be found using the Flood Insurance Rate Map (FIRM), which can be accessed through the Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may take precedence over the NFIP standards as local designations prove to be more restrictive. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

The applicant should include water demands and infrastructure required to meet project needs. Please note that the projects within State lands requiring water service from their local Department/Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 5/3/17

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-063

Mr. Carty S. Chang, Chief Engineer
Engineering Division
State of Hawai'i
Department of Land and Natural Resources
1151 Punchbowl Street, Suite 330
Honolulu, HI 96813

Dear Mr. Chang:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. In your comments of May 3, 2017, as you noted, much of the Park lands are in Flood Hazard Zones, and development in those areas will need to follow both Federal and County regulations.

The Draft Environmental Impact Statement (DEIS) will include discussions of water demand and infrastructure needed to support the proposed improvements. Water demand calculations will be shared with your Division.

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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51324

DAVID Y. IGE
GOVERNOR OF HAWAII

RECEIVED
STATE PARKS DIV
'17 APR 27 A11 :03

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPT OF LAND & NATURAL RESOURCES

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

2017 MAY -5 AM 11:27
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII
RECEIVED LAND DIVISION

April 26, 2017

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan
LOCATION: S. Kona, Island of Hawaii; TMK: (3) 8-1-007:050, 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2-004:001, 002, 008 to 010, and 015
APPLICANT: Department of Land and Natural Resources

Transmitted for your review and comment is information on the above-referenced EISPN. We would appreciate your comments on this EISPN. Please submit any comments by **May 22, 2017**.

The EISPN can be found on-line at: http://health.hawaii.gov/oegc/ (Click on the Current Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

DSP IS MANAGING THIS PROJECTS.

(X) We have no objections.
( ) We have no comments.
(X) Comments are attached.

Signed:
Print Name: CURT COTTRELL
Date: 4.5.17

cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

2017 APR 28 A 11:45
RECEIVED
LAND DIVISION
HILO, HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

2017 MAY 11 AM 10:30
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII
RECEIVED LAND DIVISION

April 26, 2017

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan
LOCATION: S. Kona, Island of Hawaii; TMK: (3) 8-1-007:050, 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2-004:001, 002, 008 to 010, and 015
APPLICANT: Department of Land and Natural Resources

Transmitted for your review and comment is information on the above-referenced EISPN. We would appreciate your comments on this EISPN. Please submit any comments by **May 22, 2017**.

The EISPN can be found on-line at: http://health.hawaii.gov/oegc/ (Click on the Current Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed:
Print Name: GORDON C. HELT
Date: 5/8/17

cc: Central Files

BELT COLLINS®

October 2, 2017
2015.70.0200 / 17P-091

Mr. Russell Y. Tsuji, Administrator
Land Division
State of Hawai'i
Department of Land and Natural Resources
1151 Punchbowl Street, Suite 330
Honolulu, HI 96813

Dear Mr. Tsuji,

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. Based on the response from the Hawai'i District of the Land Division, we understand that you have no comment at this time.

Thank you for your participation in the Hawai'i Revised Statutes Chapter 343 process. A copy of the Draft Environmental Impact Statement will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 24, 2017

Belt Collins Hawaii LLC
Attention: Mr. John Kirkpatrick
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

via email: jkirkpatrick@bchdesign.com

Dear Mr. Kirkpatrick:

SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on May 23, 2017, enclosed are comments from the (a) Office of Conservation & Coastal Lands and (b) Division of Aquatic Resources on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

HA-17-197

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RECEIVED
CONSERVATION
TAL LANDS
26 A 11:42
DEPT OF LAND &
SOURCES

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 26, 2017

MEMORANDUM

~~TO~~: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

RECEIVED
LAND DIVISION
2017 MAY 23 AM 10:35
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

~~FROM~~: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notification (EISPN) for Kealakekua Bay State Historical Park Master Plan
LOCATION: S. Kona, Island of Hawaii; TMK: (3) 8-1-007:050, 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2-004:001, 002, 008 to 010, and 015
APPLICANT: Department of Land and Natural Resources

Transmitted for your review and comment is information on the above-referenced EISPN. We would appreciate your comments on this EISPN. Please submit any comments by **May 22, 2017**.

The EISPN can be found on-line at: http://health.hawaii.gov/oegc/ (Click on the Current Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: K. Tyler Mills
Print Name: K. Tyler Mills
Date: 5/22/2017

cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAI'I

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAI'I 96809

REF:OCCL:TM

Correspondence: HA 17-197

MAY 22 2017

MEMORANDUM

TO: Russ Tsuji, Administrator
Land Division

FROM: for Sam Lemmo, Administrator K. Tyler Mills
Office of Conservation and Coastal Lands

SUBJECT: EISPN for the Kealakeakua Bay State Historical Park Master Plan Located at S. Kona, Hawai'i, TMK: (3) 8-1-007:050; 8-1-010:001; 8-1-011: various; and 8-2-004: various

The Office of Conservation and Coastal Lands (OCCL) has reviewed the subject matter. We note the goal of the Master Plan is to preserve and interpret the natural, cultural and historic resources of the Park while enhancing access and recreation for park users. Proposed improvements will be implemented in phases and will include facilities for parking and restrooms, an interpretive center, and trails. The Plan also limits access to Ka'awaloa and to the Bay where Spinner Dolphins rest. The Plan will hopefully reduce impacts to the community and encourage safe use of water crafts by locals and visitors.

Management of the Park has been defined as a combination of DLNR staffing with concession services and support from community volunteers. Community volunteers will contribute to maintenance and oversight. The Plan also indicated there will be a Park Manager and hopefully a consistent and daily presence by DOCARE.

The OCCL notes the majority of the State Park area noted as Ka'awaloa, PaliKapuOKeōuaNui, the Beach and vicinity of Hikiau Heiau lies within the Conservation District Resource subzone with the submerged land of Kealakeakua Bay lying within the Protective subzone. The proposed improvements will require the filling of a Conservation District Use Application (CDUA) pursuant to the Hawai'i Administrative Rules (HAR) §13-5-22, P-6 PUBLIC PURPOSE USE (D-1) Not for profit land uses undertaken in support of a public service by an agency of the county, state, or federal government, or by an independent non-governmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use. Examples of public purpose uses may include but are not limited to public roads, marinas, harbors, airports, trails, water systems and other utilities, energy generation from renewable sources, communication systems, flood or erosion control projects, recreational facilities, community centers, and other public purpose uses, intended to benefit the public in

accordance with public policy and the purpose of the conservation district. In addition a Public Hearing may also be required pursuant to HAR, §13-5-40, Hearings. To allow, modify or deny this land use would be at the discretion of the Board of Land and Natural Resources.

The EIS will serve as a baseline to analyze, assess and quantify potential impacts, both positive and negative to the natural, cultural and prehistoric features of the vicinity. This will aid the Department in monitoring and gauging effects to the natural and cultural resources to insure the resources are not overwhelmed and to apply appropriate management for long-term sustainability.

The OCCL notes in the EIS under Section 4.4 Anticipated Permits and Approvals, proposed improvements to the jetty may fall under OCCL's purview. In addition, certification for the shoreline may be applied for at the Land Division.

A low rock wall is proposed to be constructed with rocks found on the beach in the back beach area. This proposed wall should be described in detail to aid our Office in assessing potential future impacts with the expected sea level rise and also so that we may determine if a certified shoreline shall be required.

A helicopter landing zone was proposed in the alternatives section of the EIS. The location and limitations of use should be included.

The OCCL would like public safety, controlled access, the protection of PaliKapuOKeōuaNui and the preservation, mitigation, and rejuvenation of prehistoric/historic features and the flora and fauna of the area including the Marine Life Conservation District (MLCD) to be discussed in detail. The intent of the MLCD designation, regulations and how the proposed improvements in this area are consistent with the MLCD should also be discussed. Mitigation to insure the conservation and preservation of prehistoric/historic features and terrestrial and aquatic flora and fauna should include thresholds for action up to Park closure for resource protection.

In addition, the OCCL would like to see some discussion regarding carrying capacity for the expected attraction the improvements will create within the Park and the MLCD. The discussion should not only include the Park and Bay but also the surrounding community. Such as what happens when the parking lot is full? How do we reduce the influx of visitors when capacity is reached?

Should there be any questions regarding this memorandum, contact Tiger Mills of our Office of Conservation and Coastal Lands (OCCL) at (808) 587-0382.

C: DAR

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-081

Mr. Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
State of Hawai'i
Department of Land and Natural Resources
1151 Punchbowl Street, Suite 131
Honolulu, HI 96813

Dear Mr. Lemmo:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. In your comment of May 22, 2017, you note that most of the Park lands are in the Conservation District. The Division of State Parks (DSP) plans to submit a Conservation District Use Application for Master Plan improvements after the Draft Environmental Impact Statement (DEIS) is final and the Master Plan has been accepted by the Board of Land and Natural Resources.

Planned improvements at the shoreline, including a reconstructed rock wall, will be discussed further with your office after the DEIS process, but before any action is taken. Again, provision for a helicopter landing site, which was noted in the EISPN but has not been designed, will be reviewed with your Office.

The DEIS will include discussions of access to areas within the Park, public safety, and the Marine Life Conservation District. A biological study has been conducted, dealing with both terrestrial and marine resources.

Your letter raises the related questions of carrying capacity and thresholds for limiting visitor use of the Park. These were and are of concern to the Division of State Parks, and will be discussed in the DEIS.

The Master Plan has been developed with impacts on the community near the Park in mind; it is expected to reduce significantly the current impact of visitors on the nearby residential areas. The DEIS will address the possibility of visitor parking in excess of the stalls provided in the proposed parking lot.

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@bchdesign.com
Belt Collins Hawaii is an Equal Opportunity Employer

Thank you for your comments. A copy of the DEIS will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

57347

DAVID Y. IGE
GOVERNOR

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:

HWY-PS 2.4800

RECEIVED
2017 MAY 30 AM 10:26
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

May 22, 2017

TO: THE HONORABLE SUZANNE CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ATTN: MARTHA YENT
DIVISION OF STATE PARKS
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: FORD N. FUCHIGAMI
DIRECTOR OF TRANSPORTATION

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
KEALAKEKUA BAY STATE HISTORICAL PARK MASTER PLAN
KEALAKEKUA, SOUTH KONA, HAWAII
TMK: (3) 8-1-007; 8-1-010; 8-1-011; 8-2-004: VARIOUS PARCELS

The Department of Land and Natural Resources, Division of State Parks, proposes to improve, enhance and preserve the resources of the Kealakekua Bay State Historical Park for park users through the development of facilities which would include comfort facilities, interpretive center, parking and interpretive trails. Access to the park is generally from Napoopoo Road, County Route 160, which accesses Mamalahoa Highway, Route 11, which in Captain Cook and Kealakekua is under County jurisdiction.

The proposed Master Plan is not anticipated to have a significant impact to our State highway facilities. However, the Hawaii Department of Transportation still wishes to review the Draft Environmental Impact Statement and Traffic Assessment for unanticipated issues.

If there are any questions, please contact Ken Tatsuguchi, Engineering Program Manager, Highways Division, Planning Branch, at (808) 587-1830. Please reference file review number PS 2017-073.

RECEIVED
STATE PARKS DIV
'17 MAY 31 P2:00
DEPT OF LAND & NATURAL RESOURCES

BELT COLLINS®

October 2, 2017
2015.70.0200 / 17P-068

Mr. Ford N. Fuchigami, Director
Department of Transportation
State of Hawai'i
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Fuchigami:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your letter of May 22, 2017. As you note, the proposed improvements at KBSHP are unlikely to have impacts on the State's highway network. Your Department will still want to review the Environmental Impact Statement for unanticipated issues.

We will send you a copy of the Draft Environmental Impact Statement, including the Traffic Assessment, when it is published.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@bchdesign.com
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Harry Kim
Mayor

West Hawai'i Office
74-5044 Ane Keohokalole Hwy
Kailua-Kona, Hawai'i 96740
Phone (808) 323-4770
Fax (808) 327-3563

County of Hawai'i
PLANNING DEPARTMENT

Michael Yee
Director

Daryn Arai
Deputy Director

East Hawai'i Office
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720
Phone (808) 961-8288
Fax (808) 961-8742

May 23, 2017

Mr. John T. Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street
Suite 200
Honolulu, HI 96819-4554

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawaii County, Hawaii
TMK: (3) 8-1-007: 050; 8-1-010: 001; 8-1-011: 001, 003 to 014, 016;
8-2-004: 001, 001, 002, 008 to 010, 015

EISPN COMMENTS:

Thank you for allowing the County of Hawaii Planning Department to comment on your Environmental Impact Statement Preparation Notice (EISPN) for Kealakekua Bay State Historical Park Master Plan in South Kona, Hawaii County, Hawaii.
The Kealakekua Bay State Historical Park involves the following:

- Approximately 222 acres of fast land and Kealakekua Bay, a marine area of approximately 315 acres for a total of approximately 537 acres.
- State Land Use: Conservation (approximately 218 acres of land) and Urban (approximately 4 acres of land).
- Hawaii County Zoning District: Open (approximately 218 acres) and Single-Family Residential (approximately 4 acres).
- The park lands are also within the Special Management Area (SMA)

In the SMA review, a certification of shoreline will be required and depending upon the location of any improvements, a setback variance may be required.

This response is being submitted to EIS preparer Mr. John T. Kirkpatrick, Belt Collins Hawaii LLC.

In reviewing this EISPN, Planning would like to comment on the three (3) areas defined in the presentation: (a) Figure 5: Master Plan-Kaawaloa Section, (b) Figure 6: Master Plan Kealakekua Bay and (c) Figure 7: Master Plan Napoopoo Section.

(a) Figure 5: Master Plan Kaawaloa Section

1. Parking: The existing pedestrian/vehicle conflicts due to the undesignated parking along Napoopoo Road are not described and should be analyzed and alternatives for adequate parking at the park should be described.
   - Current undesignated parking being utilized for the park is along the north side of Napoopoo Road near the newly constructed intersection of Napoopoo and Belt road.
   - Pedestrian/vehicle conflicts are a major concern and alternatives to this undesignated parking should be described. Our staff has observed daily parking of approximately 12-20 cars existing along the mauka shoulder of Napoopoo Road, and that car doors open close to the traffic lane and may be intruding into the moving lanes of traffic.
   - Although the undesignated parking being utilized for the park is along the highway, under the jurisdiction of the County of Hawaii, it's the State's responsibility to provide safe parking for persons accessing and using the park. The State should provide alternatives for a safe parking area at the park and should investigate whether the undesignated parking along Napoopoo Road has pedestrian/vehicle conflicts and whether this undesignated roadside parking should be allowed to continue.

2. Restroom facilities: Currently, no restroom facilities exist for this park. Alternative toilet facility sites located closer to the park facilities should be studied with separate facilities for men and women.
   - This proposal for only one (1) waterless toilet facility, approximately 700-800 feet away from the shoreline, should be evaluated for adequacy for the park usage.
   - In the proposal for this park, water quality of the Bay should be evaluated for the current impact of park uses due to lack of sanitary facilities.
   - Estimate the number of current park users, their impacts to the water quality of the Bay and environment and the projected future users.
3. Trail from Napoopoo Road to the Bay
   - Analyze safety risks for hikers along the unimproved hiking trail from Napoopoo Road to the Bay.

(b) Figure 6: Master Plan Kealakekua Bay

1. Describe management alternatives and the degree of difficulty in enforcing the proposed uses in the Bay.
2. Describe management alternatives for boats and kayaks, and how they will be identified as permitted to use the Bay.
3. Describe enforcement alternatives and whether personnel will need to be on duty on a daily basis, whether in boats and on the land.
4. Describe how management plan will be enforced.

(c) Figure 7: Master Plan-Napoopoo Section

Analyze alternate locations for parking closer to the bay.

1. Proposed parking area in Parcel 1 for 50 cars seems remote as parking area is over 700 feet by path to the bay and 400 feet from the closest point to the non-commercial kayak launching area. Analyze the impacts of parking in this distant location and with no vehicular access to the Bay.
2. Evaluate the impact of closing Beach Road to the public from Napoopoo to the park.
3. Evaluate the proposed remote parking to the bay for the handicapped and for users with beach chairs, tents and coolers
4. Evaluate the new impacts of the proposed parking area to the historic site.
5. Evaluate traffic patterns for accessing the Bay and for Kayak parking and drop-off.
6. Prepare a user survey to determine whether 50 parking stalls are adequate for Napoopoo Landing (overflow demand would spill into other areas along the Bay as we are experiencing at Kahauloa Bay).\

SUMMARY: Kaawaloa Section

1. Master Plan for Kaawaloa Section needs to address safe parking for the Bay. Provide alternatives for parking other than parking along the shoulder of Napoopoo Road.
2. Water quality of the Bay and lack of sanitation at the water front park needs to be evaluated since 20-60 persons per day are apparently using either Kealakekua Bay waters area or the land areas for their toilets. Evaluate the water quality impacts to the Bay when it is used as a toilet.
3. Analyze the trail from Napoopoo Road to the Bay and identify improvements that will improve safety.

SUMMARY: Napoopoo Section

1. Evaluate whether distance from proposed parking to the Bay is appropriate for pedestrians and handicapped park users.
2. Evaluate the impacts of closing Beach Road to the general public and how vehicular access to the Bay will be accomplished with the road closure.
3. Evaluate alternative parking lot location closer to the Bay.

If any questions, please call Planner Terry Dunlap at 808-323-4774.

Sincerely,

Michael Yee
Planning Director

TKD/tkd: \\coh141v\planning\Staff\Terry\AAA-REVIEWS\EIS Kealakekua Bay\EIS Kealakekua Bay.doc

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-073

Mr. Michael Yee, Director
Planning Department
County of Hawai'i
101 Pauahi St., Ste. 3,
Hilo, HI 96720

Dear Mr. Yee:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your letter of May 23, 2017. We concur with your assessment that the park will require a Special Management Area (SMA) permit for the proposed actions that may also require a shoreline setback variance. Your listed concerns are addressed in the same order as presented in your letter:

(a) Master Plan Kaawaloa Section:

1. Parking by hikers on Nāpōʻopoʻo Road. The Draft Environmental Impact Statement (DEIS) will describe current and anticipated parking. That parking is at some distance from the Park, and the road is under the County's jurisdiction. We look forward to renewing discussions with the County about ways to address and mitigate hiker parking impacts.
2. Restroom facilities at Kaʻawaloa. A waterless toilet is proposed for this area of the park. It will be important to locate it at a site which is not archaeologically sensitive. For that reason, a preliminary site choice is indicated, at some distance from the shoreline. Your point that a location closer to the shoreline would be preferable is a good one, and this issue will be revisited in the course of planning and design. The DEIS will include estimates of current and likely visitation that could affect demand for that facility. The DEIS will also provide information on marine biology and water quality in KBSHP.
3. The Kaʻawaloa Road trail has been marked by the County, which warns hikers that it can be challenging and that hikers must carry sufficient water for the trek. The DEIS will note this fact. Also, the Master Plan calls for establishment of a helicopter landing site at Kaʻawaloa. This could be used for medical emergencies affecting either swimmers or hikers.

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(b) Master Plan Kealakekua Bay:

The DEIS will discuss management and enforcement activities in the Bay. Alternatives vary in the number and type of vessels in the Bay, and the level of enforcement anticipated. The level of enforcement and management will depend on funding, and funds will be requested for an enlarged State Department of Land and Natural Resources presence at KBSHP.

(c) Master Plan Nāpōʻopoʻo Section:

The proposed parking area in Nāpōʻopoʻo is on State land and can be designed to avoid archaeologically sensitive sites. However, that location is at some distance both from the Hikiau Heiau and from Nāpōʻopoʻo Landing. Visitors interested in historical and cultural resources will see areas that were not open until recently, and the heiau can be understood in relation to other features of the Park land. Recreational visitors with kayaks will be able to drop their kayaks at the Landing, park their car in the lot, and then launch, under supervision, from the wharf at the Landing. ADA parking will be available at its current location, at the new lot, and at the Landing.

The Beach Road is a County road, and most of the parking spaces near the heiau are on County land. The Division of State Parks is seeking to redirect most visitor traffic away from the heiau, but actual closure of Beach Road can only be done by the County in consultation with landowners with adjoining properties.

We will send you a copy of the DEIS when it is published. We look forward to continuing discussions with the County and the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Harry Kim
Mayor

RECEIVED
2017 MAY 15 PM 4:07
BELT COLLINS HAWAII

Paul K. Ferreira
Police Chief

Kenneth Bugado, Jr.
Deputy Police Chief

County of Hawai'i

POLICE DEPARTMENT

349 Kapi'olani Street • Hilo, Hawai'i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

May 5, 2017

Mr. John T. Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Kirkpatrick:

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
KEALAKEKUA BAY STATE HISTORICAL PARK MASTER PLAN
SOUTH KONA, HAWAI'I COUNTY, HAWAI'I
TMK (3) 8-1-007:050; 8-1-010:001; 8-1-011:001, 003 TO 014, 016;
8-2-004:001, 002, 008 TO 010, 015

This is in response to your letter dated April 21, 2017 regarding comments or concerns on your proposed project.

Thank you for allowing the Hawai'i Police Department to make comments regarding this project. At this time, the Hawai'i Police Department has no comments.

Should you have any questions, please contact Captain Gilbert Gaspar Jr., Commander of the Kona District, at 326-4646, extension 299.

Sincerely,

PAUL K. FERREIRA
POLICE CHIEF

MITCHELL KANEHAILUA, JR.
ASSISTANT POLICE CHIEF
AREA II OPERATIONS

GG/jaj
RS170392

"Hawai'i County is an Equal Opportunity Provider and Employer"

October 2, 2017
2015.70.0200 / 17P-069

Mr. Paul K. Ferreira, Chief
County of Hawai'i
Police Department
349 Kapi'olani Street
Hilo, HI 96720-3998

Dear Chief Ferreira:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. Based on your response of May 5, 2017, we understand that you have no comment at this time.

We appreciate your participation in the Hawai'i Revised Statutes Chapter 343 process. A copy of the Draft Environmental Impact Statement will be sent to you at the time of publication.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@bchdesign.com
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DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

RECEIVED
2017 MAY 30 PM 12: 28
BELT COLLINS HAWAII

May 25, 2017

Mr. John T. Kirkpatrick
Belt Collins Hawai'i LLC
2153 North King Street, Suite 200
Honolulu, HI 96819

Dear Mr. Kirkpatrick:

Subject: Environmental Impact Statement Preparation Notice
Project – Kealakekua Bay State Historical Park Master Plan
Tax Map Key (3) 8-1-007:050; 8-1-010:001; 8-1-011:001, 003 to 014, 016;
8-2-004:001, 002, 008 to 010, 015

We have reviewed the subject Environmental Impact Statement Preparation Notice (EISPN) and have the following comments.

Please be informed that there are existing 8-inch waterlines within Lower Nāpō'opo'o Road and Pu'uhonua Road some of the subject parcels.

The Department requests that the applicant submit estimated maximum daily water usage calculations for the proposed improvements, prepared by a professional engineer licensed in the State of Hawai'i, for review and approval. The water usage calculations should include the total estimated daily water usage in gallons per day (GPD) and the estimated peak flow in gallons per minute (GPM).

Upon receipt and approval of the above information, the Department will make a determination as to water availability, water commitment deposit due, prevailing facilities charges to be paid, necessary water system improvements, and other requirements for final approval.

Lastly, the Department's Water System Standards require that a minimum flow of 2,000 gallons per minute be available at the site for fire protection for the proposed land use. The existing 8-inch waterline fronting the parcels is capable of providing a theoretical fire flow of 1,565 gallons per minute. We recommend that the applicant consult the Fire Department for any fire protection requirements or alternatives.

. . . Water, Our Most Precious Resource . . . Ka Wai A Kāne . . .

The Department of Water Supply is an Equal Opportunity provider and employer.

Should there be any questions, please contact Mr. Ryan Quitoriano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

Keith K. Okamoto, P.E.
Manager-Chief Engineer

RQ:dfg

copy – Office of Environmental Quality Control
Hawai'i Housing Finance and Development Corporation

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-074

Mr. Keith K. Okamoto, P.E.
Manager-Chief Engineer
Department of Water Supply
County of Hawai'i
345 Kekūanaō'a Street, Suite 20
Hilo, HI 96720

Dear Mr. Okamoto:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your letter of May 25, 2017. Below are responses to your comments in the same order as presented in your letter.

Per your request, the Division of State Parks will submit estimated daily water usage calculations for the proposed improvements at Kealakekua Bay State Historical Park, including both estimated daily usage in gallons per day, and peak flow in gallons per minute. These will be included in the Draft Environmental Impact Statement (DEIS).

You noted that the existing waterline can provide a theoretical fire flow of 1,565 gallons per minute, however your Department's Water System Standards call for a minimum flow of 2,000 gallons per minute. As you recommend, we will consult with the Fire Department to explore their requirements and any alternatives.

Thank you for your comments. A copy of the DEIS will be sent to you when it becomes available.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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From: Mendy Dant <mendy@fair-wind.com>
Sent: Sunday, May 14, 2017 8:07 PM
To: John Kirkpatrick
Cc: Martha.E.Yent@hawaii.gov; Curt.A.Cottrell@hawaii.gov
Subject: Publication of EIS Preparation Notice for Kealakekua Bay State Historical Park Master Plan

Aloha John,

Thank you for the emailed plan. We are in favor of the entire plan and support the state's movements forward. We strongly agree with the full plans for Ka'awaloa Table 1: Components and Objectives of Proposed Action. The comments below express our concerns regarding these specific areas of our expertise from our 46 year history in this bay.

Kealakekua Bay portion of Table 1: Components and Objectives of Proposed Action,
Access & Ocean Recreation
B. We would like to see the vessel Drift/Safety Plan adopted as soon as possible, due to the dangerous safety issue for the swimmers/snorkelers versus the motored vessels moving in the same crowded area.
F. A commercial vessel limit in the bay IS definitely needed now. Either the number of passengers per day, or the number of vessels both based on current passenger/vessel sizes should be the current limits. This is incredibly urgent for the health of the bay and the marine tourism industry.
Features;
C. This swim/snorkel/no powerboat zone is critical in our opinion and should be implemented as soon as possible. All vessel permits should have this written as a strongly suggested safety plan.

EXAMPLE FOR CURRENT PERMITS:

CODE OF CONDUCT IN KEALAKEKUA BAY – COMMERCIAL VESSELS

1. FOLLOW USCG SAFETY RULES, ie., 5 MPH NO WAKE ZONE

2. 100' FROM SHORE SWIM ZONE ONLY – NO DRIFTING MOTORED VESSELS IN THIS ZONE

3. LIFEGUARD CERTIFIED CAPT/CREW ON BOARD AND/OR IN WATER FOR EVERY VESSEL

4. OPERATORS SHOULD BE STEWARDS OF THE BAY: teach the care of the fragile nature of the reef, live coral looks like rocks to the unaware eye, etc.

This should include telling the guests :

1) the bay is protected by law, it is a MLCD

2) Do not touch or stand on the bottom anywhere

3) No collecting of any marine life

4) Stay off of shore.

5) Promote and sell "reef safe" sunscreen only

Napo'opo'o Park Table 1:Components and Objectives of Proposed Action, Malama : Management Presence
We strongly agree and support this section of the plan. Especially the consistent and daily enforcement by DOCARE.

Please contact me by cell phone or email if you have any questions about these comments.
808-345-6211. My address is in my signature below. We appreciate the opportunity to give our concerns to you. We are hopeful this plan can be implemented in order to save the environment in this pristine historical bay, the community and the marine tourism industry in this region of Hawaii.

Mahalo,
Mendy Dant

--
Mendy Dant
Executive Vice President
Fair Wind Cruises
Kona Sunrise Charters
78-6775 Box A Makenawai St
Kailua Kona, Hi 96740
www.fair-wind.com

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Exploring, snorkeling in Kealakekua Bay and along the South Kona Coast

October 2, 2017
2015.70.0200 / 17P-066

Ms. Mendy Dant
Executive Vice President
Fair Wind Cruises / Kona Sunrise Charters
78-6775 Box A Makenawai St
Kailua Kona, Hi 96740

Dear Ms. Dant:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 14, 2017. Your strong support for the Master Plan is very welcome.

1. The Division of State Parks agrees with you that a Drift and Safety plan is warranted. That Plan should be drafted as a document by major users, then reviewed and accepted by the Division of State Parks (DSP) considering stakeholder and agency comments.

   Your notes on guidelines for commercial users should be part of a Drift and Safety Plan. I would urge you to work with others to fill in a draft of the Plan for further discussion during the planning and design process.

2. Many people agree with you that a limit on commercial boats is a good idea. However, it would be difficult to write this up as a rule, much less enforce it. Also, we do not have a strong scientific basis for setting such a limit. Once a Drift and Safety Plan has been circulated and implemented, this issue might be revisited.

3. You strongly support DLNR, including DOCARE, maintaining a regular, active presence in the Bay. Your concern for this issue will be shared in the Department and with the Board of Land and Natural Resources.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JTK:hp

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Captain Zodiac Raft Expeditions

PO Box 5612
74-425 Kealakehe Parkway #16
Kailua-Kona, HI 96740

Phone (808) 329-3199
Fax (808) 329-7590
Pirates@CaptainZodiac.com

May 1, 2017

John Kirkpatrick, Ph.D. LEED AP
Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, HI 96819-4554 USA

Kealakekua Bay EIS

We at Captain Zodiac have only a few comments on the planned changes contained in the April 2017 master plan.

The dolphin resting area as marked on the map is far too large and restrictive of boating traffic. It has been under general agreement from long term companies visiting the bay about half the length. The north end should be about 50% south or from where letter "Kapu' listed on shore as Pali Kapu O Keoua to where current south buoys are drawn. This allows sufficient spacing and maneuvering room for vessels transiting to monument side. We would support no boat, no kayak no swimming in that area, however DSP will be hard pressed to keep Kayaks out of there without an active on water agent.

Swim/snorkel area no boats along shore of Ka'awaloa will be 75-100 feet from shore along the reef drop off. This is the only practical place for buoys to be placed since they would be anchored in relatively shallow water instead of in 150 feet farther out. Snorkeling beyond 100 feet of shore is impractical because of the depth.

No safety personnel like lifeguards or on shore staff is mentioned for the snorkel area so our power boats are the only rescue personnel that are at the bay. Keeping the boats too far out endangers the swimmers by not providing fast response.

I understand you need a number but lets' all get together and agree where to put the buoys when we get to that step.

Mahalo,

Bill Zabolski

October 2, 2017
2015.70.0200 / 17P-097

Mr. Bill Zabolski
Captain Zodiac Raft Expeditions
P.O. Box 5612
Kailua-Kona, HI 96740

Dear Mr. Zabolski:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 1, 2017 submitting your comments on the EISPN. As you note, staff on power boats can function as first responders in the absence of a lifeguard at Ka'awaloa. Delineation of a "no power boat" area should recognize that fact (a) by setting the boundary near the point where the ocean depth increases, and (b) including language in any Park rules that permits rescues of swimmers or persons on the shore.

As we have discussed with you in the past, a documented Drift and Safety Plan for Kealakekua Bay would be helpful. Perhaps the commercial boaters can take the lead in drafting such a plan, for review by other boaters and agencies.

We hope to work with you and other stakeholders to set the boundaries for the snorkel area and the dolphin rest zone at points that meet Division of State Park's objectives, and allow appropriate mobility for boaters. The Draft Environmental Impact Statement (DEIS) will include language to the effect that the buoy locations in the DEIS are approximate and will be finalized later considering local conditions.

Thank you for your comments. We will alert you when the DEIS is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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From: info@konboys.com
To: John Kirkpatrick
Subject: Re: Publication of EIS Preparation Notice for Kealakekua Bay State Historical Park Master Plan
Date: Wednesday, May 24, 2017 9:53:11 AM

Aloha John,

We are writing to address the EIS preparation notice we received regarding Kealakekua Bay and the master plan proposal. Having worked with the local community and the state for the last 20 years concerning this issue, we are encouraged by most of what the latest revision includes. We realize that this is just an overview of the project, but it seems somewhat vague in describing the changes that are proposed regarding the commercial use of the bay. Kona Boys is currently one of three companies that are permitted to provide tours in Kealakekua which we have served since 1996.

As you are aware, most of the Master Plan is based off of years of meetings with stakeholders and the community and we have always participated in these processes and are excited to see that some of these ideas may eventually come to fruition. Minimizing the traffic to the village, providing parking and trails, making improvements and establishing managed parks at Napoopoo and Ka'awaloa, and providing a ranger to manage the park are important improvements that have our support.

We would like to have a couple questions answered to provide a clearer picture of the scope and impact of the proposed changes to the commercial portion of the Master Plan. This would obviously have major ramifications on our business and the presentation as put forward in the master plan doesn't address the details of the program. We have included some of our questions and concerns:

The plan suggests a concession at Napoopoo pier:

- what would the scope of the concessionaire's permit?
- who will make the determination on who receives this concession?
- what criteria will be considered in choosing the concessionaire?
- Will existing tour permit holders retain their permits and be allowed to continue their tours from the pier in conjunction with the concession?
- Will existing rental operation still be able to send their kayaks down to launch from the pier.
- What limits are being considered for the volume of Kayak and canoe rentals and tours.
- Have you considered the impact, implications and legal ramifications should a concession be established that undermines the operations of established local businesses?

We feel that the inclusion of established, permitted ocean recreation providers currently operating Kealakekua, is essential in the success of the commercial portion of the master plan. We look forward to hearing more about the details and continuing to work with the State on the improvement of Kealakekua Bay State Park.

Mahalo,
Frank

Kona Boys
info@konaboys.com
p.808.328.1234
konaboys.com
gear for island life

On Apr 24, 2017, at 8:36 AM, John Kirkpatrick <jkirkpatrick@bchdesign.com> wrote:

Aloha,

An EIS Preparation Notice has been issued for the Kealakekua Bay Master Plan. It describes the proposed action to be taken in the Park. Publication of the notice about the EISPN initiates a 30-day public review period. Should you have any concerns or input on the proposed project, we would appreciate receiving your comments in writing by May 24, 2017. Please send your comments to me by e-mail or regular mail.

The EISPN is on the Office of Environmental Quality Control website. Here's the link:

http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Hawaii/2010s/2017-04-23-HA-EISPN-Kealakekua-Bay-Master-Plan.pdf

Next steps:

- A draft EIS will include the various studies for the EIS and will take into consideration your responses to the EISPN
- We are discussing with State Parks when to have another meeting about the Master Plan and EIS – you will be alerted before any meeting is held.

Mahalo,

John Kirkpatrick, Ph.D. LEED AP | Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
T: 808.521.5361 | F: 808.538.7819 | www.beltcollins.com

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BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-062

Mr. Frank Carpenter
Kona Boys Inc.
79-7539 Mamalahoa Hwy.
Kealakekua, HI 96750

Dear Mr. Carpenter:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. Based on your response of May 24, 2017, we understand that you have concerns about the very broad account of the concessionaire's role at KBSHP in the EISPN.

As the State has discussed in meetings in South Kona, any concessionaire would be hired through a procurement process. A detailed request for services would be issued, and a bidder or bidders would be selected by the Division of State Parks (DSP). The Draft Environmental Impact Statement (DEIS) will provide further discussion of the roles of DSP staff, concessionaires and community groups, and DSP's plans for service delivery will be affected by input from you and other community stakeholders.

You raise important questions about the evolving relationship between DSP and local commercial operators. These questions cannot be answered briefly here and now, but they are taken seriously by DSP.

Thank you for your participation in the Hawai'i Revised Statutes Chapter 343 process. A copy of the DEIS will be sent to you at the time of publication. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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Comments on Kealakekua Bay Master Plan

May 24, 2017

Geoff Hand, Owner
Adventures in Paradise Kayaks
75-5660 Kopiko St C7-430
Kailua Kona, HI 96740

As a business stakeholder at Kealakekua Bay since 2001, I have operated a kayak rental and later State permitted kayak tour business. Currently I operate under one of the kayak tour landing permits issued by DLNR.

I am not in support of the current plan. The current management plan fails in the following respects.

1. It proposes an increase in visitor traffic to Napo'opo'o village. The village has a one way road going through most of it's length that simply cannot accommodate the pressure of a greater numbers of visitors, which this park plan proposes.

a) The increase in visitor traffic is evidenced by the addition of 50 new parking spaces, in addition to on street parking, and opening up parking to Napo'opo'o Pier.

b) a water sports concessionaire will also create an increase in visitor activity as kayak rentals and canoe rides replace kayak tours due to the price differential.

c) As the park improves in telling the area's story it too will tend to increase traffic to this small community without the infrastructure to accommodate the pressures of the park as described here. The entire communities roads would need repaving, condemning numerous properties, and widening streets.

d) In summarizing, the State is not weighing the impact of it's goal of increasing visitors to the park with the success of this residential community and their right to peace and quiet enjoyment of their property. Bigger Parks create more traffic and noise: things not conducive to small neighborhood settings.

2. Another failure of this plan is reintroducing unsupervised kayak rental activity to the bay on an equal footing with kayak tours (currently kayak rentals cannot launch from Napoopoo Pier nor land at Captain Cook Monument, making the rental activity less desirable and thereby steering visitors to the more eco-friendly guided kayak tour. Unsupervised kayak rental guests have been identified with damaging reefs & harassing dolphins.

3. This management plan sets historical interpretation superior to recreational use. The plan here suggests a transition from currently used kayaks and boats to more traditional canoes for visitation at the bay. The economic impact to the many commercial kayak and boating companies that are now permitted to use the bay would be devastating. This is a serious economic problem for the many local residents that depend on the bay remaining open as a tourist destination without regard to the type of vessel employed.

4. Napoopoo Pier Concessionaire replaces current legitimate long term, local guided kayak tour operators without regard for their contributions at the bay and simply displaces these three long term and known legitimate State Permitted operators with another single operator. The State fails to weigh the economic harm in changing operators without cause.

Additional observation: At the time of this management plans public discussion, of the alternatives presented the most popular was for the NO CHANGE ALTERNATIVE by those attending the meeting. The current situation at the bay is working better than the proposed changes in this management plan. I concur that keeping the status quo is preferable to implementing this plan.

October 2, 2017
2015.70.0200 / 17P-070

Mr. Geoff Hand, Owner
Adventures in Paradise Kayaks
75-5660 Kopiko Street, C7-430
Kailua Kona, HI 96740

Dear Mr. Hand:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for reviewing the EISPN. Your response of May 24, 2017 raises several important issues to be addressed in the Draft Environmental Impact Statement (DEIS), and the ongoing planning for KBSHP.

Visitor traffic: Under current conditions, visitors to the Park flow into the residential lanes of the village. Provision of a parking lot reached by vehicles above the "T" intersection in Nāpō'opo'o is intended to reduce pressure on the narrow local roads. A traffic study for the DEIS will address this issue.

Would a "water sports" concessionaire increase local visitation?: The DEIS will consider this issue. There is already extensive advertising of the recreational opportunities at the Bay, by both sanctioned and unsanctioned operators, so this issue is not a simple one. The action alternatives in the Master Plan work to direct recreational users to the parking area and then to the Landing, where all vessel launches will be supervised.

Would interpretive services and facilities increase the presence of visitors in the Nāpō'opo'o community?: With such services and facilities, it seems likely that many visitors would come to the new parking lot, walk to the Bay near Hikiau Heiau, and spend more time in the Park. It does not seem clear that they would spend more time in the village. Provision of the new parking lot and trails from the lot to the heiau area will tend to direct visitors away from the residential village. Signage at the Park could also work to direct visitors away from the village area. The question will be discussed in the DEIS.

Would "unsupervised kayak rentals" replace kayak tours?: First, all launching from Nāpō'opo'o Landing would be supervised and subject to the Division of State Parks' (DSP) oversight. Second, DSP recognizes as important your concern that tours could be replaced by rentals: this issue will be examined in the DEIS.

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Economic Impacts: The EIS will examine economic impacts to the local community. Your questions imply that existing commercial operators on permits would be displaced. DSP has recognized that the operators currently running tours via the landing have been good stewards. Existing operators will receive the Request for Proposals (RFP) for a concession, and have already been encouraged to respond to that RFP. The issue will be examined further in the DEIS, although the details of relations between DSP and permittees will continue to evolve during and after the DEIS process.

Your view that the No Action Alternative is preferable to the four action alternatives sketched in the EISPN is recognized. Thank you for your participation in the Hawai'i Revised Statutes Chapter 343 process . A copy of the DEIS will be sent to you at the time of publication. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

British
Consulate-General
Los Angeles

19 May 2017

RECEIVED
2017 MAY 25 PM 3:46
BELT COLLINS HAWAII

Collette Weston
Deputy Consul General
2029 Century Park East
Suite 1350
Los Angeles, CA 90067

Tel: +1(310) 201 3034
Fax: +1(310) 203 9539

Web: http://gov.uk/world/usa

John T. Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, HI 96819

Dear Mr Kirkpatrick,

Thank you for your letter dated April 21 2017 regarding the Environmental Impact Statement Preparation Notice (EISPN) for Kealakekua Bay State Historical Park Master Plan, which was forwarded to this office from the British Embassy in Washington, as we have oversight of consular issues in Hawaii.

Thank you for copying this interesting and detailed report to us. We have no substantive comments to make on the report, but would be grateful if we could be kept informed as these plans develop and the project goes forward.

Yours sincerely,

Collette Weston
Deputy Consul General
British Consulate General, Los Angeles

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-093

Ms. Collette Weston
Deputy Consul General
British Consulate - General, Los Angeles
2029 Century Park East, Suite 1350
Los Angeles, CA 90067

Dear Ms. Weston:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your letter of May 19, 2017. We recognize that you have no substantive comments at this time, but would like to be informed of plans for KBSHP.

We will send you a copy of the Draft Environmental Impact Statement when it is published.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Sally B. Baughman, MEd <SallyBBaughman@aol.com>
Sent: Thursday, April 27, 2017 9:39 PM
To: John Kirkpatrick
Subject: Kealakekua Bay State Historical Park in S. Kona

Mr. Kirkpatrick: Thank you for the opportunity to comment. I'm a new resident of Kona, having moved here in 2016. I hiked down to the Cook Monument in early morning in January. It is a long hike, and I was hot going back up later in the morning((:30-ish), and was very glad I had friends tell me not to do it later in the day. I Hope the following inputs helps in planning:
A) THere should be sineage of some sort, even now while the "new features" are being built. The sineage should state how dangerous and hot it can get, because as I was almost back to the top leaving, I saw tourists headed down in flip flops with snorkel gear and flip-flops/slippahs rather than sneakers or shoes. I know there would be some very unhappy, and hopefully not seriously injured folks later in the day.

B) There needs to be facilities for human waste. The amount of toilet tissue around the area was horrible. And, of course some less able folks couldn't walk into the buses far, so this was all around the monument area. YUCK!

C) The use of the area by professional tour groups was sad to see. The day I was there, it was early, so only about 8 people were there. As I was leaving 6 people showed un on kayaks in a tour group. They parked the kayaks right by the sign that stated no boats/paddling. Lets enforce the rules, shall we?

I spoke to a visitor from Australia who told me one of the big boats came to the bay very close to the monument, and proceeded to unroll a water slide, and discharge SUP's and about 30 snorkelers in the close proximity to the monument. IT seems like there could be a better way. Perhaps a buoy system in the bay that shows where the boats must stay, and let folks know that this area is not for the tour boats to overwhelm. I realize these folks running tours pay ET and license fees, but seriously, lets get this place the respect it deserves.

Thank you,

Sally

Sally B. Baughman, M.Ed.

sallybbaughman@aol.com

https://www.linkedin.com/in/sally-baughman-hr-leader/

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-060

Via e-mail: SallyBBaughman@aol.com

Ms. Sally B. Baughman

Dear Ms. Baughman:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of April 27, 2017. We appreciate your comments based on your hike to the Ka'awaloa section of the Park.

The Master Plan for Kealakekua Bay State Historical Park is designed to protect the resources of the Park and to enrich visitors' experience. Increased maintenance, monitoring and interpretive activity are planned.

The Division of State Parks (DSP) expects to provide on-site monitoring of the Ka'awaloa section of the Park, and to install a waterless toilet outside of the archaeologically sensitive area. The hike to the Monument will still be a long one.

Currently a few kayak tours are allowed to land (under a revocable permit). In the future, the Master Plan proposes that DSP staff or a concessionaire will be present at Ka'awaloa all day, and any permitted landings will be monitored.

A buoy system, for swimmers' safety in the area near the shoreline, is also proposed.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing involvement with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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From: KEN Beilstein <kbeilstein@comcast.net>
Sent: Thursday, April 27, 2017 11:41 AM
To: John Kirkpatrick
Subject: Captain Cook

Dear Mr. Kirkpatrick,

As you proceed with the process of preparing an Environmental Impact Statement for the area around the Captain Cook Monument, I hope that foremost in your mind and evaluation is placing Captain Cook (the man himself) in an accurate historical context.

Rupert Brooke wrote:

'That there's some corner of a foreign field that is for ever England'

For the monument itself Brooke's poem is precisely correct; the Monument is deeded in perpetuity to the United Kingdom.

Why is that ?

Captain Cook was far more than an accomplished sailor. He was, in fact, one of the brightest stars of the Enlightenment and the Scientific Revolution.

He was an expert cartographer - by broad consensus his charts of Newfoundland and the St. Lawrence were the most accurate of their time, and were instrumental in Wolfe's victory at Quebec and the unification of Canada.

He was probably the most talented individual in the 18th century in terms of applied mathematics. Cook was unique in that he understood and could apply the Calculus of Isaac Newton and the astronomy of Edmond Halley with expert cartography and the technology of marine chronometers.

Literally, only Cook had the skills to measure and compare the accuracies of the Lunar Distance Method versus the chronometers of Harrison, Kendall and Arnold. His voyages were much more than voyages of discovery of new lands - New Zealand, Hawaii, Antarctica; they were voyages of scientific discovery and technology validation. Today we take navigation and longitude and GPS for granted. In large part, we owe that to Captain Cook.

Captain Cook never lost a sailor to scurvy ! Thousands and thousands of sailors died of scurvy both before and after Cook, but never a single one directly under his command.

These are just a few of Cook's accomplishments. For a more detailed understanding of why Captain Cook is so important a historical figure I suggest J.C. Beaglehole's 'The Life of Captain James Cook' or Alan Gurney's 'Below the Convergence - Voyages Toward Antarctica'.

It is very unfortunate that access to the Cook Monument is so difficult, and that very little information about Cook is available at the very place he was murdered. His monument is treated as a footnote to the history of Hawaii.

Whatever plan you and your team develop for the Captain Cook Monument site, I hope that your objectives include much easier access. And most importantly, information and appreciation about Captain Cook himself and the enormous contributions he made to science and our understanding of our planet.

If Adam Smith or Benjamin Franklin or Voltaire had been killed at Kealakekua Bay it is hard to imagine it would be a footnote to Hawaiian history. Captain Cook's legacy is secure among these giants - outside of Hawaii. He was far more than just a sailor.

Hawaii should take the steps necessary to make certain that the Captain Cook Monument is accessible and a truly great individual is honored and appreciated.

Sincerely,

Ken Beilstein

October 2, 2017
2015.70.0200 / 17P-061

Via e-mail to kbeilstein@comcast.net

Mr. Ken Beilstein

Dear Mr. Beilstein:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of April 27, 2017. We appreciate your spirited support for Captain James Cook.

The Master Plan for Kealakekua Bay State Historical Park is designed to protect the resources of the Park and to enrich visitors' experience. Increased interpretive activity is planned.

The Division of State Parks expects to provide on-site monitoring of the Ka'awaloa section of the Park, and to install a waterless toilet outside of the archaeologically sensitive area. The hike to the monument will still be a long one.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing involvement with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Liz Crabtree <liz@pacifica-hawaii.com>
Sent: Thursday, April 27, 2017 7:45 AM
To: John Kirkpatrick
Subject: Kealakekua Bay

I would like to express my families feelings regarding access to Kealakekua Bay. I have lived in Hawaii for 30 years, and all three of my children were born and raised in South Kona. My son works at the Federal Park. Still, we cannot access Kealakekua Bay with our own kayaks, but tourist can through "approved Kayak companies". I agree the bay needs to be monitored, but not to a point where it is exploited or restricts the community from enjoying the beauty and culture of the place.

Elizabeth (Liz) M Crabtree, B,
Property Manager

Pacifica Realty Management, Inc.
75-1029 Henry Street, Suite 202
Kailua Kona, HI 96740-1666
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October 2, 2017
2015.70.0200 / 17P-065

Ms. Elizabeth M. Crabtree
Property Manager
Pacifica Realty Management, Inc.
75-1029 Henry Street, Suite 202
Kailua Kona, HI 96740-1666

Dear Ms. Crabtree:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of April 27, 2017. You note that the Division of State Parks (DSP), by limiting access to Nāpōʻopoʻo Landing is effectively making it impossible for many area residents to launch kayaks safely in Kealakekua Bay.

Currently, DSP issues permits for vessels transiting the Bay, including residents' boats and kayaks. Owners can register vessels on-line. That policy will not change. The Proposed Action will allow use of the Landing by commercial and non-commercial kayaks, under the supervision of State or concessionaire staff.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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From: Alayna Debina <alaynade@aol.com>
Sent: Monday, April 24, 2017 8:57 AM
To: John Kirkpatrick
Cc: konamiles@gmail.com; gordon-leslie@live.com
Subject: EIS for Kealakekua Bay State Park

Aloha John,

I was forwarded an email sent by you earlier today with a copy of the EIS Preparation Notice for Kealakekua Bay State Park Master Plan. I would like to request that I be added to the email roster for any of these types of notices. I am the acting Secretary for Ho'ala Kealakekua, a volunteer group that currently has the adoption of this park and has been working vigorously with volunteers over the past 13 months to remove invasive vegetation and restore the sacred and archaeologically sensitive areas in this greater park area.

Please let me know how I would go about getting on that list, as you can imagine, it is important and even vital that our group be in the mix for whatever plans the state and BCH has on the drawing board for our park.

Mahalo,

Alayna DeBina
Secretary
Ho'ala Kealakekua

Napo'opo'o Resident
'Ohana and Descendant

83-5682A Napo`opo`o Road
Captain Cook, HI 96704
808.987.6519

October 2, 2017
2015.70.0200 / 17P-067

Ms. Alayna Debina
83-5682A Napoʻopoʻo Road
Captain Cook, HI 96704

Dear Ms. Debina:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawaiʻi

Thank you for your e-mail of April 24, 2017. As you requested, you have been added to the list of persons who will receive future communications about the State Historical Park Environmental Impact Statement process.

Thank you for your comments. A copy of the Draft Environment Impact Statement will be sent to you at the time of publication. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Kathy & Steve Johnson <spamfree@hawaii.rr.com>
Sent: Friday, April 28, 2017 8:19 PM
To: John Kirkpatrick
Subject: Monument Ideas

Aloha John,

Here are a couple ideas about the Captain Cook monument problems.

Two types of people visit the monument: locals and visitors. If half of these people didn't go there the problem would be manageable. So, follow me here: Build a replica of the monument, place it at a mall parking lot and tell visitors that it is the real thing. I am sure that any mall would pay for the new monument in order to increase traffic. Have a plaque on the new monument explaining that in 1779 the ocean was at the parking lot level. The International Marketplace would be a good location; no one is using that space now.

Since the monument sits on British soil, send the Queen a letter informing that it is her problem. (Is the monument part of the EU?)

Or do as Trump would suggest, build a wall around the whole area.

PS I have other suggestions if you are interested.

Uncle Steve

1

October 2, 2017
2015.70.0200 / 17P-075

Via e-mail to spamfree@hawaii.rr.com

Mr. Steve Johnson

Dear Mr. Johnson:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of April 28, 2017. Your suggestions concerning the Captain Cook Monument are ingenious. However, they are problematic for an agency of the State of Hawai'i. With the Park Master Plan, the Division of State Parks (DSP) seeks ways to accommodate informed visitation without any harm to the Park's resources.

1. DSP seeks to share Hawai'i's beauty and history with residents and visitors, not to deceive either group. Even if a developer wanted to create a copy of the Cook Monument, the State would not be a party to the action.
2. The EISPN was sent to the Embassy of the United Kingdom in Washington, D.C. and to the Australian Consulate in Honolulu. We look forward to any response they may have asserting rights or responsibilities regarding the Monument.
3. DSP has no interest in building a wall around the Monument or otherwise obscuring the historic landscape.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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From: Swarm Khalsa <swarnik001@gmail.com>
Sent: Monday, April 24, 2017 1:35 PM
To: John Kirkpatrick
Subject: Kealakekua bay

Aloha John

Thanks for this opportunity to express my thoughts on the bay.

I have lived on napoopoo road for almost 18 years and have enjoyed the beauty of this area. I have 2 suggestions:

1). Please continue to allow people to swim in the bay.

2) instead of allowing only a few kayak companies to land kayaks, please open up Ka'awaloa cove to us once again so we can enjoy visiting the captain cook monument and the surrounding area.

Mahalo with Aloha,
Sincerely,
Swarni Khalsa
Sent from my iPhone

October 2, 2017
2015.70.0200 / 17P-076

Via e-mail to swarnik001@gmail.com

Mr. Swarni Khalsa

Dear Mr. Khalsa:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of April 24, 2017. The Division of State Parks (DSP) shares your concern with the beauty of the park and the surrounding area.

No proposal to keep swimmers out of the bay has been advanced by DSP. The Proposed Action does include the identification of a dolphin rest zone, where it will be possible for all to see that boaters and swimmers observe the federal regulations on human-dolphin interactions.

DSP has issued both commercial and non-commercial permits to visit the Bay, including Kaawaloa Cove, for no charge. DSP is proposing that visits to the fast land at Ka'awaloa be supervised by DSP staff or by a concessionaire. It may be possible for residents to land vessels at 'Awili under such supervision.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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From: Swarm Khalsa <swarnik001@gmail.com>
Sent: Monday, April 24, 2017 1:35 PM
To: John Kirkpatrick
Subject: Kealakekua bay

Aloha John

Thanks for this opportunity to express my thoughts on the bay.

I have lived on napoopoo road for almost 18 years and have enjoyed the beauty of this area. I have 2 suggestions:

1). Please continue to allow people to swim in the bay.

2) instead of allowing only a few kayak companies to land kayaks, please open up Ka'awaloa cove to us once again so we can enjoy visiting the captain cook monument and the surrounding area.

Mahalo with Aloha,
Sincerely,
Swarni Khalsa
Sent from my iPhone

October 2, 2017
2015.70.0200 / 17P-077

Via e-mail to sailom@earthlink.net

Ms. Elizabeth Kilpatrick

Dear Ms. Kilpatrick:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of April 24, 2017. The Division of State Parks (DSP) recognizes that improvements at Kealakekua Bay State Historical Park are needed to address both usage of the Park and impacts on the surrounding community. The Proposed Action will include a parking lot, to direct visitors coming by car to the Park, and away from the local residential areas, and increased management of Park lands, to allow safe and orderly visitor use. No bus parking is planned.

DSP is a State agency, not a County one. As you note, parking at the Nāpō'opo'o Road junction creates problems that are being discussed by the County, residents, and DSP. However, the roads at the junction are County roads, and not under State jurisdiction.

DSP plans to locate a waterless toilet on the Park land at Ka'awaloa, for use by hikers and other visitors.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Kilpatrick Kotner, Ella <ella_kotner@brown.edu>
Sent: Wednesday, May 31, 2017 3:58 PM
To: John Kirkpatrick
Subject: Input on the EIS Preparation Notice for Kealakekua Bay State Historical Park Master Plan

Hello John,

I am writing in response to the proposed plan for the development of Kealakekua Bay. I have lived in the area since 2001 (nearly all of my life), and I thank you for the opportunity to provide input. I firmly believe that no further development should occur in the area.

I recognize my positionality and privilege as a white person, and thus make it my goal to use this privilege to raise other people's voices as effectively and respectfully as I can, especially in places, such as Hawaii, where there is such a long history of colonialism and oppression. For this reason I believe it is imperative that a thorough and ongoing community dialog occur regarding this project. Not only does the long, past history of the place need to be taken into account, but also the living history and culture that is still present. Kealakekua bay is a fishing village and has been for generations. Traditions and culture are preserved through its current residents. Before further development of the area, the wishes, needs, and desires of this community ought to be listened to. This can be accomplished through extensive and comprehensive surveys, ongoing dialog with residents, and community input on all steps of the process.

In addition to the cultural impacts of the project, environmental impacts must be at the forefront of all minds involved. The marine life in Kealakekua bay is already greatly threatened by warming oceans due to anthropogenic climate change, and increased traffic and pollution in the bay would only exacerbate this threat. In this current climate and environmental crisis, any steps to mitigate its negative impacts are incredibly important, and preserving the delicate ecosystem of Kealakekua Bay is one way to do this.

Finally, on a more personal level, the pristine nature of Kealakekua Bay has been incredibly important to me for my entire life. I grew up on the bay. It is a place where I learned to live with the land, live off the land, and respect the land. The fact that it is so untouched and so full of culture and history helped me to develop the appreciation and love for nature that I hold so dear to me. It is what got me interested in environmental science and environmental justice and what spurred me to dedicate the rest of my life to protecting our environment and the cultures inextricably connected to it. I, as well as many of the cousins, aunties, and uncles that I grew up with, know the bay as a home where people and cultures can live and interact in a truly authentic and beautiful way, something that would simply not be possible if it were further developed.

I urge you reconsider the development of Kealakekua Bay. I ask that this reconsideration include thinking critically and actively about the environmental impacts and engaging deeply with the community to discuss the cultural and social impacts of the project.

Best,

Ella Kilpatrick Kotner
ella_kotner@brown.edu
(808) 987-6662

October 2, 2017
2015.70.0200 / 17P-078

Via e-mail to ella_kotner@brown.edu

Ms. Ella Kilpatrick Kotner

Dear Ms. Kotner:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 31, 2017. This response deals with your concerns with community outreach, cultural impacts, and environmental impacts.

The Master Plan for KBSHP has been developed through a lengthy process of community involvement. The Department of Land and Natural Resources has held community meetings, conducted group meetings of stakeholders, sponsored a community survey (in 2009) and sponsored an e-survey in 2016 that focused on sites within the Park. Results of these discussions and surveys have been shared, and will be recorded in the Master Plan and the Draft Environmental Impact Statement (DEIS).

The DEIS will include a Cultural Impact Assessment that summarizes information from local elders on past and current cultural practices in the Park area. The Department of Land and Natural Resources values the historical and cultural resources of the Park, and seeks to preserve these.

The DEIS will include a biological assessment of the Park lands and near-shore waters, along with summaries of research on the Bay's mammals, fish and corals. The environmental impacts of the action alternatives will be assessed. That assessment includes recognition of climate change, including sea level rise, as on ongoing trends affecting the Park.

You ask us to "reconsider the development" of the Bay. Please be assured that the aim of the proposed action is first and foremost to preserve the resources of KBSHP Thank you for your comments. We will alert you when the DEIS is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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From: Phillip Koszarek <philkoszarek@gmail.com>
Sent: Sunday, May 07, 2017 11:24 AM
To: John Kirkpatrick; martha.e.yent@hawaii.gov
Subject: Kealakekua Bay Master Plan

When I read the opening statement that highlights the words enhance, protect, conserve and manage I made the assumption the Master Plan would do that. I believe my assumption was wrong.

Without the inclusion of water quality for Kealakekua Bay it is not possible to enhance, protect, conserve and manage. I have made this comment to you in the past and obviously you have rejected my comment so I expect the same will happen this time.

I see the Master Plan as a tourism development plan. A plan to control tourism is good and needed but people come to the Bay for the water and protection of that water should be a top priority.

I notice the Plan says the water quality is the responsibility of the Dept of Health. But from my perspective there is nothing the Master Plan detailing how the Dept of Parks will MANAGE that issue.

So again just let me say that leaving water quality out of the Plan does not accomplish the mission of the Department.

Mahalo.

October 2, 2017
2015.70.0200 / 17P-080

Via e-mail to philkoszarek@gmail.com

Mr. Phillip Koszarek

Dear Mr. Koszarek:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 7, 2017. In your comment, you emphasize the importance of water quality for Kealakekua Bay.

The State Department of Health is responsible for water quality monitoring throughout Hawai'i. You indicate that the Division of State Parks should share that responsibility at Kealakekua Bay. This suggestion will be considered in the Draft Environmental Impact Statement (DEIS). Also, the DEIS will deal with a planned waterless toilet at Ka'awaloa.

Thank you for your comments. We will alert you when the DEIS is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Yent, Martha E <martha.e.yent@hawaii.gov>
Sent: Wednesday, May 24, 2017 3:08 PM
To: John Kirkpatrick
Subject: FW: comments re: K BAY MASTER PLAN

Aloha John,

Since this response came through our DLNR office, I wasn't sure if you received so sending along.

Mahalo, Martha

From: "DLNR.CO.PublicDLNR" <dlnr@hawaii.gov>
Date: Wednesday, May 24, 2017 at 2:56 PM
To: "Cottrell, Curt A" <curt.a.cottrell@hawaii.gov>, "Carpenter, Alan B" <alan.b.carpenter@hawaii.gov>, "Cummings, Adaline F" <adaline.f.cummings@hawaii.gov>
Cc: "Yent, Martha E" <martha.e.yent@hawaii.gov>, "Tanaka, Lauren A" <lauren.a.tanaka@hawaii.gov>, "Takebayashi, Dean H" <dean.h.takebayashi@hawaii.gov>, "Pascual, Charlene S" <charlene.s.pascual@hawaii.gov>
Subject: FW: comments re: K BAY MASTER PLAN

Forwarding to your further attention.

Dw/Comms

From: Varadaan [mailto:varadaanbiz@comcast.net]
Sent: Wednesday, May 24, 2017 2:51 PM
To: DLNR.CO.PublicDLNR
Subject: comments re: K BAY MASTER PLAN

Aloha

Here are some thoughts about the K Bay Master Plan process

1) Toilets ASAP at Ka'awaloa
On an interim to address the urgent issue and at the same time convince the public that you 'got the memo' boat some portapotties out there. Put them on simple wooden frames that have no impact, no concrete, in a place that is not sensitive culturally or archeogically. Provide at least two. Obviously you will eventually do something more appropriate like composting toilets.

2) Dolphin swim area
For now consider this as a pre-approved action that can be done if it is really needed. The bouys will be ugly, but if human pressure can not otherwise be managed, then be ready to institute a dolphin only area at a reasonable timeframe, that a general consensus will support, like 9am-4pm. Also the size of the area on the map is probably larger than needed, possibly by double width, as would be measured approximately perpendicular to line of site from Napoopoo to the monument.

Mahalo for being respectful and making important improvements. Lets not waste more money on consultants, it should be applied to directly addressing urgent concerns.

1

Ben Lipman
Capt. Cook

October 2, 2017
2015.70.0200 / 17P-082

Via e-mail to varadaanbiz@comcast.net

Mr. Ben Lipman

Dear Mr. Lipman:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 24, 2017. You urge the Division of State Parks (DSP) to place portable toilets at Ka'awaloa as soon as possible. That idea has been considered, but DSP should provide a means of removing wastes safely and hygienically if it is to install a toilet. This has been a challenging problem.

Next, you support the idea of a dolphin restricted zone, but suggest that the area be reduced and restrictions limited to part of the daylight hours. Planning for the restricted area will continue, and your suggestions will be considered.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Scott Marshall <marshall.construction@yahoo.com>
Sent: Wednesday, May 24, 2017 8:39 PM
To: John Kirkpatrick
Subject: Re: Publication of EIS Preparation Notice for Kealakekua Bay State Historical Park Master Plan

Hi John,

You have put together a plan that incorporates most all of the positive aspects of the options that were presented to us last year for the proposed Kealakekua Bay Master Plan.
I like the proposal that allows for residents to be able to launch their own kayaks and other water craft from Napo'opo'o Wharf.
I also think that creating a parking area in the parcel that is located on the North side of Napo'opo'o Road is another good idea.
Another option of the plan that I whole heartedly embrace is removing some of the boulders off of the beach to provide an area of safe water access from a sandy beach. I have heard concerns from my neighbors that a sandy beach will bring more people and more cars but with the new 50 stall parking lot being proposed in the Master Plan, this traffic issue should not be a problem.

One question I have about relocating the parking lot is the proposed restricted vehicle access to the Beach Road just north of the "T" intersection at the end of Napo'opo'o Road. Our house shares a fence line with the grass basketball courts and I am curios what kind limited access would residents need to get through to drive their cars on to their property?

Once again thank you for all your time on continuing to create a Master Plan for Kealakekua Bay State Park.

Sincerely,

Scott Marshall

> On Apr 24, 2017, at 11:36 AM, John Kirkpatrick <jkirkpatrick@bchdesign.com> wrote:
>
> Aloha,
>
> An EIS Preparation Notice has been issued for the Kealakekua Bay Master Plan. It describes the proposed action to be taken in the Park. Publication of the notice about the EISPN initiates a 30-day public review period. Should you have any concerns or input on the proposed project, we would appreciate receiving your comments in writing by May 24, 2017. Please send your comments to me by e-mail or regular mail.
>
> The EISPN is on the Office of Environmental Quality Control website. Here's the link:
>
> http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Hawaii/2010s/2017-04-23-HA-EISPN-Kealakekua-Bay-Master-Plan.pdf
>
> Next steps:
> - A draft EIS will include the various studies for the EIS and will take into consideration your responses to the EISPN

- We are discussing with State Parks when to have another meeting about the Master Plan and EIS – you will be alerted before any meeting is held.

Mahalo,

John Kirkpatrick, Ph.D. LEED AP | Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
T: 808.521.5361 | F: 808.538.7819 | www.beltcollins.com

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October 2, 2017
2015.70.0200 / 17P-083

Via e-mail to marshallconstruction@yahoo.com

Mr. Scott Marshall

Dear Mr. Marshall:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 24, 2017. Your comment is supportive of the proposed action. Your question about the Beach Road access helps us understand that this idea needs to be communicated clearly.

The Division of State Parks (DSP) is trying, as much as possible, to relocate Park traffic to the new parking lot. However, the existing access by Beach Road is a County road, and it serves private residential lots as well as the Park. DSP can remove a few stalls on State land, and can provide directions to visitors to park in the new lot. Any further change would need to be done by the County, which would no doubt consult with property owners.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: william morris <williammorris2@gmail.com>
Date: Wednesday, May 24, 2017 at 10:11 PM
To: "Yent, Martha E" <martha.e.yent@hawaii.gov>
Subject: Kealekekua Bay plan response

To whom it may concern regarding Kealakekua bay master plan.
My name is William morris , l reside at 82–6027 puuhonua rd. My home ajoins the Napoopoo landing.
I have lived on this bay for 15 years and in that time witnessed a large variety of activities, uses and abuses of the site. I held the key to the pier that was issued to me by the DLNR office of Kona. I was responsible for the locking and opening the gate every day for six years.
The comments I wish to offer do not come from a casual observer or infrequent visitor.:
First off the villages small with single lane streets. It is already over run with visitors that have no respect for the community or the traffic here. The access to the ocean for recreational purposes is now limited that the gate to the landing is locked. I believe it should remain that way. I have seen up to 80 kayaks parked on that landing at one time. This causes tremendous congestion and unwelcoming environment for foot traffic and a huge abuse to the wildlife in the bay. I cannot stress this enough! The largest and single most devastating aspect to the village life here has been commercial enterprise. I had a different view on this year's ago when I was hoping people could quietly rent a few kayaks for some local income and I try to be supportive of this for years. But with every opportunity came the fights and drugs. Concessions of any kind should not be allowed on the bay!
The access to the sacred sites and these waters should be extremely limited.
Your proposal of developing the area in my opinion only adds attraction, congestion and distraction from the fact that this is a village where people live and try to conduct their lives! You have a fantastic state park just 4 miles from here, Puuhonua o honaunau.

This village was here long before your idea of parks, recreation and tourism existed! That should be honored above all else!
I am quite shocked by the fact that the people conducting the survey and considering these changes have not given the respect of the residents to even ask their opinion! A good and thorough decision making process should involve the residence directly affected by your proposal. Not just a cursory survey of permit holders or casual recreational users of the bay.
I welcome any questions or conversation regarding this issue.
Bill Morris
328-9418

--
Sent from Gmail Mobile

October 2, 2017
2015.70.0200 / 17P-085

Via e-mail to williammorris2@gmail.com

Mr. William Morris

Dear Mr. Morris:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 24, 2017. As you note, commercial activity in Kealakekua Bay has changed over time, with impacts on the village of Nāpō'opo'o. You propose as a solution, banning any concessions in the Bay. You propose making access to the historical and cultural resources of the Park, and to the Bay, "extremely limited."

A No-Action Alternative will be considered in the Environmental Impact Statement along with proposals for limited improvements. The impacts of all the alternatives on Nāpō'opo'o Village and traffic will be considered carefully.

We appreciate your comments and will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Kenneth Pastore <kanvadas@gmail.com>
Sent: Sunday, May 14, 2017 4:14 AM
To: John Kirkpatrick; parks_recreation@hawaiicounty.gov; Travis Idol; kanvadas
Subject: Re: Dear John Kirkpatrick of Belt Collins Hawaii LLC
Attachments: Leucaena on beach sand.jpg; Subabul#7.jpg; subabul#1.jpg; A Big Fat leauceana tree.jpg

PS As one can see leuceana tree can grow even on beach sand and is very easily propagated by inexpensive seeds

There are many many varieties of leucaena but the giants are the most cooling and refreshing due their extreme height as I personally noticed when I visited an experimental farm project of Dr. Brewbaker in India and was totally in full bliss and satisfaction while strolling through his demonstration forest that was planted on an embankment because the land was very uneven.

So he had it leveled nicely and thus made a 50 foot embankment surrounding a vegetable garden which grew every known vegetable that could grow there in the Pune district of Maharashtra and he only used the leaves of the tree for fertilizers along with a 12 inch flood irrigation system.

On Sat, May 13, 2017 at 1:24 PM, Kenneth Pastore <kanvadas@gmail.com> wrote:

> I lived for about 18 months at the Captain Cook monument as a homeless person back in 73'-74' and I certainly do know how hot it gets as I had to stay in a little vinyl dingy all day long till late afternoon to escape the intense heat ..
>
> I kind of really liked it there as I am a person who generally prefers to be alone most of the time and for me it was nice to spend the day with the spinner dolphins out in the middle of Kealakekua Bay.
>
> After I left the Kona area I ended up living in India where I worked as a volunteer along side of the second generation of Bangladesh refugees by planting vegetable and flower gardens for our local (Bhakti-Yoga) temple...
>
> I also planted some trees for shade and for fuel wood of which I planted the fastest growing Hybrid tree in the world known as the Hawaiian Giant Leucaena Tree.
>
> The trees of which I planted by in West Bengal in the early 1980's grew very successfully attain an average height of 20 feet within only one year. Simply because the tropical climate, the abundance of residual subsoil (Ganges River) moisture and neutral soil Ph were more than adequate.
>
> So I desire to help in planting of these super fast growing shade trees in all our local state and county parks that need cool fresh sea breeze air flowing at all times, because they are much much faster growing than our Iron wood trees that grow only 5

feet or so yearly and need occasional pruning of which they do not like as one can ask about how sick IronWood trees get once they are slightly pruned by our local state park workers.

This specific hybrid tree which was created by crossing some 90 different varieties of the leucaena species of which native to all of Latin America, by the most famous plant Geneticist of our time Dr. James Brewbaker
(Cornell 51') then hired by the University of Hawaiian in 1962..

One tree that grew in India reached an astonishing height of 33 1/2 feet in a 12 month period with a breast high trunk 5 inches in diameter. This tree grew grew so fast because of untreated septic tank sewage sludge that drained into a open irrigation ditch just near where the tree was planted and this highly potent fertilizing fluid had an unlimited source of additional plant nutrients so very beneficial to any newly planted tree...

The other trees of which I planted by in West Bengal in the early 1980's grew very successfully attain an average height of 20 feet within only one year. Simply because the warm tropical climate, the abundance of residual subsoil (Ganges River) moisture and neutral soil Ph of which the leucaena trees do grow there very best but also do well in most all tropical soils .

There are many many varieties of leucaena tree which is very much related to our common shrubby Haole Koa tree which is many branched and grows only to a height of 15 feet or so and produces an unlimited amount of seeds throughout the year so it is has become totally invasive through our islands, but the new hybrids do not produce so many seeds and can attain a height of 70 feet or more easily at the Captain Cook Monument area where I lived and I cannot ever remember it raining there at all .. So there would be no problem in removing any volunteer seedlings even if a few did grow because these young seedlings could be easily eradicated by a light spraying of roundup whenever needed.

Since Dr. Brewbaker is now retired and Dr Travis Idol is now taken his placed at the University of Hawaii at Manoa's Sherman lab...

The leucaena tree needs fertilizers needs like phosphorus, sulfur, calcium, zinc, molybdenum etc but I had no shortage of fertilizers since my trees were planted in organically enriched soil with only about 1/3 cow dung added to each seedling bag of which I grew in a shallow seedbed to a height of more than one foot, but that had a plastic ground cover so that when the roots started to penetrate the seed bed it grew without any harming itself whatsoever and when the tree was actually planted the tap root was sticking out of the bag just ready for planting...

I did use some lime at planting time but with the use of all organic manure fertilizers this tree should grow to phenomenal heights without much additional requirements and since this tree is well known for it's long tap root and does not have many lateral roots I think that by digging deep holes using a PTO driven post hole digger down at the Captain Cook Monument area would be of great advantage because it would ease the tree to grow faster and to reach its own residual sub soil moisture and would not need any further water besides during the first two months of planting, but in these days one could easily give even more fertilizers through a constant dip system or just plant the trees as they usually do through the third world by only using some good composted manure and plenty of water bi weekly for about two months or so.

Captain Cook Monument needs is lots and lots of ever cooling and very quick growing shade trees and these new hybrids as you can see in the photos below are full of leaves at the top and do not have not many branches to block any sea breeze nor would it be common to have any branches fall and injure someone like Iron wood tree branches maybe could

I think to to plant these trees at about 25 feet apart each way would be best for any and all purposes as there would be plenty of shade and one could even allow any emergency vehicle or any Hawaii State working men's truck to drive through the entire area very easily because I would plant all of the trees in the Square system of tree plantation cropping so that everything could be easily accomplished if and there is the need to drive through the entire proposed park area.

But to plant haphazardly or by the triangular plantation pattern planting styles which are planted that way in order to increase acreage timber yields of which our state has no need ...

Tarramba (K636) a U of H variety released in 1994 is the choice variety recommended to me by Dr Idol and probably would be the best variety for all of hawaii but one should really inquire from him personally because he is the expert and I am only the enthusiast.

Sincerely,

Ken Pastore

kanvadas@gmail.com

PS While In India I contacted various diseases that made me sick for the last 40 years, but now I am getting healthier at age 69 but am really not so strong and am not at all interested in doing any for profit work like planting trees or even growing seedlings in a commercial greenhouse

But I could help by planting a few trees somewhere here on the big island like in any county or state park or state land so that all those so concerned can actually see just how very fast and how tall these trees can grow within one or two years and if the authorities dis like these trees then to cut them down at such an early stage of life would not be difficult at all

Dr Travis Idol's contact information is:
#956-7508
email: idol@hawaii.edu
University of Hawaii Seed Program
1910 East West Road Sherman Lab 108
Honolulu, HI 96822

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-086

Via email to kanvadas@gmail.com

Mr. Kenneth Pastore

Dear Mr. Pastore:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 14, 2017. I appreciate learning about your experiences at Ka'awaloa and in India. As you note, the area around the Captain Cook monument gets very hot for most of the day.

Your suggestion concerning the hybrid Hawaiian leucaena as a source of shade will be shared with the Division of State Parks (DSP). At this point, we are not close to choosing plantings for this section of the State Park. DSP's aim is to restore the cultural landscape while making the area more accessible to interested, supervised visitors.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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Heather Reynolds, Esq.
Kealakekua, Hawaii
(510) 774-9356

May 24, 2017

Ms. Martha Yent
Division of State Parks
Department of Land and Natural Resources
PO Box 621
Honolulu, HI 96809
Also via email at dlnr@hawaii.gov

Comment Re: Kealakekua Bay State Historical Park Master Plan

Dear Ms. Yent,

I have been very involved with the Hawai'i Dolphin Initiative, a group of concerned citizens living in South Kona who frequent the Kona bays on a daily basis and desire to preserve the ability for human/dolphin interaction in harmony with dolphins and the community sustainably. Since I did not have enough time to obtain the community's approval of this letter, it can only be offered by myself individually and may not reflect the group's opinion. You can find us at http://hawaiidolphininitiative.weebly.com/.

I wanted to inform you that we are currently implementing a community based education program re: **dolphin swimming protocol**. We expect education to eliminate the need for additional regulation of human swimming behavior because in our experience, once educated, most humans agree to swim respectfully with the dolphins and to respect the Hawaiian culture. We are working closely with the locals on an implementation plan.

We have three strategies:

- **Education:** Through engagement with stakeholders, we are developing an educational program to provide respectful protocol for swimming with dolphins.
- **Hawaiian Culture:** Come to understand the Hawaiian cultural perspective on dolphin swimming.
- **Scientific research** to determine what is real about dolphin/human interaction.

Having carefully read your Kealakekua Bay State Historical Park Master Plan (the "Master Plan"), and informed by the progress our community has made, I personally have **three major concerns regarding the dolphins:**

Some important assumptions made in your report about dolphins do not appear to be accurate and do not appear to be supported by scientific research.

1. In Section 3.4 on page 22 and paragraph 4.1.13 on page 25, the report assumes that dolphin pod numbers have gone down over the years but **cites no research** in support. If you ask any of the citizens who have been swimming here for over 30 years and kept detailed track of dolphin populations for years, the **numbers have gone up**! Believe me, if the community that loves the dolphins noticed their numbers diminishing, we would be the first ones to pass laws against whatever was to blame. Some of us attribute this increase to the Marine Mammal Protection Act that helped dolphins avoid fishing nets.

When NOAA was asked at a local meeting last fall if any of the "inconclusive" research they have been citing was **funded by Dolphin Quest** (the only captive dolphin establishment on the Island), the answer was, "Yes." This is a major conflict of interest because if swimming with free dolphins in the wild is no longer possible, then the ONLY dolphin experience available is at Dolphin Quest.

Additionally, I am informed that **the research was all conducted from land**, and the scientist never set foot in the water. You can't count the dolphins under the water that way. They are underwater most of the time. I believe that the research they funded was inconclusive on the issue of population, yet it continues to be referred to -- in this case with no reference to research at all. In my personal experience, there are usually 30-50 dolphins in one of the Kona Bays daily and hundreds along the coast. This morning there were at least 70. Our research committee has created a website to collect this important information at http://dolphinsurvey.org/.

Page 22 states that, "the Marine Mammal Protection Act prohibits anyone from approaching the dolphins." If that were true, we would all have been arrested by now. In fact, the law prohibits "harassing, pursuing or tormenting" marine mammals. Even the signs created by NOAA at the Bays can only **recommend** that people not swim with dolphins, but there is no law against mere swimming at this time. That is because mere swimming does not constitute harassment unless it changes the dolphins' behavioral patterns. These issues are being discussed with NOAA now in response to their proposed regulations and are far from certain.

Our group is currently educating swimmers to simply "stop and float" when they see a dolphin, not because the dolphins are always bothered by swimmers, but because floating cannot be misinterpreted by humans as "chasing" or "pursuing." Quiet floating cannot possibly be harassment. It has been our experience that playful dolphins often elicit human interaction, and resting dolphins should be allowed to rest. We have seen that most humans can be trained to tell the difference and interact respectfully when dolphins are doing either or both.

NOAA's proposed 50 yard rule won't work – practically speaking. Paragraph 4.1.3 on page 25 refers to the 50 yard rule. We tried to apply this proposed rule to see if it could work. We discovered that dolphins that are 50 yards away are only seconds from being directly underneath us in the water. There is no way we could swim away in time to abide by this proposed rule except to completely exit all bays in which dolphins are present. Of the dozens of bays along our coast, humans only frequent the small handful that are accessible to humans. Dolphins seem to choose those same few bays as well. Not only is this an interesting fact, but it makes this proposed rule unworkable unless humans choose not to enter the bays when dolphins are present (which is a daily occurrence).

Proposed Dolphin "Rest Area" is too large. The illustration on page 12 shows the proposed "Dolphin Rest Zone." If the intention is to preclude ALL human interactions with dolphins, then the proposed rest area is the correct size. It's huge! In fact, I've never seen

dolphins anywhere else in the Bay. In my experience, dolphins and humans enjoy each other's company when swimming is mutually consentual, and we would like to demonstrate this by having **the rest area NOT enter Subzone B**, so the **dolphins can choose** whether they prefer to be alone in Subzone A or interact with humans in Subzone B. That means the proposed "rest zone" to the right of Subzone A line would be made available for human swimmers and non-motorized boats. This could be marked clearly with buoys, and would allow research scientists to count how many dolphins prefer human interaction and at what times of day. This still leaves most of the area human-free, with one corner where dolphins can opt-in to human interaction.

The idea that dolphins are ALWAYS RESTING and should not be disturbed by humans has not been true in most of my experiences. We have observed that the dolphins come into the bays to do at least three things during the day: 1) rest, 2) socialize, and 3) play. I don't think anyone would dispute that play is a very important aspect of dolphin culture and should not be overlooked. The fact that they prefer to frequent the bays where humans swim suggests they may want to play with us from time to time. We would like to continue to give them that option.

I respectfully request that you:

1) **Alter your report to not make assumptions that are not supported by unbiased science as set forth above, and**

2) **Amend the dolphin "rest zone" to be called the "dolphin zone" and change its Southern border to be the Subzone A line.**

3) **Include the Hawai'i Dolphin Initiative on your list of contacts so we can be more helpful with regard to the Master Plan.**

Sincerely,

Heather Reynolds, Esq.

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-087

Via email to law@heatherreynolds.com

Heather Reynolds, Esq.

Dear Ms. Reynolds:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 24, 2017. We appreciate the information you shared about the Hawai'i Dolphin Initiative and the measures proposed by your group for dolphin interactions with humans.

You indicate that people who have been swimming with spinner dolphins for years can provide information about the numbers of dolphins in Kealakekua Bay over time. We would appreciate such information if this can be shared.

The account of the current and proposed Federal regulations in the EISPN was brief. In light of your comments, it will be reviewed and revised as needed for accuracy.

You make three (3) requests to which preliminary responses can be supplied now:

1. Base any claims about human-dolphin interactions on "unbiased science." The Draft Environmental Impact Statement (DEIS) will include citations of the studies which have shaped any recommendations on this matter.
2. Change the name of the dolphin rest zone to dolphin zone and change the boundaries. Both suggestions will be considered further in the DEIS.
3. Include the Hawai'i Dolphin Initiative on our contact list concerning the Master Plan and DEIS. We will gladly do this, by sending notices to: hawaiidolphininitiative@gmail.com.

Thank you for your comments. We will alert you when the DEIS Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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KEALAKEKUA BAY STATE HISTORICAL PARK MASTER PLAN
South Kona, Hawai'i County, Hawai'i

ENVIRONMENTAL IMPACT STATEMENT
PREPARATION NOTICE

FIRST COMMENTS
Submitted by
Lanny Alan Sinkin
April 28, 2017

To: John Kirkpatrick
Belt Collins Hawaii LLC
jkirkpatrick@bchdesign.com

From: Lanny Alan Sinkin

Re: First comments on the Environmental Impact Statement Preparation Notice (EISPN) for the Kealakekua Bay State Historical Park Master Plan

1. Preemption of Federal process

The EISPN notes:

> **4.1.3 MARINE MAMMAL PROTECTION ACT**
>
> The Bay is often inhabited by spinner dolphins, and is sometimes visited by humpback whales. Both are protected under the Marine Mammal Protection Act (16 U.S. Code [USC] 31), under which attempts to approach these mammals constitutes harassment. The National Oceanic and Atmospheric Authority (NOAA) has been concerned for years that human-dolphin interactions along the coasts of Hawai'i affect the well-being of spinner dolphin populations. Recent studies have documented impacts on dolphin behavior. Consequently, NOAA has proposed in 2016 an enhanced rule prohibiting any approach closer than 50 yards to spinner dolphins in Hawaiian waters, and has issued a draft EIS for this rule-making.[1] Under alternative rules considered but not proposed at this time, time-area closures would be instituted in bays known as dolphin rest habitats, including Kealakekua Bay.

EISPN at 25.

As this entry notes, the rule "prohibiting any approach closer than 50 yards to spinner Dolphins in Hawaiian waters" is a proposed rule for which a draft EIS has issued and for which the final EIS and a decision are still pending. Id.

[1] The proposed rule and draft EIS can be accessed at http://www.fpir.noaa.gov/PRD/prd_spinner_EIS.html

As this entry also notes, the proposal to create "time, time-area enclosures" is an alternative considered and not proposed by NOAA at this time. Id.

The EISPN states:

> The alternatives considered in January 2016 did not include an area reserved for *nai'a* (spinner dolphins). At the time, it appeared that the National Oceanic and Atmospheric Administration (NOAA) would soon promulgate rules restricting human entry to the dolphin rest area during much of the day. The rule proposed by NOAA in August 2016 does not include a specific area restriction. In light of both community concern and community support for enforcement of a restricted area, DSP is now including a dolphin rest area off-limits to humans as part of the Master Plan.

Ibid. at 17.

The EISPN includes a map of the proposed "Dolphin Rest Zone (no swim/boating zone)." EISPN at 12.

After acknowledging that NOAA is now considering a rule prohibiting Dolphins swimming with Humans[2] and that NOAA did not propose exclusionary zones, Hawai'i County and the State of Hawai'i have inserted themselves into an ongoing matter pending before the Federal government and proposed actions not embraced by the Federal proposals.

The County and State are clearly attempting to preempt the Federal process. Whether the County and State have the authority to engage in such preemption is an open question to be explored.

What is known is that the issue of the proposed NOAA rule forbidding Dolphins from swimming with Humans is a matter extensively debated through public hearings and comments to the draft EIS for the NOAA rule. The EISPN blithely states:

> The National Oceanic and Atmospheric Authority (NOAA) has been concerned for years that human-dolphin interactions along the costs of Hawai'i affect the well-being of spinner dolphin populations. Recent studies have documented impacts on dolphin behavior.

[2] Because Dolphins can so easily decide whether to swim with Humans or swim away from Humans at a speed Humans cannot match, the interaction is more accurately characterized as Dolphins deciding to swim with Humans than Humans swimming with Dolphins. That characterization also illuminates the foolishness of thinking Dolphins will remain in only one area of the Bay and calling that area an "enclosure."

EISPN at 25 (emphasis added).

The emphasized sentence in that paragraph is a highly contentious assertion. Scientists and other filed extensive challenges to the methodology of NOAA studies, the limitations on the scientists conducting those studies, the paucity of relevant data, and the general inconclusive results of the studies.

Besides the scientific issues surrounding this issue, there are legal and other issues. For example, the legal question of whether NOAA can include Dolphins swimming with Humans within the Marine Mammal Protection Act prohibitions on pursuit, annoyance, and torment or whether such an expansion of the act constitutes an attempt by an Executive Branch agency to amend legislation in violation of the separation of powers is an unresolved question.

Because the County and State have chosen to insert themselves into this discussion and included specific proposals similar to the NOAA proposal still pending, the comments on the NOAA rule are relevant to the County and State Proposal.

The 4,065 comments filed on the NOAA proposal are published at: https://www.federalregister.gov/documents/2016/11/16/2016-27399/protective-regulations-for-hawaiian-spinner-dolphins-under-the-marine-mammal-protection-act.

By reference to those comments, I hereby incorporate all 4,065 comments into this comment and trust you will address these comments as you proceed towards the EIS for the Kealakekua Bay Master Plan.

2. Burdening the public.

Given that the NOAA proposals did engender so much discussion, members of the public spent innumerable hours attending public hearings and preparing comments on the draft EIS. For the County and State to now offer similar proposals as part of a new EIS process for the Kealakekua Bay State Historical Park creates a burden on those who already participated to go through the process again.

I urge you to reconsider inserting your clients into what is a major controversy and to await the resolution of that controversy before making any suggestions as to the County and State regulating Dolphins swimming with Humans.

Mahalo.

KEALAKEKUA BAY STATE HISTORICAL PARK MASTER PLAN
South Kona, Hawai'i County, Hawai'i
ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
ERRATA TO FIRST COMMENTS
Submitted by
Lanny Alan Sinkin
May 2, 2017

To: John Kirkpatrick
Belt Collins Hawaii LLC
jkirkpatrick@bchdesign.com
From: Lanny Alan Sinkin

RE: Correction to First Comments

Aloha John,

In my first comments to the Kealakekua Bay EISPN, in footnote 2, I stated that the EISPN has characterized the "Dolphin Rest Area" as an "enclosure." In fact that term is not used in the EISPN.

I think that I was short handing my thought, which was that the idea that drawing a zone on a map would in any way influence where the Dolphin would go, i.e. would constitute any kind of enclosure, was foolish.

Mahalo.

October 2, 2017
2015.70.0200 / 17P-088

Via e-mail: Lanny.Sinkin@gmail.com

Mr. Lanny Alan Sinkin

Dear Mr. Sinkin:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mails of April 28, 2017 and May 2, 2017. Our responses to your comments are within the context of the Hawai'i Revised Statutes Chapter 343 Draft Environmental Impact Statement (DEIS) process for this project.

First, you indicated that the State is pre-empting Federal jurisdiction by proposing a restriction on humans' activity in a State park. You are correct that the Office of Protected Resources of the National Oceanic and Atmospheric Authority (NOAA) considered but did not propose zone closures in its regulations for human interactions with spinner dolphins. Instead, the NOAA regulations restate and clarify the prohibition on approaching dolphins within fifty yards.

The Division of State Parks (DSP) is steward of the rich natural, cultural and historic resources at Kealakekua Bay State Historical Park. As such, it is working with members of the community, the County of Hawai'i, and federal agencies to promote safe and sustainable visitation.

The proposed marking of an area as off-limits to humans is allowed by State administrative rule:

> §13-146-4 Closing of areas. (a) The board or its authorized representative may establish a reasonable schedule of visiting hours for all or portions of the premises and close or restrict the public use of all or any portion thereof, when necessary for the protection of the area or the safety and welfare of persons or property, by the posting of appropriate signs indicating the extent and scope of closure. All persons shall observe and abide by the officially posted signs designating closed areas and visiting hours.

DSP recognizes that many parties have responded to the NOAA rule proposal, and has considered seriously the views of stakeholders in Kealakekua Bay State Historical Park. DSP has sought to learn from scientific literature on dolphin behavior and ecology, and will include citations to key studies in the Kealakekua Bay DEIS.

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DSP is not promulgating the federal regulation covered by NOAA's DEIS. Instead it is proposing ways to manage its Park, including both land and ocean areas.

Thank you for your comments. We will alert you when the DEIS is published. We look forward to continuing involvement with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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From: Brock Stratton <brock@konaboys.com>
Sent: Wednesday, May 24, 2017 10:08 AM
To: John Kirkpatrick
Cc: martha.e.yent@hawaii.gov
Subject: RE: Publication of EIS Preparation Notice for Kealakekua Bay State Historical Park Master Plan

Aloha ,

Thank you for the opportunity to comment on the proposed action in Kelakekua Bay. The effort is solid and the ideas reasonable. I would however like to offer the following thoughts.

- The three Kayak Tour operators have been operating flawlessly for the last several years. It would be prudent and recommended to keep these companies in business and allowing them the ability to continue with this fantastic offering.
- The pier at Napoopoo should be opened up for rental kayak customers.
- A full time ranger should be installed at the Pier to enforce regulations
- A concession is not necessary or favored by the Community at this point

I fell with these few immediate and minor actions thing would be greatly for the environment the visitors, the businesses operating there and the people of Hawaii.

Thank you for your time and consideration

Brock Stratton
Captain Cook , Hawaii

From: John Kirkpatrick [mailto:jkirkpatrick@bchdesign.com]
Sent: Monday, April 24, 2017 8:37 AM
To: martha.e.yent@hawaii.gov
Subject: Publication of EIS Preparation Notice for Kealakekua Bay State Historical Park Master Plan

Aloha,

An EIS Preparation Notice has been issued for the Kealakekua Bay Master Plan. It describes the proposed action to be taken in the Park. Publication of the notice about the EISPN initiates a 30-day public review period. Should you have any concerns or input on the proposed project, we would appreciate receiving your comments in writing by May 24, 2017. Please send your comments to me by e-mail or regular mail.

The EISPN is on the Office of Environmental Quality Control website. Here's the link:

http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Hawaii/2010s/2017-04-23-HA-EISPN-Kealakekua-Bay-Master-Plan.pdf

Next steps:

- A draft EIS will include the various studies for the EIS and will take into consideration your responses to the EISPN
- We are discussing with State Parks when to have another meeting about the Master Plan and EIS – you will be alerted before any meeting is held.

Mahalo,

John Kirkpatrick, Ph.D. LEED AP | Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
T: 808.521.5361 | F: 808.538.7819 | www.beltcollins.com

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October 2, 2017
2015.70.0200 / 17P-089

Via e-mail to brock@konaboys.com

Mr. Brock Stratton

Dear Mr. Stratton:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 24, 2017. Your concern to retain the kayak tour operators is recognized. You also state that a concession is not necessary. For the Division of State Parks (DSP) the permittees running kayak tours are concession operators. The difference between the current arrangement and the Master Plan has to do with the concessionaire having greater responsibilities for the Park and scope for commercial activity.

Use of the pier at Nāpō'opo'o by both kayak owners and renters, supervised by a concessionaire, is included in the Master Plan action alternatives.

Your view that a full time Park Ranger is needed at Nāpō'opo'o Landing for enforcement is recognized. DSP would welcome the chance to increase enforcement and interpretive staffing at the Park.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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Amy Kepilino

From: Mavourneen Wilcox <mavourneenwilcox1@gmail.com>
Sent: Wednesday, May 24, 2017 9:04 PM
To: John Kirkpatrick; Mavourneen Wilcox; Steve Wilcox
Subject: Kealakekua Bay Management Plan

Dear John Kirkpatrick,

Please see our input below for a proposed management plan at Kealakekua bay. My husband and I are residents of the bay and have been dealing with the lack of management for many years. Please let us know if there is anything we can do to help your efforts. Please acknowledge receipt of this email correspondence.

Best regards,

Mavourneen & Steve Wilcox

Ka`awaloa is one of the most important archaeology resources in the state of Hawaii. It needs to be persevered for the future generations. This means that the plan that is being developed has to keep the environmental impact to a minimum so the sea life and coral reefs stay intact and are not killed by over use and pollution. Unless the State of Hawaii is willing to have the bay managed like Hawaii's Volcano's National Parks (or a similar type of management with oversite) with rangers to protect the lands and the visitors all commercial activities should be stopped immediately as the bay is already reaching critical contamination from commercial vendors and visitors. Without a management mechanism the bay will continue to run ramped with illegal commercial activities, drug dealing, harassment and threats to the residents who live down here and who are forced to police their our own back yards because the State, County and DLNR refuse to do anything. It is such a disgrace.

Public Facilities:
The current situation in the bay is horrific with tourists defecating on conservations lands and on residential lots in Napo`opo`o village. This is unacceptable and has to change. The State, County and DLNR have allowed this desecration of this Historical Hawaiian Cultural site as well as a Conservation Zoned area, go on now for way too long.

- Install toilet facilities at the wharf no matter what the outcome of this study. It is a health hazard not to have facilities for visitors and residents visiting the bay. Not to mention the environmental impacts all the feces are having on the bay.

Enforcement of the Ecosystem:
- Enforce no dolphin and whale birthing swimming zones in bay.
- Enforce legal Kayaking Businesses at the Napo`opo`o wharf and Penalize the Illegal Kayaking Businesses that are now conducting Illegal businesses on residential properties.
- Charge entrance fees (Like Volcano National Park) to pay for the Rangers, Lifeguards and upkeep of the bay.
- Force DLNR to enforce the laws with regards to Illegal activities or commercial activities. They are a part of the problem. The will not enforce the laws and this is one of the reasons we have such a huge problem to fix.

- Decrease/limit the kayak/SUP rentals to a few concession/business from the Napo`opo`o wharf pier only and eliminate all the illegal and unpermitted commercial kayaks coming to Kahauloa bay area.
- Check permits for kayaks in bay and enforce rules
- Kealakekua Bay is a marine life conservation district, yet people fish openly there, and the State refuses to prosecute, even when presented with witnesses and photographic evidence. So we need not only patrols to enforce the laws, but a willingness on the part of the D.A.'s office (and NOAA OLE, with respect to violations of federal law) to prosecute violations. For many years there has been no enforcement.
- The rental of Kayaks on Kahauloa Road should be stopped completely ASAP as it is Illegal to run a business on residential properties and on a county road. They have created parking issues, toilet issues, and it is ruining this residential area as well as preventing any emergency access to the community.

Cultural Education of the Bay:

- The State of Hawaii has a great cultural resource that needs to be protected with sensitive cultural sites that exist in the bay. No one entity (as in specific resident down here) should be the sole voice on the cultural and historical aspects of this area.

Drug Enforcement in the Bay:

- Drug dealers are taking advantage of the tourist for their illegal operations.
- Drug dealing and illegal activities were prevalent at the Bay when the wharf was taken over by the Kayak vendors and drug pushers. When the Napo`opo`o landing was closed by the state, these activities were pushed onto the residents in the bay to police! Ridiculous! Lives are being threatened on a daily basis because people are sickened by these activities. It is a den of thieves down here now that the state closed the wharf.
- There has to be policing of the bay to protect tourists and residents. When the illegal kayaking companies get removed they are going to go ballistic.
- DLNR should have a 24/7 management team. The drugs & booze come out at night. 24/7 patrols by police or DLNR should be required.

Environmental Concerns:

- Need to protect the whales, dolphins, turtles and the Hawaiian Monk seals. There are whales that give birth in this bay, spinner dolphins, endangered turtles as well a variety of tropical fishes that use the Bay as a sanctuary.
- A primary goal of the management plan should be the preservation of the integrity of the reefs and sea life.
- Stop Illegal kayaking at Kahauloa Road and limit kayaking businesses to a few kayaking companies (selected by lottery so no corruption) at the Napo`opo`o landing wharf so that wildlife is respected and are not destroyed through contamination and pollution which is currently happening.

Commercial Activities:

- Commercial activities should be limited, restricted and taxed to preserve the bays vitality and to pay for the people who will manage the bay.
- The bay needs to be managed by a professional management company not associated with the corruption that is taken place in the bay today. No local residents should manage the bay. Many are associated with Illegal kayaking businesses and nepotism needs to be avoided at all costs to get rid of the problems down here. The management company should have years of experience managing similar properties /parks.
- Illegal activities by Kayak companies should result in huge fines and they should be banned from future business activities in the bay.

Possible Solutions:

- A Ranger or no partisan official or equivalent in needed to enforce prohibition of unlicensed kayak rentals.
- A small venue of Kayaks with a limited number of kayaks launched per day, like at Ho'okena with limited parking.
- Full time staff (DLNR) managing and regulating the Napo`opo`o landing wharf and water activity.
- Close wharf water activities during high surf advisories to prevent drownings and injuries.

- Absolutely no persons with an interest in commercial activities to help in the management of commercial activities. This has been a recipe for harassment and intimidation.
- All Commercial Kayak venders should have to put-in at the Napo`opo`o landing (not at the nearby residential neighborhood water-fronts areas)
- A fee should be enforced to pay for staff to assist or direct and oversee all vessel launching and parking at Napo`opo`o Wharf Landing.
- Composting toilets should be used as opposed to portables. Same as Koloko Honokohau Nat. Historical Park
- DLNR to close bay during high surf so park management can stop the launching of kayaks so no one gets hurt.
- Disabled parking at the landing.
- It is extremely important to disallow all unauthorized commercial activity at the Wharf!!
- Having the park service provide the kayaks could help raise revenue to pay for oversite. You could also charge an entrance fee.
- Management of the bay **should not be done** by the local land owners at Napo`opo`o. There would be too much nepotism. It needs to be done by and experienced reputable non-partisan company with past experience in managing parks or large public venues.
- Nonresidents should not be allowed on village streets...other than a handicapped parking zone to be determined.

From: Steve Wilcox <swilcox007@gmail.com>
Sent: Tuesday, May 23, 2017 4:14 PM
To: John Kirkpatrick
Subject: Response requested for planning of Kealakekua Bay State Park prior to 5/23/2017

Aloha John Kirkpatrick,

I am responding to your request for input for the plan you are working on at Kealakekua Bay State Park, to be submitted prior to 5/23/2017.

I have a home at Kealakekua Bay. I am not sure that DLNR can manage the Park since for years now they have been unable to enforce existing laws prohibiting Commercial Kayak businesses from carrying on full blown kayak rental businesses from residential properties. DLNR is giving out many commercial kayak businesses a multitude of permits each, but the only safe State facility, namely Napoopoo Wharf, is open only to a few commercial vendors while the majority of commercial kayak vendors do their business out of the residential areas. The commercial vendors make a lot of money and the residents suffer from vulgar and abusive language, loud noise on a continuous basis, carpets used to launch the commercial vessels covering the reefs at Kealakekua Bay, severe parking problems and when residents try to intervene, they are threatened by the commercial kayak vendors. The DLNR employees seem more interested in accommodating the commercial ventures than protecting the residents of Kealakekua Bay or the ecology of the Bay itself.
Open the Napoopoo Wharf, not the residential zoned neighborhoods, to a limited amount of commercial vendors. Attempt to find a indifferent, honest and professional DLNR employee who is supervised, to keep law and order at Napoopoo Wharf (no drugs, no fighting or yelling profanities, no threats or intimidation of tourists or residents for money). The commercial vendors have shown they cannot police themselves. The State has additional parking near the Wharf, it is a safe place to launch year round and it is controlled by the STATE!
The State must act now to protect the Bay, the residents, and the visitors since the Bay is already out of control and suffering much damage. Please, time is short and presently the fox is running the henhouse, namely the commercial vendors are running the Bay into the ground.

Sincerely,

Steve

Steven C. Wilcox

BELT COLLINS

October 2, 2017
2015.70.0200 / 17P-094

Via e-mail to: mavourneenwilcox1@gmail.com

Ms. Mavourneen and Mr. Steve Wilcox

Dear Ms. and Mr. Wilcox:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 24, 2017. The Master Plan has been developed partly in response to concerns you voice with regard to the activities of legal and illegal operators in Nāpō'opo'o.

The action alternatives in the Master Plan include toilet facilities at Ka'awaloa, at Nāpō'opo'o Landing, and near the proposed parking lot.

You prefer Department of Land and Natural Resources staff or a professional management company without local ties to enforce regulations in the Park. You seek enforcement of the laws against illegal activities in the County's streets, and you further seek to exclude non-residents from the narrow village roads. Policing the streets is the responsibility of the County of Hawai'i Police Department, not the State. The Master Plan deals with State lands, and includes a proposed parking lot, which could help to reduce impacts on village roadways.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

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October 2, 2017
2015.70.0200 / 17P-095

Via e-mail to: swilcox007@gmail.com

Mr. Steven C. Wilcox

Dear Mr. Wilcox:

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your e-mail of May 31, 2017. This response deals with your concerns with commercial vendors, disruption in the residential area of Nāpō'opo'o, and State oversight.

The Master Plan's action alternatives call for development of a parking lot on State land and opening up Nāpō'opo'o Landing for supervised launching of commercial and non-commercial vessels. The aim is, as you emphasize, protection of the Bay and mitigation of impacts on residents and visitors.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published. We look forward to continuing discussions with the community.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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From: Anonymous
Sent: Monday, April 24, 2017 10:53 PM
To: John Kirkpatrick
Subject: Re: Publication of EIS Preparation Notice for Kealakekua Bay State Historical Park Master Plan

Dear John:
I live in this area. It is only right that those who use public facilities for profit should pay the county or the State for the privilege of using it commercially. It is not fair they only pay the General excise taxes. I sell at the farmers market and who ever manages the land or parking spot, I have to pay rent every month to be able to vend and make money for my own pocket. I also pay my G.E. taxes. There are also vending rules in every establishment about what can be done and what is not allowed. More people, more trash.
Who is cleaning up the park?? Who takes care of the maintenance??
Can you stop the homeless camp settlement?? guarded gates, water shut off valves??
Quite a few homeless in Keei Beach area. Will this draw more irresponsible derelicts?
Some cars are parked across the coffee Mill in the evening already,
I am concern for the safety of our neighborhood, so the undesirables will not settle and break into homes when we are working.
We have neighbors that don't talk to neighbors situation too,
Need to monitor drug vending too. Some tourist told me about some locals wanting to sell marijuana to them when the pier was a heavily traffic area.
Since I live here, please don't mention my name on these concerns. People get violent over other people's comments when it comes to opportunities and exploitation of a situation.
Many places have pay parking to help off set cost of facilities used. If you don't put a value of payment for parking, there will be overnight campers, and long term squatters because everything is Free Free Free.
Check out how California's tourist attraction bring revenue and people can still enjoy nature like Yellow stone National Park. Treat it like a National park to generate revenue for the state. Set up pricing that is fair for the tourist and locals. Since millions will be spent to create this attraction, it can also be a revenue generating Park. The locals can still go for free because they will find a way to park at their TuTu's house.
Got the charge for parking Period.

On 4/24/2017 8:36 AM, John Kirkpatrick wrote:

> Aloha,
>
> An EIS Preparation Notice has been issued for the Kealakekua Bay Master Plan. It describes the proposed action to be taken in the Park. Publication of the notice about the EISPN initiates a 30-day public review period. Should you have any concerns or input on the proposed project, we would appreciate receiving your comments in writing by May 24, 2017. Please send your comments to me by e-mail or regular mail.
>
> The EISPN is on the Office of Environmental Quality Control website. Here's the link:
>
> http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Hawaii/2010s/2017-04-23-HA-EISPN-Kealakekua-Bay-Master-Plan.pdf
>
> Next steps:
> - A draft EIS will include the various studies for the EIS and will take into consideration your responses to the EISPN

- We are discussing with State Parks when to have another meeting about the Master Plan and EIS – you will be alerted before any meeting is held.

Mahalo,

John Kirkpatrick, Ph.D. LEED AP | Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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October 2, 2017
2015.70.0200 / 17P-096

Attn: Anonymous

Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for your e-mail of April 24, 2017. All comments on the EISPN will be published in the Draft Environmental Impact Statement (DEIS). Your comments and this response will be included, with your name and e-mail address removed.

First, I want to stress that the Division of State Parks (DSP) agrees with you on the need to monitor and maintain the Park. Nowadays, park staff maintain the pavilion near Hikiau Heiau. Work to clean up the area nearby and at Ka'awaloa is done by DSP staff with vendors' and community support. The Proposed Action is designed to increase maintenance, monitoring and interpretive activities within the park. Nāpō'opo'o Landing and the rest of the Park will become more accessible to residents and visitors, with supervision by DSP personnel and concessionaires.

The Master Plan deals with the State Park, and not with nearby roads and properties belonging to others. DSP is seeking ways to limit illicit behavior on its land.

Your suggestion that parking fees are needed to support the Park and to discourage overnight camping will be considered further.

Thank you for your comments. We will alert you when the DEIS is published, and look forward to continuing discussions.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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CUST 3-3-1
H-W/G

May 10, 2017

John T. Kirkpatrick
Belt Collins Hawai'i LLC
2153 North King Street, Suite 200
Honolulu, HI 96819

Gentlemen:

Subject: Environmental Impact Statement Preparation Notice
Kealakekua Bay State Historical Park Master Plan
South Kona, Island of Hawai'i
Tax Map Key: (3)8-1-007:050; (3)8-1-010:001, 003-014, 016;
(3)8-2-004:001, 002, 008-010, 015

Thank you for the opportunity to comment on the subject's Environmental Impact Statement Preparation Notice (EISPN). Hawai'i Electric Light will be able to provide electrical service to the proposed development in South Kona. A detailed analysis will be performed after the receipt of the consultant's detailed design drawings and estimated load. The following is a summary of our comments:

1. Generation capacity – As of January 2017, Hawai'i Electric Light's current system peak load is 188.5MW and our total generation system capability is 273.55MW. Our reserve margin is 45% and may have adequate generation to serve the above.

2. Electrical Substation - The area is served by our existing Captain Cook electrical substation and a 12,470 volt overhead distribution along Hawai'i Belt & Napo'opo'o Roads. The capacity of our existing substation may not be adequate to serve the anticipated load.

3. Off-Site Electrical Distribution System – The existing off-site 12,470 volt distribution system along Hawai'i Belt Road is adequate to serve the proposed project. The existing overhead system along Napo'opo'o Road may not be adequate to support the proposed project. A new 12,470 volt overhead distribution system will be required between the existing electrical system to the proposed development.

5. On-Site Electrical Distribution System – On-site distribution line extensions and easements may be required on the developer's property to serve the anticipated load.

After the development's detailed loading and civil plans are submitted, Hawai'i Electric Light will prepare a firm cost to provide electrical power to this development.

Hawai'i Electric Light recommends energy efficient and conservation measures to reduce the maximum electrical demand and energy consumption. The developer may call Hawai'i Electric Light's Energy Services department at (808) 935-1171 for questions or details on available programs.

It is encouraged that the developer's electrical consultant open a service request with Hawai'i Electric Light Engineering department as soon as practicable to ensure timely electrical facility installation. If you have any questions, please email me at shelley.doctor@hawaiielectriclight.com.

Sincerely,

Shelley Doctor
Electrical Engineer, Planning Division
Engineering Department

email: D. Okamura
R. Ceria
M. Mather

Hawai'i Electric Light 74-5519 KAIWI STREET / KAILUA-KONA, HI 96740

October 2, 2017
2015.70.0200 / 17P-072

Ms. Shelley Doctor
Electrical Engineer, Planning Department
Hawaiian Electric Light Company (HELCO)
74-5519 Kaiwi Street
Kailua Kona, HI 96740

Dear Ms. Doctor:

Response to Comments
Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
South Kona, Hawai'i

Thank you for your letter of May 10, 2017. Your letter provides information about generation capacity, the substation serving this area, and the off-site electrical distribution system. You warn that the existing overhead off-site distribution system may not be adequate to support the project.

At this point plans for improvements at Nāpōʻopoʻo are conceptual. A small interpretive center is proposed. The Division of State Parks will communicate further with HELCO as these plans, and the associated demand for electricity, become more specific.

Thank you for your comments. We will alert you when the Draft Environmental Impact Statement is published.

Very truly yours,

BELT COLLINS HAWAII LLC

John Kirkpatrick
Senior Socio-Economic Analyst

JK:ajk

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Appendix I

Comments on the Draft Environmental Impact Statement

Kealakekua Bay State Historical Park: Master Plan & EIS
Comment Sheet

We would like to hear from the community. Please use the space provided below to share your comments on the Kealakekua Bay Master Plan and Draft EIS. We would like to make sure we understand what you see as the major concerns, priorities, and opportunities for the State Historical Park as we go forward with this project. Mahalo!

IT IS RIDICULOUS THAT YEAR AFTER YEAR AFTER YEAR AFTER YEAR, THE SITUATION AT KAAWALOA FLATS STILL GOES UNTENDED! FROM THE TRAIL PROBLEM ~~ISSUES~~ TO THE SANITATION DEFICIANCIES, KAAWALOA IS BEING DESICRATED ON A DAILY BASIS. THE BAY IS ~~A~~ SUPPOSED TO BE A CONSERVATION DISTRICT, YET VISITORS ARE SURELY DEFICATING ON LAND, URINATING IN THE WATER AND ON LAND AND GENERALLY IMPACTING THE NATURAL RESOURCES NEAR THE MONUMENT. IT IS UNACCEPTABLE THAT WE WATCH THIS DOG AND PONY SHOW OF YOUR "MASTER PLAN" EVERY YEAR, WHEN SOMETHING NEEDS TO BE DONE ABOUT SANITATION NOW !!!!!!!!!!!!

BY THE HUNDREDS DAILY

Name: KAREN ANDERSON E-mail: 123karen@earthlink.net Phone: 936-2668

Any further comments? Please e-mail us at jkirkpatrick@bchdesign or send them by mail to John Kirkpatrick at Belt Collins Hawaii LLC, 2153 N. King Street, Suite 200, Honolulu, HI 96819. Please get your comments in before April 23, 2018. Thanks!

P.S. CLOSE THE TRAIL !!

BELT COLLINS

December 3, 2019
19P-070

Ms. Karen Anderson
123karen@earthlink.net

Dear Ms. Anderson,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your written comments from the meeting on April 14, 2018.

The issues you raise about Ka'awaloa Flats and the Ka'awaloa Trail are of concern to the Division of State Parks (DSP). DSP personnel and volunteers clean up the Ka'awaloa area regularly. The long-term solution is to install sanitary facilities at Ka'awaloa, on a site where no historical resources would be affected. The proposed action calls for a new toilet facility. It will probably be necessary, in order to meet State health regulations, to remove wastes by helicopter, so a landing site may also be needed.

You ask DSP to close the trail. Please note that the trailhead and the upper portion of the trail are outside the Park, and not under DSP's jurisdiction. DSP could only close the trail at the Park boundary – after hikers have come halfway down the slope. That action could not be enforced without personnel at the boundary, hence it is not proposed.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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April 21, 2018

TO: John Kirkpatrick (of Belt Collins Hawaii LLC) and
Martha Yent (Hawaii DLNR)

TO WHOM IT MAY CONCERN:

I am a 26-year resident of Hawaii Island and a frequent visitor to Kealakekua Bay. I have serious concerns about how the bay is getting loved to death.

On February 16, 2018, some guests of mine took a Kona Boys kayak tour to the Captain Cook Monument and they reported some very disturbing details about activity in the bay. (As you know, Kona Boys is one of the few licensed operators to take tours to the bay, and are responsible and respectful, so it is the one I recommend to guests.)

They took the morning tour and while on the tour, the guide identified a woman present in the water whom the tour guide described as the "Dolphin Whisperer." Apparently she can "call" them to come to her to gather round her and "commune" with her. When she swam directly in the middle of the pod, my guests reported her then grabbing and holding onto the dorsal fin of one of the animals, and riding it, much to their horror! (To be clear my guests did not participate in this swimming activity and stayed a legal distance with their guide from the dolphin pod.)

In addition, they saw a bunch of illegal individual kayaks inside the bay. This activity is starting again, and the operators (Ehu & Kai?) are getting bolder as it's not being enforced at all. (It's the local kayak rental place located on the Manini side of the bay.) If you come down Puuhonua Road you will see all the rental cars parked along the street so they can rent kayaks. My guests also said these kayaks are landing on shore at the Monument, in complete violation. They saw people dragging boats over coral as well as people standing on coral. Obviously, much, much more needs to be done to help protect the bay!

The dolphins should have the large rest zone as proposed, but there also needs to be more money spent on enforcement because the dolphin chasers are aggressive, adamant that they have they right to be less than a legal distance away from dolphins, hostile and downright violent with those they believe are preventing them from harassing this protected marine life.

Also, the Monument Trail is an absolute zoo. On any given day there are 40-50 cars parked at the top, laden with hikers. Meaning there's at least double that or more down the trail and in the water. It's just getting so out of hand. Maybe closing the trail a couple of days a week would help.?

Lastly, one of your proposals involved using "outrigger canoes" to carry visitors to the monument. As a member of the closest local club, I can tell you this isn't very feasible. First, there is considerable liability that a canoe club doesn't want to take on, and second, you can only carry four guests at a time as you need experienced paddlers in seat one and seat six. While it's admirable to suggest as a cultural activity, I don't think it's very feasible, not for the local clubs anyway. Maybe Kona Boys could offer it since they do outriggers in town.

Please help Kealakekua Bay and create some protections for the animals and the cultural heritage of the place. Something that works for everyone!

Aloha & Mahalo,



Kristina Anderson

P.S. If you would like to contact my guests for personal eyewitness testimony, they said they would be happy to help in any way. They were so disturbed by what they saw.

BELT COLLINS

December 3, 2019
19P-070

Ms. Kristina Anderson
adcopy@earthlink.com

Dear Ms. Anderson,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your written comments in your letter of April 21, 2018.

You report people interfering with dolphins, landing illegally at Ka'awaloa, dragging canoes over coral and standing on coral. To control all these activities, a combination of enforcement, education, and community support are needed. The proposed action includes operations at Nāpōʻopoʻo Landing and Ka'awaloa, and seeks increased activity in KBSHP by the Division of Conservation and Resources Enforcement (DOCARE). Formation of a Makai Watch community group would also help to limit illegal activities.

The Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, the National Oceanic and Atmospheric Administration (NOAA) reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by DOCARE, community observation, and education, rather than a zone marked by buoys.

The Ka'awaloa Trail extends from a County roadway through private land to the Park. While DSP could close it at the Park boundary, that action would not deter hikers who have already travelled half the length of the trail.

As you note, it would be challenging to operate outrigger canoes in the Bay. DSP plans to ask a concessionaire to run such operations and to do so safely.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,
Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate. Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Elisabeth Biritz <elisabethbiritz@aol.com>
Sent: Sunday, April 22, 2018 6:44 AM
To: John Kirkpatrick
Subject: public comment Kealakekua Bay Dolphin Rest Zone

public comment Kealakekua Bay Dolphin Rest Zone

by Elisabeth Biritz, local resident

Whereas I find it good that a dolphin rest zone is in planning on being implemented in Kealakekua Bay, I am NOT in agreement with the dimensions of the rest zone as shown on your diagram.

I suggest the Dolphin Rest Zone offshore and in front of the rocky Napo'opo'o Beach should be about 1300 feet - as opposed to the current approximately 300 feet on your diagram. The reason is, that you are grossly restricting the space enjoyed by recreational, non-commercial, local swimmers of Napo'opo'o village and the area as myself - whereas on the contrary you are allowing generous space (about 1300 feet on your diagram) in the commercially strongly frequented area offshore of the Ka'awaloa/Captain Cook Monument area, which is congested with kayakers and boat tours at midday when the dolphins need their deepest rest.

This strongly creates the impression that you - who say to have the rest of the dolphins in mind -, are in reality giving advantage to and are possibly influenced by the commercial tour operaters, who bring numerous guests daily to the Ka'awaloa/Captain Cook Monument area. I believe the legal term for this is bias, and it gives room to an investigation of how you are influenced financially or in any other way to this bias from the commercial tour operaters, who bring large numbers of guests daily to the Ka'awaloa/Captain Cook Monument area. Of course, if you were to implement the suggested dimensions on your diagram, a large group of concerned citizens and residents, including myself and the group of HDI (Hawaii Dolphin Initiative), of which I am a member, would take legal action against you.

Further, the question arises, if you have scientific research to back your current dimensions proposed. It is local knowledge from daily observation, that the dolphins do their deepest resting at midday not at the rocky Napo'opo'o Beach of Napo'opo'o village (where you are proposing a mere 300 feet allowed swimming space for swimmers), but instead offshore of Ka'awaloa and the Captain Cook monument (where you are proposing a 1300 feet allowed swimming space for boats and swimmers). If the State decides a zone is necessary to protect resting dolphins, then the only reasonable one is a much smaller zone close to where the dolphins do their deepest resting at midday. This area is offshore of Ka'awaloa and the Captain Cook monument, and not at the rocky Napo'opo'o Beach of Napo'opo'o village.

Further, has an environmental impact survey been done for the implentation of a boundary with buoys and ground hooks? Have you assessed the take on the dolphins of drilling and pouring concrete into their resting ground? How do you know that erecting a "protective" measure won't cause the dolphins undue disruption and distress which could cause them to abandon the area? Of course, if you in any way were to implement a dolphin resting zone with the current proposed dimensions, there would be legal action from our group of concerned local citizens against you to present such an environmental impact survey with scientific research regarding this issue.

Sincerely,

Elisabeth Biritz

BELT COLLINS

December 3, 2019
19P-070

Ms. Elisabeth Biritz
elisabethbiritz@aol.com

Dear Ms. Biritz,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 22, 2018.

Regarding your comment that the dolphin rest zone is too large, the National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

Your point that dolphins are more apt to sleep near the Cook Monument than near Nāpōʻopoʻo Beach is of interest. It will be considered along with others' observations as DSP considers procedures for education, community outreach and enforcement activities in the Bay.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Malama aina

Kealakekua Bay State Historical Park: Master Plan & EIS
Comment Sheet

(9) Create a cultural Center for traditional studies & practices

We would like to hear from the community. Please use the space provided below to share your comments on the Kealakekua Bay Master Plan and Draft EIS. We would like to make sure we understand what you see as the major concerns, priorities, and opportunities for the State Historical Park as we go forward with this project. Mahalo!

* Owner Bay use – Parking – Trash – waste –

(1) Those of us who own land & live & pay taxes in the Napoopoo Village. Want to be able to put our permitted Kayaks in at the Warf – We pay your taxes – It is our Right – to enjoy the bay & protect Manini beach for swimmers –

(2) Create parking places for cars in parking area of warf instead of clogging our streets –

(3) Stop dropping & dumping trash – baring trash cans if you are going to create more space for people visitors to come

(4) The master plan has to provide access & use to the bay at the warf for our use: Kayaks – paddle boards

(5) Owner access → Does protect our bay – because we care about the land and the sea – Make it safe at the warf To access the Bay

(6) Keep bay use by permits –

(7) Do NOT let Kayak Rentals set up shop at the warf – Have them take their TRUCKS & trailers away & NOT Park there –

Name: Anna Bonas E-mail: Yomtha@msn.com Phone: 3238385

Any further comments? Please e-mail us at jkirkpatrick@bchdesign or send them by mail to John Kirkpatrick at Belt Collins Hawaii LLC, 2153 N. King Street, Suite 200, Honolulu, HI 96819. Please get your comments in before April 23, 2018. Thanks!

Home owner in the village: lift the ban on owners using the warf landing – Now – Don't Wait – You don't need TO STUDY this – it's a NO Brainer!

(8) When I am swimming across the bay I dont see visiting people interfering with dolphins –

December 3, 2019
19P-070

Ms. Anna Bonas
yumtha@msn.com

Dear Ms. Bonas

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your written comments from the meeting on April 14, 2018.

First, the Division of State Parks (DSP) expects to open the Landing for use by residents and to create parking on State land. These elements of the proposed action align with your expressed wishes. However, it will be important to have staff and/or concessionaires present at the Landing in order to avoid the informal vending and illegal activities that occurred before the Landing was closed in 2013. As a result, the opening involves more than simply opening the locked gate.

With new facilities, DSP will provide additional trash cans.

DSP will encourage formation of a Makai Watch group to observe activity in the Bay and report infractions to the Division of Conservation and Resources Enforcement (DOCARE). DOCARE will be encouraged to provide a regular presence at KBSHP.

Parking at the Landing will include space for drop-off of vessels by residents (who would then park in the new lot). DSP could make it a condition of its concessionaires' contracts that they not park trucks and trailers at the Landing.

DSP welcomes your idea of a "cultural center for traditional studies and practices." Plans call for a new Interpretive Center, which can be home for programs and demonstrations of traditional culture.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Crystal Rogers

From: Ru carley <rucarley2002@yahoo.com>
Sent: Saturday, April 21, 2018 4:43 AM
To: John Kirkpatrick
Subject: Kealekekua Bay Plan

As a long-time resident, I am writing to OBJECT to the No Swim Zone proposed by the recent master plan for Kealekekua Bay.

While I am avidly into protecting the marine life in this precious bay, I believe this is far too drastic a measure, restricting our connection to the bay. The dolphins likewise enjoy connecting with us before they rest. Anyone who swims in the bay knows this!

Education is the key. I recommend meeting with the already-formed Hawaii Dolphin Initiative, and creating a more viable plan. Better still, let it all be as it is!

Mahalo

Ru Carley
Captain Cook, HI

Sent from my iPhone

BELT COLLINS

December 3, 2019
19P-070

Ms. Ru Carley
rucarley2002@yahoo.com

Dear Ms. Carley,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 20, 2018.

You comment that the "no swim" zone is too drastic a measure to protect dolphins. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, the National Oceanic and Atmospheric Administration (NOAA) reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys.

As you note, the Hawai'i Dolphin Initiative is urging education and observation to improve human attitudes and behavior towards dolphins at KBSHP and other sites. The Department of Land and Natural Resources (DLNR) anticipates training a Makai Watch community group at the Park. It would be valuable if these efforts can be aligned.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate. Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Claire Elisabeth <naiacoaching1@gmail.com>
Sent: Friday, April 20, 2018 7:06 AM
To: John Kirkpatrick
Subject: Re: Kealakekua Bay Master Plan Proposal

Dear John,

This is a response to the proposed changes for Kealakekua Bay.

First, let me say that I swim across the bay every day, and I do see inappropriate behavior towards the dolphins. I *am* in favor of change. The dolphins have saved my life twice, and I will do anything to keep them protected.

That said, I see some problems with the proposed changes. The biggest one is the location of the Dolphin Rest Zone. From experience, I know that the dolphins often spend their most playful and awake moments near Napo'opo'o Beach. Once they're ready for sleep, they tend to head out further, swimming in circles near the Monument. Therefore, to protect the dolphins when they most need it – during their rest period – it would be more helpful to create a rest zone further from Napo'opo'o Beach and closer to the Monument.

Secondly, it is not the swimmers, but rather the large motorized boats, that drive the dolphins out of the bay and inhibit their rest. I see this on a regular basis. The boats follow the dolphins all around the bay, and sometimes the pod must flee the area entirely to get away from the disturbance – the loud engine noise, toxic gasoline, and general harassment from the machine and the people.

The other barrier to dolphin peace, as I've observed, is the kayakers. They also chase the dolphins, and then jump in the water near them. Of course, the dolphins can outswim the people once they jump in the water, so they are less of a menace than the motorized boats, but there have been some aggressive kayakers who won't leave the dolphins alone. Believe me, I have given them an earful.

I recognize that both the kayak rentals and the motorized boats bring money to the island every time they go out on the water, whereas we lowly swimmers do not. But I must stress two things:

1- Residents of the island do pay income tax (and many also pay the General Excise Tax), and whatever our vocations are, we bring our services to the people who live here. Our immediate contribution to the economy may not be as noticeable, but we could not have an economy at all without residents.

2- If the intention behind these regulations is truly to protect the dolphins (and not to bolster the boat industry) then it is the *boats* that need to be restricted, not the swimmers.

Plenty Mahalo,
Claire Elisabeth
Member, Hawaii Dolphin Initiative

--
Claire Elisabeth
510.528.8033

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Get Clear. Make Waves. Enjoy Life.

December 3, 2019
19P-070

Ms. Claire Elisabeth
naiacoaching1@gmail.com

Dear Claire Elisabeth,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 20, 2018.

You comment that the dolphin rest zone is not well located. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, the National Oceanic and Atmospheric Administration (NOAA) reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys.

You are concerned that boaters and kayakers pose a greater threat to the dolphins than swimmers do. DSP has not sought to restrict one group rather than the others, but to enhance safety for all in the waters of Kealakekua Bay.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: ALAN D. ELF <alandelf@yahoo.com>
Sent: Monday, April 23, 2018 2:02 PM
To: martha.e.yent@hawaii.gov; John Kirkpatrick
Cc: Jean Love
Subject: PROPOSED DOLPHIN REST ZONE FOR KEALAKEKUA BAY

Concerning the DOLPHIN REST ZONE PROPOSED FOR KEALAKEKUA BAY

I live part time in Captain Cook, Hawaii and have been swimming with the Spinner Dophins for over 17 years. In all that time, I have seen no evidence that the dolphins are bothered at all by the many tourist boats, kayaks, or free swimmers. If anything, there are more dolphins than ever. The dolphins are Sentient Beings, their brains are as big as ours and they have existed on this planet for millions of years before mankind. Like all Sentient Beings, Dolphins Love to Play. When they return to our bays from feeding in the open ocean all night, they most often are in playful moods, and love to play with eachother and their human freinds, old and new. They often seek out interaction with people and enjoy the "leaf game" with us. To tell us we can not play with our dolphin freinds is like telling people that they are not allowed to play frisbee or fetch with their dogs. The dogs and dolphins will not understand. Some folks say we "chase the dolphins". This is impossible. The fastest human swimmer with fins may go 4 mph, while a dolphin can easily sleep going twice that. They can swim faster than most powerboats. Just as folks that live near the train tracks can sleep as the train roars by; dolphins don't let boats and swimmers bother them at all. When they want to rest they gather in groups and swim calmly at depth, surfacing every five minutes or so for a few breaths before heading back down. In Kealakekua Bay, when they are done with play, they usually head far out to the deepest part to sleep; this is an area just a few hundred feet south of the Cook Monument. The proposed "Rest Zone" does not even cover the dolphins most used sleep area, instead it covers the most common area were people and Spinners love to play together. In conclusion; it seems that the people behind this proposal are more about hating dolphin swimmers than thinking about what our dolphin friends want: To Love and Play with Everyone. No room for hate. Kealakekua Bay already has a natural deep sleeping area. There is no need for buoys in our beautiful bay.

Sincerely, Alan R Covey

BELT COLLINS

December 3, 2019
19P-070

MrsA.Cl a si Et eh
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DeCr Mrsi Et eh,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

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Aloha mai kākou, April 9, 2018

My name is Kanani Enos. I was born and raised in the ahupua'a of Hōnaunau in South Kona. I also have familial/lineal ties to Kealakekua, Nāpo'opo'o. I am a mother of four, cultural practitioner, kumu (teacher), artist, as well as someone who does a lot of work in the community.

I am writing, offering my testimony as someone who spends time at Kealakekua Bay and the surrounding areas, to practice my culture, my spiritual beliefs, and to aid in educating, uplifting, and empowering my community in the ways of my kupuna (ancestors). I actively participate in conducting ceremonies to acknowledge the changing of seasons and the marking of time, perpetuating the wisdom of our kupuna, and ensuring their wisdom is carried forward in this day and time. I am able to carry forth this work only through the support of the families of the village, including those who are my relatives, friends, and fellow community members. They are familiar and supportive of myself along with a few others conducting ancient ceremonies and being able to access sites near and around the Hikiau Heiau, the adjacent pond (Wai loko ali'i) as well as the trails surrounding these two sacred culturally significant areas. This also includes the shoreline of Kealakekua Bay which is important for conducting our yearly seasonal ceremonies, practices and observations.

In the Draft Environmental Impact Statement (DEIS) it implies that "Kealakekua is a site of historic and cultural significance where important events occurred as well as offer recreational opportunities." It further states, "the Park contains a wealth of marine resources", and that Department of State Parks (DSP) "seeks to preserve and share this wahi pana and to support recreational use in a manner that does not impact the historical and cultural values." (Draft EIS, pg. 1-1)

I think it is important to note that important historical events have occurred and they continue to occur. From a cultural standpoint, the Makahiki opening celebration that occurred seven years ago at Kealakekua, within the vicinity of Hikiau complex, was a historic event. On a clear October morning in 2011, the lineal descendants, cultural practitioners, hula dancers, priests and priestesses of Kealakekua came together and acknowledged the ancestors of the Bay, the ancient practices that had long lay dormant, and recognized one of the most important and vital times of the year for our Hawaiian people, the first time in approximately 200 years. This annual Makahiki celebration and the ceremonies leading up to it have since then been occurring every year and is a very important and special time of the year where many of our 'ohana members will fly in from outer islands, as well as drive in from neighboring districts to participate in and acknowledge the cultural practices of the season. Many visiting cultural practitioners from other parts of the island, State, and world also frequent these significant sacred areas, where we conduct protocol to welcome, engage, and solidify our connection to each other and to the land through our cultural practices based on the natural cycles and sustainability of the environment.

We also continue the traditional practices of conducting observations of celestial bodies, recording and estimating rising and setting times of sun, moon, and stars associated to this wahi pana. We practice the ancient art of Kilolani, or observing our environment and heavens. In doing this we learn, teach, and perpetuate the ancient style of keeping time, weather forecasting/predicting, and observing major occurrences in the natural environment and stars from the directional standpoint of Hikiau Heiau and Kapukapu Bay[1]. These cultural practices are vital to not only recall and preserve place based traditions of keeping time and calendar developing, but are also connected to canoe wayfinding, storm predicting, seasonal planting and harvesting in our verdant South Kona landscape.

Besides the numerous cultural practices occurring at Kealakekua, surrounding spaces, the sacred area which we refer to Kapukapu, past, present, and future, are many mo'olelo (stories) of this important wahi pana. From the cliffs, to the pond, the walls, caves, stones, and ocean, this is a living and evolving center of cultural inspiration, learning, and state of being. Our Kealakekua Bay community once had a weekly talk story event, which occurred every Sunday afternoon at the bay. It was here that many of the stories were shared, among the kupuna, elders, as well as the songs of this wahi pana kaulana (famous area). Many stories were connected to the spiritual nature and value of this place, and some were about the rich history of ruling chiefs; their rise, their fall, and everything in between. Other stories spoke of the lifestyle of this place, living close to the cycles of the ocean, the connection we have with all the organisms of the kai, ocean, and how they give us life when we are in tune with their natural rhythms and take only what we need. These are some of the stories I hope have been heard when considering developing such an area.

To truly understand the impact of a proposed development plan that seeks to "support recreational use in a manner that does not impact the historical and cultural values," I certainly would expect that a wide range and numerous number of present time lineal descents, story keepers, and cultural practitioners of Kealakekua were consulted. However, I have seen that in the Cultural Impact Assessment(CIA) only ten (10) oral histories were conducted, nine (9) of the ten being non-residents of the Nāpo'opo'o region described in the EIS. This is unacceptable and the Cultural Impact Assessment (CIA) should be substantially updated. There are many families, many connections, many stories and oral histories, that should not be overlooked or omitted. The Cultural Impact Assessment (CIA)should survey a geographical area greater than the area of the proposed development. If the scope of consultation requires to be "wide range", then there are familial ties and connections to individuals who reside in the neighboring ahupua'a of Kīloa, Waipuna'ula, Iliiloa, the Kalama(s) 1-5, Kahauloa 1 and 2, Ke'ei 1 and 2, Hōnaunau, Keokea, Ki'ilae, and Keopuka, and practices that are associated within the ahupua'a. This is too important to ignore. The families and elders living in these neighboring areas for generations have a direct connection to Kealakekua and hold much knowledge of historical accounts, as well as the stories of the people, their way of life, and continue to actively participate in the cultural practices of that area.

Therefore, if we do small improvements to accommodate recreation, I highly suggest that a Cultural Plan be developed by a Cultural Advisory Group separate from the other "Friends" group of KHBSP. There should be an adequate amount of representation from the "Villagers", the families connected to Kealakekua, and all those who would be affected by the proposed plan. I also suggest this Cultural Advisory be implemented immediately before any permits are

[1] Traditional poetic name for Kealakekua Bay (Clouds of Memories, Kahele, 2006)

considered and that this plan will overlay the current Master Plan, and that mitigations to that "over-laid" plan be shared among the public for input.

Also, the studies provided in the CIA should be revisited to include a deeper clarification of the Traditional and Customary rights and practices based on a more comprehensive oral history from residents who are living today as well, and to come up with recommendations for the State. By revisiting, it will ensure and maintain the integrity of the EIS's claim to Kealakekua Bay being of "great historical significance", and give it the attention it deserves.

Kealakekua Bay besides being considered "a playground", historically was also known as Kapukapu, meaning very sacred. It is a place still recognized by Native Hawaiian practitioners across the State of Hawai'i and around the world. I would like to see that those who come to visit can acknowledge the history of this place and respect the culture that is still living there. I would like to see that we all can find balance in this modern world for recreation and for cultural practice, and it is the State's obligation to assist in that process. A process that; with updating the CIA to include a wider scope of families, cultural practitioners, and oral histories as well as forming a Cultural Advisory Group consisting of some of these living history and cultural keepers should lead us into the future with balance, honor, and respect.

Mahalo nui,

Sonja Kanani Enos
Kananienosmusic@gmail.com
(808)319-8624

BELT COLLINS

December 3, 2019
19P-070

Ms. Sonja Kanani Enos
Kananienosmusic@gmail.com

Dear Ms. Enos,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments dated April 9, 2018 which you provided.

Thank you for your account of the 2011 celebration of the Makahiki, more recent celebrations, and astronomical observations within the Park.

The Cultural Impact Assessment (CIA) included in the draft EIS was substantially completed in 2010. Work on the Master Plan and EIS was suspended at that time, then restarted in 2015. At the restart, an updated traffic study was made, but not an updated CIA. As a result, the CIA does not report on the makahiki ceremonies you describe as occurring in 2011 and later years. Nor does it report on cultural practitioners' astronomical observations. These omissions will be corrected in the Final EIS, in section 3.7.1;

> *Hikiau Heiau and its environs continue to be a focus of cultural activities. Since 2011, cultural practitioners have convened at and near Hikiau Heiau for ceremonies related to the makahiki. They have also conducted astronomical observations, drawing on traditional knowledge.*
>
> *Gatherings of local residents within the Nāpō'opo'o section of the Park have included "talk story" sessions in which stories and songs were shared.*

Interviews with lineal descendants knowledgeable about cultural resources and practices in KBSHP were conducted in late 2018. These are reported in the Master Plan.

The CIA draws on earlier oral history work from the 1970s through 2003, as well as ten ethnographic interviews, in order to identify cultural resources and practices that could be affected by the Master Plan. You emphasize that Hikiau Heiau was and is important for people in other parts of Hawai'i Island and all of Hawai'i. The Division of State Parks (DSP) similarly views KBSHP as one of the most important sites of Hawai'i's history.

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In line with the CIA recommendations, you suggest that a Cultural Advisory Group be formed, and a Cultural Plan be developed. A Cultural Advisory 'Ohana has been convened by DSP to provide input and address cultural concerns on proposed facilities or improvements as these proceed to design.

The Cultural Advisory 'Ohana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional rights, and the history and resources of Kealakekua Bay are preserved and protected. That flow of information should be more effective in celebrating and documenting traditional rights and practices than a rewrite of the CIA would be. Consequently, the CIA will not be revised beyond adding a note on its limitations.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will inform you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Joanne Hiramatsu

From: Yent, Martha E <martha.e.yent@hawaii.gov>
Sent: Monday, April 16, 2018 3:01 PM
To: John Kirkpatrick; Cottrell, Curt A
Subject: FW: Testimony - Kealakekua Bay State Historical Park EIS
Attachments: Kealakekua Activity.pdf; Puuhonua Traffic.pdf

Aloha John and Curt,

Wasn't sure you'd seen this although I know he shared some of it at the meeting.

Mahalo, Martha

From: Bob Flatt <robert@fishes.com>
Date: Monday, April 16, 2018 at 2:15 PM
To: "Yent, Martha E" <martha.e.yent@hawaii.gov>
Subject: Testimony - Kealakekua Bay State Historical Park EIS

Testimony on Kealakekua Bay State Historical Park EIS

Also submitted at https://governor.hawaii.gov/contact-us/contact-the-governor/ 4/13/2018

EXECUTIVE SUMMARY: The EIS is eight hundred pages of lipstick on a pig. Copious analysis of incomplete data. The Transportation Impact Analysis is a perfect example, the results are unreliable and perhaps disingenuous.

1) The EIS assumes new visitors will access the proposed State Historical Park via Napoopoo Rd. This assumption is probably wrong because the EIS mostly ignores the National Historical Park (NHP) visitors. It is reasonable to assume that visitors to one Historical Park will also visit another Historical Park 4 miles away. The Parks are connected by Puuhonua Rd.

The NHP has on average about 400 car visits per day. The current "number of vehicles associated with the KBSHP" (p550) becomes about 500 in place of the 80-100 in the EIS. This number may increase because a pair of nearby and related destinations are more attractive.

The traffic on the connecting Puuhonua Rd traffic will approximately triple. Napoopoo Rd would immediately exceed the traffic volume considered reasonable (p542). The same would certainly be true for Puuhonua Rd but the EIS does not attempt an estimate.

The traffic conclusions of the EIS are unreliable in part because they ignore the NHP.

2) Pu'uhonua Road Capacity (p545)

The EIS ignores the single section of Pu'uhonua Rd in Napoopoo. The road is as narrow as 9ft to 10ft near the blind intersection with Manini Beach Rd. Sight lines are limited. Vehicles give way in driveway entrances. Even the traffic overlay on Google Maps at times shows these delays (see attached "Puuhonua Traffic.pdf"). The EIS INCORRECTLY states "The lane is 14 feet wide at its narrowest point and requires vehicles in opposing directions to pass each other slowly".

4) Hawaii County Support
The EIS depends on commercial activity on Napoopoo Pier. The EIS repeatedly asks for Hawaii County support. The Pier and it's proposed parking lot are zoned Residential by Hawaii County. Hawaii County cannot do anything that enables a violation of its own zoning. It is true that the State has historically ignored County zoning here, but this does not mean that the County can ignore it's own zoning. Comments from the County Planning Department (p722) highlighting the State's responsibility are brushed aside the EIS response (p725).

5) Parking Lot Size (p529)
The EIS specifies approximately 50 parking spaces on the Gaspar Mill site. There is NO JUSTIFICATION for this number. The NHP has approximately 75 spaces and overflow parking outside the gate. The SHP needs a justification for the lot size.

6) Pu'uhonua Road "Local traffic only". (p36)
"DSP will encourage the County of Hawaiʻi to mark it as “Narrow Road – Local Traffic Only.”
This suggestion for Puuhonua Rd is unenforceable. It's definition is unclear, what does 'local' mean in this context? Even if resources for full time enforcement were deployed, traffic then would be rerouted onto Middle Ke'ei Rd and Painted Church Rd. The EIS ignores these roads, but they are narrow and have limited sight lines.

7) Traffic distribution (p551)
"Thus, 85% of new project trips or up to 30 trips are assumed to use Nāpōʻopoʻo Road and the remaining 15% or up to six (6) trips would use Puuhonua Road."

This assumption is speculative and unsupported. It is more reasonable to assume that visitors will go to both Historical Parks and drive the "South Kona Loop" (Hwy 11 [Mamalahoa Hwy],and Hwy 160 [Napoopoo Rd, and Puuhonua Rd]). With half of the trips clockwise and half counter clockwise.

8) Puuhonua Road Safety

The EIS does not address the Puuhonua Road safety issues. a) The lack of guard rails at multiple locations where the edge of the road drops precipitously. b) The pedestrians on the road because there is no sidewalk, nor space for one. c) The tractor-trailers servicing the County Transfer Station.

9) Traffic Survey and the County Transfer Station

The EIS traffic survey does not consider the County Transfer Station schedule. It makes the unsubstantiated claim that weekend traffic peaks on a Saturday - a day when the County Transfer Station is closed. The Transfer Station is open on Sunday, it generates significant traffic as this is a district with no County garbage collection. The EIS weekend traffic numbers are probably wrong. Even the traffic overlay on Google Maps at times shows there are delays (see attached "Puuhonua Traffic.pdf").

10) Helicopter pad (p100)

The need and location are not justified, except "the number affected wold be very small". The EIS needs to show the historical and predicted ambulance visits due to persons at Kealakekua Bay, listing the historical number and location of ambulance visits.

11) Stakeholder Survey, Appendix F-1 (p588).

The results of this electronic survey are invalid for two reasons. First the sampling methodology was biased. And second the survey design did not present the "no action" alternative alongside the "action" alternatives. The "no action"

alternative was only presented only to recipients who entered nothing on the "actions" pages.

12) Cost Estimates (p60)

The cost estimate is $2.4M. Belt Collins has been making and re-making plans for this park for 20 years, we have wasted many times the estimated park cost on plans that are repeatedly rejected. At ALL public meetings over 15 years the public preference has been "no action". The response from Belt Colins has been to remove "no action" as an option! It is a colloquial definition of insanity to keep doing the same thing and expect the results to be different. Stop throwing good money after bad. FIRE BELT COLLINS.

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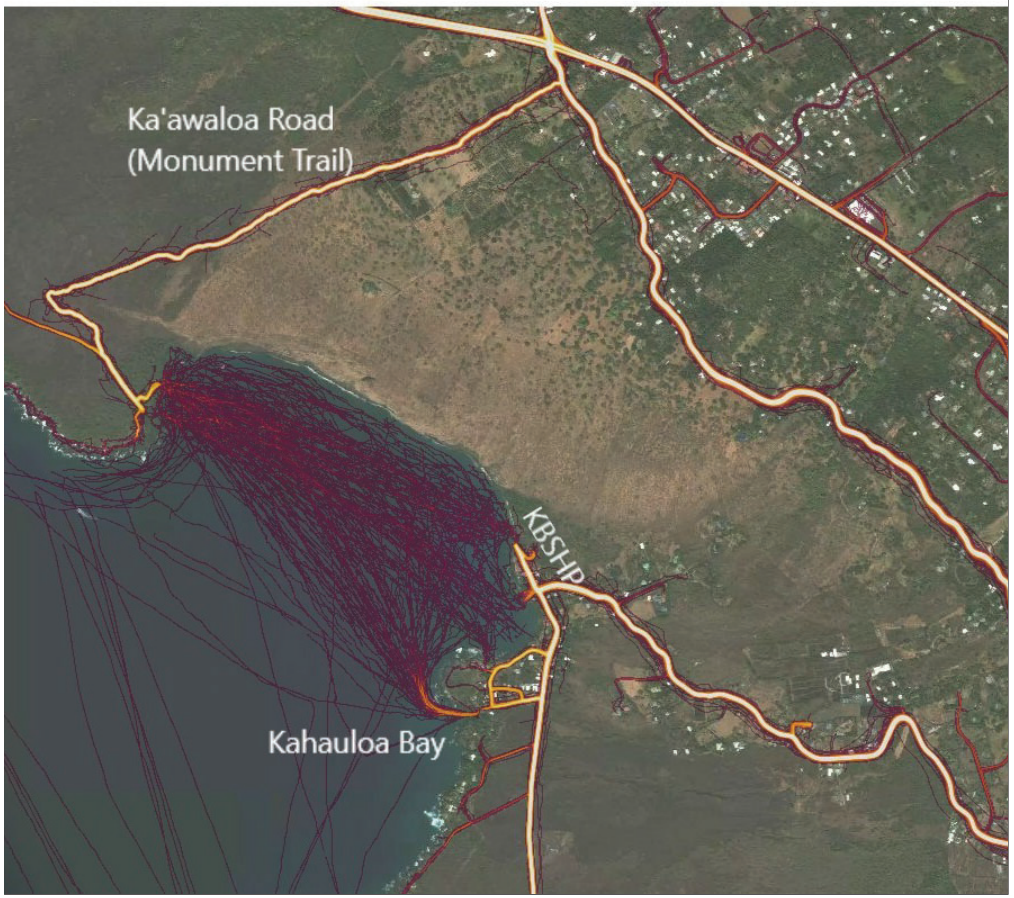
Activity around Kealakekua Bay, 3/2016 to 3/2018

As shown by personal fitness trackers viewable at:

https://www.strava.com/heatmap

A thin purple line is an individual track.
Thicker yellow, and white lines are increasing numbers of co-located tracks.

A map annotated with intensity, such as this, is known as a "heatmap".



"Live Traffic" as shown by Google.

Sunday 1pm 4/1/2018

Pu'uhonua National Historical Park averages 400 visitor cars/day



BELT COLLINS

December 3, 2019
19P-070

Mr. Bob Flatt
robert@fishes.com

Dear Mr. Flatt,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment sent to Martha Yent of the Division of State Parks (DSP) on April 13, 2018. This letter follows the numbering in your comment.

1. The draft EIS recognizes that more visitors will seek to visit both Pu'uhonua O Hōnaunau National Historical Park (NHP) and KBSHP after the proposed action is implemented. It addresses the problem of narrow local roadways by (a) providing an alternative parking location on State Parks land, and (b) developing signage to direct visitors away from the Pu'uhonua Road to Hōnaunau. The Division of State Parks (DSP) can ask that the National Park Service provide similar signage to deter visitors from the narrow coastal road. DSP has sought and will continue to seek ways to collaborate with the County of Hawai'i to minimize visitor impacts on the roadways in the area surrounding KBSHP.

2. The draft EIS recognizes that visitor traffic has been cause for concern along the narrow stretch of Pu'uhonua Road in Nāpō'opo'o Village. The new parking area and new management for Nāpō'opo'o Landing are intended to reduce such traffic.

   The EIS states that "Pu'uhonua Road narrows to a 12-foot wide rural roadway with a posted speed limit of 10 mph." (p. 3-34). The line you cite from the Transportation Impact Analysis Report about a 14-foot roadway (Appendix E, p. 22) refers to the length between Nāpō'opo'o and Pu'uhonua, outside Nāpō'opo'o Village.

   All the roadways in Nāpō'opo'o are County roads, and DSP has no jurisdiction over them. The position taken in the EIS is that visitor traffic on Pu'uhonua Road is already unwise and should be discouraged.

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3. Thank you for providing the Strava heatmap, which clearly shows that many who visit KBSHP have entered the Park waters from entry points on Kahauloa Road and Manini Beach Road during a two-year period.

   The Master Plan responds to the current situation by (a) opening up the Nāpō'opo'o Landing area for general supervised use and (b) providing parking at the Park. Reduced use of alternative launching points is expected to follow.

4. You argue that Hawai'i County cannot support use of the Landing as a pier area because of its zoning. However, Hawai'i County does recognize "grandfathered" uses. Surely the use of the Landing as a pier for the last century is a recognized long-term use.

5. The provision of a 50-space lot was based on judgment of the potential demand. Please note that DSP would not provide bus parking except for schools, so a major component of existing traffic to Pu'uhonua O Hōnaunau NHP would not be found at the Nāpō'opo'o site. When the lot is opened, local tourism advocacy groups would be reminded that the lot and Nāpō'opo'o Road are not appropriate for bus traffic.

6. You are correct that signage directing people away from Pu'uhonua Road would not be enforceable by DSP.

7. As noted above, the EIS does address the issue of safety on Pu'uhonua Road and does include steps to discourage visitor traffic along this route. You are correct in stating that the estimate of future visitor traffic is speculative. So is your estimate, which fails to consider the mitigative educational measures discussed above.

8. Pu'uhonua Road Safety: See 7.

9. The traffic counts in the EIS are based on counts taken by professional traffic analysts. The traffic counts were then used to estimate future traffic follow along the roadways. The transfer station schedule was not considered in the traffic analysis because everyone needs to dispose their own trash when it is convenient for them and individual disposal is not on a set schedule. Please note that the Master Plan proposes steps to reduce visitor traffic along Pu'uhonua Road, and hence to minimize interaction between Park visitors and residents using the transfer station.

10. Residents report recurrent emergencies involving hikers and swimmers at Ka'awaloa. DSP does not need to provide a numerical justification for a helicopter pad that would respond to emergencies and, if necessary, provide a way to remove wastes generated at the proposed waterless toilet.

11. The stakeholder survey reported in the EIS was not a scientific random-sample survey. It was a basis for identifying some stakeholder views, which have been discussed further with members of the community. No claim is made that it shows that residents support or oppose the proposed action.

12. Your directive that DSP should FIRE BELT COLLINS has been received and noted by DSP.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Joanne Hiramatsu

From: Margit Mayra Fuchs <dolphinsongmayra@yahoo.com>
Sent: Friday, April 20, 2018 7:32 AM
To: John Kirkpatrick
Subject: Kealakekua bay

Aloha!
The proposed restzone basically seems to target ALL swimmers going for a swim in Kealakekua bay. I am opposed to that proposal. It is way to radical and basically takes away the right to swim there altogether.
Dolphins do rest there, yes, but they also come to play and socialize.
No one enjoys swimming with sleeping dolphins and therefore backs off anyway and also they usually rest in a zone which is too far away for swimmers.
So please reconsider the proposal. There are for sure way better ways then what is proposed now.
Sincerely
Margit Fuchs

Von meinem iPad gesendet

1

BELT COLLINS

December 3, 2019
19P-070

Ms. MCrl ai MCErC t hcns
og@naksgkl mCErCy ECngg.cgm

DeCr Ms. t hcns,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

unCkf Egh pgr TCriacáTCiakl ak ine HCwCaRevaseo diCihies, SnCTier 343, Thb@t Cko Cl ekcE revæw Trgcess. I Cm wraiakl ak resTgkse ig Eghr e-mCa@o cgmmeki oCieo ATra@20, 2018.

Ygh akoæCie inCi ine og@nak resi zgke as Cameo Ci swammers. Hgwever, ine akieki wCs ig Trgieci og@naks, kgi ig sakl @ghi swammers. une NCiagkC@OceCkac Cko AimgsTneræ AomakasirCiagk (NOAA), ine peoerC@Cl ekcE resTgksab@pgr ekpgrcemeki gpine MCrake MCmmC@ Prgieciagk Aci, as TrgTgsakl revasagks gpais rh@s, bhi kg @cC@@shres. WCseo gk gkl gakl oaschssagk wain NOAA, ine Davasagk gpdiCie PCrf s (DdP) as recgksaoerakl ais TrgTgsC@gr C og@nak resi zgke oemCrcCieo bE bhgEs. U na@ DdP cCk mCkCl e ine PCrf Cko c@se gpCreCs Cs kecessCrE pgr Thb@t sCpeiE, NOAA reserves ine ral ni ig creCie rh@s pgr Trgieciagk gpsTecæs hkoer ine MCrake MCmmC@ Prgieciagk Aci. Kkia@NOAA Cko ine diCie resg@e ine @l C@hkceriCakiæs creCieo bE inese gver@TTakl resTgksabaa@æs, DdP wa@keeo ig re@gk ekpgrcemeki bE ine diCie Davasagk gp SgkservCiagk Cko Resghrce Bkpgrcemeki (DOSARB), cgmmhkai E gbservCiagk, Cko eohcCiagk, rCiner inCk C zgke mCrf eo bE bhgEs.

unCkf Egh pgr Eghr cgmmaimeki ig FeC@f ef hC WCE diCie HasigræC@PCrf . U e wa@kgiapE Egh wnek ine t akC@Bld as Thb@sneo.

VerE irh@ Eghrs,

We@Sg@ks HCwCaLLS

JgCkke B. HarCmCish
dekagr AssgcaCie, Darecigr gpP@kkakl

JBH:nT

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Joanne Hiramatsu

From: Mirabai Galashan <mirabaigalashan@me.com>
Sent: Monday, April 23, 2018 9:17 PM
To: John Kirkpatrick
Subject: (DEIS) for Kealakekua Bay State Historical Park

Dear John,
I am writing to request that you record and reproduce this comment regarding the DEIS for Kealakekua Bay Historical Park and respond to this request to provide documentation to attest that due diligence has been done in assessing the impact of the proposed construction on land and the installation of numerous underwater obstacles within the dolphins resting habitat. Please provide details of the research undertaken and findings, along with the permit from NOAA to establish and approve the level of take on the dolphins of the proposed actions. How has it been ascertained that the disruption of installation of numerous obstacles within the longest established resting habits bay will not cause the dolphins to temporarily or even permanently abandon the bay? Also I do not see any information regarding how the spacing of the buoys has been planned so as not to interfere with dolphin movement?

I look forward to hearing from you at your earliest opportunity,
Sincerely,
Mirabai



Mirabai Galashan MTh
Facilitator, Therapist and Coach
(+1) 808-825-0858

www.mirabaigalashan.com

BELT COLLINS

December 3, 2019
19P-070

Mr. Mirabai Galashan
mirabaigalashan@me.com

Dear Mr. Galashan,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 23, 2018.

Please note that there have been numerous meetings held with the community to gather feedback on the proposed improvements. As part of the Environmental Impact Statement process, a variety of special studies have been completed which assess impacts on the environment. These meetings and studies are what shaped the proposed projects.

You express opposition to underwater obstacles within the dolphins resting habitat.

The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. Based on ongoing discussions with NOAA, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the State Division of Conservation and Resource Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Shawn Gallaway <shawngallaway@aol.com>
Sent: Tuesday, April 24, 2018 7:07 AM
To: John Kirkpatrick; martha.e.yent@hawaii.gov
Subject: Dolphins in the Bay

I am writing to you both to share my feelings about the proposed Dolphin free zone in the Bay. I feel that education is the best solution for the bay. Creating a structure there to keep people and tourists away is not a good idea. Constant oversight and education will work best and people will learn to respect the boundaries of these magnificent beings. I structure in the water is an eye soar and will not solve the problem in my opinion.

Thank you for hearing me,
Shawn Gallaway
www.shawngallaway.com

BELT COLLINS

December 3, 2019
19P-070

Mr. Shawn Gallaway
shawngallaway@aol.com

Dear Mr. Gallaway,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 23, 2018.

You express opposition to "a structure" to keep people away from the dolphins and we assume you are referring to the proposed buoys that would mark a dolphin rest zone.

The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. Based on discussions with NOAA, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the State Division of Conservation and Resource Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Kealakekua Bay State Historical Park: Master Plan & EIS
Comment Sheet

We would like to hear from the community. Please use the space provided below to share your comments on the Kealakekua Bay Master Plan and Draft EIS. We would like to make sure we understand what you see as the major concerns, priorities, and opportunities for the State Historical Park as we go forward with this project. Mahalo!

"The Dolphin only" zone is excessively sized taking up most of the bay. Local people who have figured out a way to make more than a measly $10 per hour from tourism by renting kayaks are again being pushed out of the picture.
Over reliance on "scientists" and "consultants" who have little to no expetience of actually being in the water, of actually interacting with dolphins, instead of merely "observing" gives faulty conclusions based on faulty evidence.
Again, parking is being made more of a problem instead of less. Too much

Name: Alfredo Bermudez E-mail: _____ Phone: 541-852-9210

Any further comments? Please e-mail us at jkirkpatrick@bchdesign or send them by mail to John Kirkpatrick at Belt Collins Hawaii LLC, 2153 N. King Street, Suite 200, Honolulu, HI 96819. Please get your comments in before April 23, 2018. Thanks!

money is being spent on "consultants" and "studies", instead of doing important things such as fixing the beach shower which has been broken for 10/12 years

BELT COLLINS

December 3, 2019
19P-070

Mr. Alfredo Gormenzano
(no address or email provided)

Dear Mr. Gormenzano,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your written and verbal comments from the meeting on April 14, 2018.

You commented that the dolphin rest zone is too large. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park. As a result, DSP is not proceeding with the proposal to mark a dolphin rest area, and will rely on a combination of enforcement and community observation to minimize interference with the spinner dolphins.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will try to notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.bchdesign.com | honolulu@bchdesign.com
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Kealakekua Bay State Historical Park: Master Plan & EIS
Comment Sheet

We would like to hear from the community. Please use the space provided below to share your comments on the Kealakekua Bay Master Plan and Draft EIS. We would like to make sure we understand what you see as the major concerns, priorities, and opportunities for the State Historical Park as we go forward with this project. Mahalo!

I have volunteered my time and resources to maintain the Ka'awalo Trail for ten years. This involves weed whacking the cane grass when it becomes overgrown and removing rubbish that a few inconsiderate hikers leave behind. From my experience the greatest environmental impact comes from the commercial water craft whose engines through cooling & exhaust pollute the marine reserve with oil and distillates. There is also much impact from tourists with their toxic suascreen and from standing on the coral. If the true intent is on preservation then we require less development. Once the bulldozers come in and the concrete is laid down then permanent desecration has wounded the aina.

Name: PHIL HENSON E-mail: philhensondesign@hotmail.com Phone: 808 990 3513

Any further comments? Please e-mail us at jkirkpatrick@bchdesign or send them by mail to John Kirkpatrick at Belt Collins Hawaii LLC, 2153 N. King Street, Suite 200, Honolulu, HI 96819. Please get your comments in before April 23, 2018. Thanks!

BELT COLLINS

December 3, 2019
19P-070

Mr. Phil Henson
philhensondesign@hotmail.com

Dear Mr. Henson

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your written comments from the meeting on April 14, 2018.

First of all, thank you for your volunteer work on the Ka'awaloa Trail.

You stress the impacts of boat engines, swimmers' sunscreen and standing on coral. These are issues that can be addressed through education. As noted in the EIS, the Division of State Parks is encouraging commercial boaters to revisit and share a plan for vessels moving in KBSHP waters. The sunscreen issue has been addressed by legislation as well as education by boat operators and State Parks signage.

It appears that the number of motorized vessels and swimmers in the bay has not significantly increased in recent years. If visitor numbers result in additional impacts on resources, DSP could limit the number of boats in future.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Aloha

My name is Tommy Hickcox

After reviewing the EIS I find it to be somewhat inadequate in proactively addressing the areas of preservation and protection of our cultural resources. The document agrees with the formation of a Cultural Advisory group, however does not show the formation of such a group. I urge that a Cultural Advisory group made up of qualified individuals be established immediately. I also urge that the input of this advisory group be included in a redraft of the EIS. I am not here to point fingers or expound on what is wrong. I am here to say that we should do it better and do what we all know to be correct and pono.

Mahalo

BELT COLLINS

December 3, 2019
19P-070

Mr. Tommy Hickcox
kamaki1@hawaiiantel.net

Dear Mr. Hickcox,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments in your message of April 14, 2014.

You request that a Cultural Advisory Committee be formed for KBSHP. The Division of State Parks (DSP) has convened a Cultural Advisory 'Ohana to assist with a culturally appropriate approach in planning for KBSHP. Its role will be stated clearly in the Final EIS.

The input from the Cultural Advisory 'Ohana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional practices, and the history and resources of Kealakekua Bay are preserved and protected.

Thank you for your commitment to Kealakekua Bay State Historical Park. A copy of the Final EIS will be sent to you when it is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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Joanne Hiramatsu

From: Stacey Himmel <staceyhimmel@gmail.com>
Sent: Saturday, April 21, 2018 6:28 PM
To: John Kirkpatrick
Subject: Kealakekua Bay Master Plan

Aloha John,
I am a resident in the area of Napo'opo'o and am very concerned and somewhat confused by the proposal which greatly restricts a swimmer's access to the bay while allowing the big commercial boats to continue accessing the once pristine reef near the Captain Monument. The plan seems like a radical restriction on the public's access to the ocean which is a large part of this community's reason for living here.

Please consider the possibility of educating the public by allowing a volunteer, community based organization called The Hawaii Dolphin Initiative, to instruct as to proper behavior towards the resident spinner dolphins. Buoys will require enforcement and will do nothing to educate the public which really is the ultimate goal in protecting our ocean wildlife.

If the State decides a zone is necessary to protect resting dolphins, then I would accept only a much smaller zone *where the dolphins do their deepest resting at midday*. This is the area offshore of Ka'awaloa and the Captain Cook monument, only some of which is included in the currently proposed zone.

I respectfully request that you seriously consider eliminating the proposed plan for buoys to protect the dolphins.

Thank you,
Stacey Himmel

BELT COLLINS

December 3, 2019
19P-070

Ms. Stacey Himmel
staceyhimmel@gmail.com

Dear Ms. Himmel,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 21, 2018.

You express opposition to the use of buoys to mark a dolphin rest zone. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resource Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

You suggest that Hawai'i Dolphin Initiative volunteers be asked to provide education to visitors to the Park. Collaboration with the Hawai'i Dolphin Initiative could be fruitful, so long as the educational program does not run counter to federal law.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Pia Jacobsson <piaminka2@yahoo.com>
Sent: Monday, April 23, 2018 7:48 AM
To: John Kirkpatrick
Subject: Reg no swim zone in Kealakekua bay

Dear John,

I ask you to wait with implementing a no swim zone in Kealakekua bay. Allow The Hawaii Dolphin Initiative time with their 100 volunteer educators to reach out and inform visitors about the respectful and gentle dolphin swimming etiquette that is widely used by those who know and frequent this amazing and beautiful bay. See how this goes, re-evaluate and then make a decision.

If a no swim zone has to be placed there, please make it a lot smaller and place it closer to the Cp Cook Monument/Ka'awaloa area. This is actually the area where the dolphins hang out the most after late morning and on through the day. They go there to rest after the earlier morning hours of wanting to play with each other and people. The current no swim area proposal would allow kayakers to paddle past and boats to continue coming in and place themselves exactly where the dolphins rest the most.

Please listen to the many caring, loving and conscious people who through their own experience can tell you what a deeply spiritual and beautiful experience it can be to swim in Kealakekua bay. The name means Pathway to the Gods... And it is... Please don't take this possibility away from people.

Sincerely,

Pia Jacobsson

Skickat från Yahoo Mail för iPad

BELT COLLINS

December 3, 2019
19P-070

Ms. PSt atcybssyH
i StmSHl t2h @gyy.cym

Det r Ms. atcybssyH,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

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Tel: 808.521.5361 | Fax: 808.538.7819 | www.bchdesign.com | honolulu@bchdesign.com
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April 21st 2018
To whom it may concern:

The Kealakekua Bay Master plan mentions the potential for a buoyed off rest area for Hawaii spinner dolphins. The following is a quote from the Master Plan: 1.11 "Also, demarcation of a rest area for spinner dolphins can only proceed with the collaboration of NOAA, which has not included area restrictions in its current proposal for protection of spinner dolphins."

Based on the above quote, it sounds unlikely that NOAA will initiate area restrictions in the potential plan for protection of spinners. In the event this should come to pass members of a local Hawaii community group called the **Hawaii Dolphin Initiative** volunteers propose and currently provide the alternative of educating people who recreate in our local waters.

Part of our mission is to educate people in the art of how to respectfully handle encounters with spinners as people swim, kayak, boat or paddleboard in Hawaii's waters. I invite you to read our swim guidelines at and learn more about us at: (http://www.hawaiidolphininitiative.org/ https://www.facebook.com/groups/314109469043538/). We train people how to swim slowly, quietly, and respectfully when encountered by resting dolphins in our local bays. Dolphins can be encountered anywhere at any time in our local bays vs. remaining in a restricted area no matter how large an area it is.

If NOAA and local officials do indeed collaborate on creating a dolphin rest area in Kealakekua Bay I and others have a strong suggestion of a far less intrusive area that is the dolphins' choice as an area to actually give birth and isolate themselves from humans. The area was buoyed after the Oct 15th 2006 earthquake when there were concerns about rocks falling off the pali and hitting swimmers in the head. Those of us who swim frequently have noticed that this area is an area where dolphins do indeed go to give birth and just be with one another vs. seeking interactions with swimmers or kayakers etc.

See the diagram below. The outline is in blue and green area identifies the approximate area along the pali that was buoyed off after the earthquake:



Respectfully,
Kathryn Jensen kjensen266@gmail.com

BELT COLLINS

December 3, 2019
19P-070

Ms. Kathryn Jensen
kjensen266@gmail.com

Dear Ms. Jensen,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 21, 2018.

You express opposition to the use of buoys to mark a dolphin rest zone. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resource Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

You suggest that Hawai'i Dolphin Initiative volunteers be asked to provide education to visitors to the Park. Collaboration with the Hawai'i Dolphin Initiative could be fruitful, so long as the educational program does not run counter to federal law.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.bchdesign.com | honolulu@bchdesign.com
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To Whom it may concern:

I would like to introduce you to a community group called The Hawaii Dolphin Initiative. There are currently over 70 HDI members. In-depth information about our mission, our activities etc. can be found at: www.HawaiiDolphinInitiative.org and https://www.facebook.com/groups/314109469043538/

We are a group of people who primarily reside on The Big Island of Hawaii. Some members are visitors and friends who share our mission and love our community. We volunteer to educate the public about swimming respectfully with dolphins - usually informally before people swim and sometimes in the water. We've collaborated on creating swim guidelines and they're on the website at: www.HawaiiDolphinInitiative.org. Our mission is: "Bringing harmony to communities in a sustainable way" and educating people about respectful dolphin swimming is a critical aspect of our mission.

We've met with local DLNR officials who support us in our efforts to educate vs. the alternative of enforcing a possible future government regulation prohibiting human-dolphin interaction. DLNR has doubts that they can regulate satisfactorily or consistently considering the instability of government agencies - ie NOAA - that grant funding to make it possible.

Currently for example, DLNR officials say they'd need 8 more officers to do any future regulation justice. We offer a sustainable alternative with our educating of the public which can be sustained over the long term.

We see this as a community service and a way to encourage respectful treatment of the dolphins. Our service is still needed even if there is a law put in place prohibiting dolphin-human interactions. Naia show up and interact with people in our local bays and always will, whether or not there's a law in place prohibiting interactions. If there is an area in the bay designated as a dolphin rest area, dolphins will still be encountered anywhere at any time in Kealakekua by swimmers, kayakers, paddle boarders etc. People often request an education in how to handle those encounters.

Our mission is supported by what's stated in this report in Appendix D: Swim With Dolphin activities in Kealakekua Bay Hawai'i : "In order for the dolphin tour industry to be sustainable, a combination of renewed voluntary self-regulation, coupled with public education about acceptable behavior around dolphins and the other resources of Kealakekua Bay is highly recommended."

Respectfully Yours,

Kathryn Jensen kjensen266@gmail.com
Anne Provax AnneProvax@gmail.com
Mike Jacobson mljake@msn.com
Gonnie Heggen heggengonnie@gmail.com

BELT COLLINS

December 3, 2019
19P-070

Ms. Kathryn Jensen
Ms. Anne Provax
Mr. Mike Jacobson
Ms. Gonnie Heggen

kjensen266@gmail.com

Dear Ms. Jensen, Ms. Provax, Ms. Heggen and Mr. Jacobson,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment.

Thank you for sharing information about the educational efforts of the Hawai'i Dolphin Initiative. You are correct in suggesting that control of human behavior in Kealakekua Bay involves more effort than State enforcement personnel could provide.

You suggest that Hawai'i Dolphin Initiative volunteers be asked to provide education to visitors to the Park. Collaboration with the Hawai'i Dolphin Initiative could be fruitful, so long as the educational program does not run counter to federal law.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Alexandra Kennedy <alexandra@alexandrakennedy.com>
Sent: Sunday, April 22, 2018 4:32 PM
To: John Kirkpatrick
Subject: Kealakekua bay state proposal

Dear Mr Kilpatrick,

I am writing you about the proposed dolphin rest area in Kealakekua Bay. I have been bringing small groups of grieving clients (I am a licensed psychotherapist)!for over 12 years for a healing retreat that includes swimming with the dolphins when they come to us as we take our early morning swims.

Instead of a buoyed off area for dolphin rest, I am very much in favor of education for swimmers in the bay and am a volunteer in the new group formed for this purpose.

If there is not consensus to allow for an education approach to this issue, I have studied the state plan and feel that the proposed area is too large. In addition it would not cover the area near the monument where the dolphins do go to rest (as I've observed over these past years). The area near Napoopoo Beach could be outside the designated area to allow for interaction if the dolphins choose it.

My clients have received impressive healing from the dolphins. I hope the bay continues to allow respectful, educated interaction with the dolphins.

Thank you for your attention.

Alexandra Kennedy, MA
LMFT
Kennedy
Sent from my iPhone

BELT COLLINS

December 3, 2019
19P-070

Ms. ASetayHra i eyyeHl
aSetayHrah aSetayHra@yyeHl .cgm

Dear Ms. i eyyeHl ,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

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Joanne Hiramatsu

From: Amy Kepilino
Sent: Friday, March 09, 2018 8:49 AM
To: John Kirkpatrick; Helena Puszyn
Subject: FW: Kealakekua Bay State Historical Park - Residential Feedback on your proposal

From: Elizabeth Kilpatrick [mailto:sailom@earthlink.net]
Sent: Friday, March 09, 2018 8:29 AM
To: Amy Kepilino <akepilino@bchdesign.com>
Subject: Re: Kealakekua Bay State Historical Park - Residential Feedback on your proposal

Aloha Amy

Kealakekua Bay area continues to be increasingly impacted by vehicles daily. When trying to go home, we are forced to stop along the sides of the one lane road, Puuhonua O Honaunau Road, to wait for several cars to pass by. This is the result of the increased residential folks using the municipal dump, increased tourism, and the many many illegal kayak rentals and their cars filling the side streets as well as additional through traffic. The pickups and vehicles of all shapes and sizes fill the streets when the dump is open 3 days a week. And then there are folks just getting to and from their homes. We are at the tipping point, without your proposed additional parking lot for 50 cars that will bring in even MORE TRAFFIC and pedestrians into this neighborhood.

Considering your proposal, what will these 50 carloads of people do once they are parked? There is no beach at Napoopoo. There is a short walk around a very small area and then what? Tourists will head to our neighborhood to go to Manini Beach and to kayak illegally, thus bringing in more folks in an already congested area. And these cars from the 50 car parking lot will then leave your new parking lot, after their site seeing in Manini village and will drive south on Puuhonua O Honaunau Road to the National Park along a one lane road for 4 more miles?

Pedestrian and vehicle casualties are increasing in Hawaii. Are you encouraging this to happen in our small community by increasing the traffic and not doing anything about the one lane roads? When there is an emergency, will these emergency vehicles be able to get through any streets quickly? The answer is **NO**!

Why put out this proposal? Not one County officer would stand for this in his/her neighborhood; but is he/she willing to make this an unsafe crazy situation in our neighborhood?

Right now there is a need for a road to be cut from Napoopoo Road heading south **above** Puuhonua O Honaunau Road for vehicles to get to the dump and for through traffic. It has been discussed by the county in previous years. This road would ease the traffic of vehicles taking trash to the dump and tourists heading to Honaunau as well as other destinations. The County can start by developing that road to ease this existing traffic on Puuhonua O Honaunau Road.

If there is still need for another project, the County might consider widening Puuhonua O Honaunau Road that runs through the village to the National Park.

Kealakekua Bay Historical Park is not separate from the rest of the community. We residents are tax payers. These are homes with families. Let's do our part in Hawaii to maintain this beautiful historical place as a kind, pleasant place to live, to enjoy, to share. We have reached the tipping point here in the village with tourists and traffic. At this point in time, it is a lovely place to live and visit. You folks need to listen and to hear what the residents have been trying to tell you for years now. **Do not develop Kealakekua Bay!**

Instead, Encourage the County folks to take the tourist traffic and parking lot to an area of Hawaii Island where the infrastructure provides a safe place for Hawaii's residents as well as tourists.

Thank you,
Elizabeth Kilpatrick
Property owner

Please find enclosed a response to your comment on the Environmental Impact Statement (EIS) Preparation Notice for Kealakekua Bay State Historical Park. The comments and responses will be included in the draft EIS.
The draft EIS is expected to be published on March 8, 2018. If you would like a copy sent to you on a compact disk, please provide an address to which U.S. Mail can be sent. In any event, the draft EIS will be available for download after that date at the OEQC website -- http://oeqc2.doh.hawaii.gov/_layouts/15/start.aspx#/EA_EIS_Library/Forms/AllItems.aspx.
Thank you for participating in the EIS process.
John Kirkpatrick, Ph.D. LEED AP | Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
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BELT COLLINS

December 3, 2019
19P-070

Ms. Elizabeth Kilpatrick
sailom@earthlink.net

Dear Ms. Kilpatrick,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your e-mail of March 9, 2018.

The proposed actions in the Draft EIS include measures that would direct visitors away from the narrow residential streets of Nāpōʻopoʻo, including a new parking lot and re-opening Nāpōʻopoʻo Landing for supervised launching of residents' and visitors' kayaks. Development and staffing of an Interpretive Center between the parking lot and Hikiau Heiau will provide visitors with information about Kealakekua Bay's historic and cultural significance.

Signage on Division of State Parks (DSP) land will direct visitors away from the Village area and Puʻuhonua Road. The result should be a reduction in the number of visitors in residential areas of Nāpōʻopoʻo.

While an alternate road to the transfer station or a widened Puʻuhonua Road to Hōnaunau would clearly be of value to residents, they are outside the area that DSP manages.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Crystal Rogers

From: [redacted]
Sent: Monday, April 16, 2018 12:28 PM
To: John Kirkpatrick
Subject: Kealakekua Bay Master Plan

Aloha John Kirkpatrick,
I am a direct descendant of Ialua who was a Kanaka Maoli Priest, awarded Kuleana land, and whose hale was once located at the Kaluaopae /Sacred pond in Kealakekua near the Hikiau Heiau.

The Kealakekua Bay Master Plan has been brought to my attention by my Makuahine of which she found on the DLNR website.

I would like to be included in all updates regarding the Kealakekua Bay Master plan. Additionally, I would like to express that not all descendants have ohana who live near the Kealakekua Bay of which they are able to park freely to avoid fees in order to practice their cultural right as Na Kanaka Maoli. Therefore, I oppose Na Kanaka Maoli paying fees to any and all State landbase areas of which they will practice their Kanaka Maoli cultural ritual.

It is my desire to ensure not only the historical preservation of the aina, to also ensure the preservation of the Kanaka Maoli culture and overall well being of Na Kanaka Maoli Lahui.

I would like you to email correspondent updates to me and do not publicize my name and email information.
Mahalo, [redacted]

BELT COLLINS

December 3, 2019
19P-070

Anonymous
******@gmail.com

Dear Anonymous,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mail of April 16, 2018.

You are concerned that Kānaka Maoli not be charged fees to reach and park on the lands of State parks. The Division of State Parks does not charge for parking at KBSHP and has no plans to do so.

You request e-mail communication without publication of your name and e-mail address. We can do so, but are bound by State regulations to publish comments and responses to the Draft EIS. As a result, your letter will be published as from an Anonymous party.

Thank you for your interest in Kealakekua Bay State Historical Park. We will alert you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Dennis Klimke <klimked001@hawaii.rr.com>
Sent: Tuesday, March 20, 2018 4:06 PM
To: John Kirkpatrick
Subject: Comments on Kealakus Bay EIS

Aloha John,

As per our conversation a week ago I have the following recommendations:

1. Have a kiosk at the top of the trail in several languages (English, German, Japanese, French and possibly Chinese) that would explain the trail difficulty, water availability, trash disposal and toilet facilities. This would assist many people who attempt the hike unprepared. Also, include a short historical perspective of the trail and its importance to the Hawaiian people.

2. Establish a cadre of trail ambassadors who would be trained on the trails' historical features which could be done by a short lecture or email. These individuals would be people who hike the trail on a regular basis. They could be identified by a decal on their cap or shirt. Their function would be for the safety of hikers and a source of information that would make visitors' experience more enjoyable.

John, I feel by adding these two components along with your recommendations in the study, that this trail and destination would become a true treasure.

Regards,

Dennis Klimke

BELT COLLINS

December 3, 2019
19P-070

Mr. Dennis Klimke
klimked001@hawaii.rr.com

Dear Mr. Klimke,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to our telephone conversation and your e-mail of March 20, 2018.

You suggest establishing a kiosk at the trailhead near Nāpōʻopoʻo Road and training trail ambassadors to warn hikers and provide information about the route and lack of park facilities at Kaʻawaloa. Resolution of problems at the trailhead could well involve your suggestions, along with ways to manage parking near the trailhead. These ideas are valuable, but they involve sites that are outside the control of the Division of State Parks (DSP). DSP seeks to discuss trail and road access to the Park with the County of Hawaiʻi and with resident property-owners affected by trail usage.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Phillip Koszarek <philkoszarek@gmail.com>
Sent: Sunday, April 22, 2018 3:25 PM
To: John Kirkpatrick; martha.e.yent@hawaii.gov
Subject: EIS Kealakekua Bay

"Increasing mauka urban development, storm water runoff pollution and recreation use of the bay could threaten the bay's water quality and marine life."

A statement from the EIS, yet I did not find any plans or statements to mitigate that potential. Or should I say that certainty if nothing is done.

I believe either the Master Plan or the EIS should include a sampling program to determine the quality of the water entering the Bay. You include Figure 3-1 that clearly shows the origin of groundwater entering the bay and with that knowledge it should be possible to design and aggressive sampling program to characterize the incoming water.

From my perspective that should be the minimum starting point for protection of the marine waters. Once the sampling is complete then a discussion on protective measures can be initiated.

One more thought. I would like to see the Park begin discussion of a wastewater treatment plant for all the residences in the tidewater area. I firmly believe the long term health of the Bay requires total treatment for all the wastewater and I believe the Park should pay for it. It is too much to expect the locals to pay the cost when the protection of the Bay is the responsibility of all citizens and tourists. Therefore I believe tax money or user fees should pay for the treatment plant. To me this is another long term objective of a good Master Plan and EIS.

BELT COLLINS

December 3, 2019
19P-070

Mr. Phillip Koszarek
philkoszarek@gmail.com

Dear Mr. Koszarek,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mail of April 22, 2018.

You urge the establishment of a marine water sampling plan because of the movement of groundwater into the Bay. Sampling already occurs. The Final EIS will reflect this as follows:

> *The waters of Kealakekua Bay have been listed as impaired by ammonia-nitrogen runoff in the 2016 State of Hawai'i Water Quality Monitoring and Assessment Report (published as of December 2017, and posted at https://health.hawaii.gov/cwb/files/2018/02/Final-2016-State-of-Hawaii-Water-Quality-Monitoring-and-Assessment-Report-part-2-signed.pdf). The assessment is based on samples taken at Nāpō'opo'o. The State's Clean Water Branch has ranked development of a water quality improvement plan for this site as Low.*

Please note that the runoff in question is typically associated with agricultural activity, not any activity in the Park or proposed action in the Master Plan and EIS.

The Division of State Parks will provide waste water and solid waste treatment for facilities in the Park according to State laws and regulations. Your proposal for a waste water plant serving the residences on and around the Bay is perhaps properly addressed to your State and County elected representatives.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Crystal Ra Laksmi <crystalexpansion@gmail.com>
Sent: Saturday, April 21, 2018 5:28 PM
To: John Kirkpatrick
Subject: Comments on Massive no-swim proposed for Kealekekua Bay

Aloha.

My name is Crystal Ra and I have been coming to this area almost for 10 years soon from Europe. This has really felt like my home. So much so that I now live here.

I am an anthropologist by my background and not only have I observed people doing 2 documentaries, but also written a masters thesis about people in South Africa, Cape Town and also observed people here in the bays when they swim and when the dolphins show up.

As you know from the scientific research - dolphins do not actually sleep as humans do - they just close down one part of their brain, while the other side is working. So the proposed no swim area makes no sense from that point of view.

What dolphins need is more education - so that tourists know that to swim with wild dolphins would mean that you do not chase their tales or take their fins to be dragged like in the movies or in the pools with trained dolphins.

Many times when I have stopped people in actions like this in the water and they had no idea.

The information we have on the beaches says - do not swim with them and keep your distance - and it says nothing more. But it actually entails so much more.

What should be stopped should be the commercial kayak tours as well the boat tours which actually officially sell dolphin tours - which means they will chase the dolphins and then cut their swim by releasing the people in front of the line. I have been to some of these boats and when I have specifically asked them if they do that they have said they do not and once on it - they do it. It is really bad for the dolphins - that is what should be more regulated as well stopped. Boats are not only creating a lot of noise they are dangerous when these boats drive super fast through the dolphin rest areas (I have seen it so many times)

Dolphins are one of the most highly intelligent creatures on this planet. They help actually humans to heal from trauma, from emotions and actually activate humans to be better humans. Research and many stories prove that worldwide. They have even created places now where people got to get healed from cancer, all kinds of different diseases and so.

This is the case with myself - I came here as a very macho woman and now I am a true queen, married to my king and live my dream completely in balance.
Dolphins helped me to heal when I got here in 2011 when my dad passed away. My time in the ocean with them healed me so fast instead of going to therapy for a whole year or two.

Dolphins had a big role in it. I have always swam in the ocean with full respect to the ocean and ocean creatures, always kept my distance, but when the creatures are curious and come close to me and look into my eye and give me their message - I allow this to happen - because the dolphins initiate it - and many people have also documented that with their video cameras. When they want to play with me and they invite me - I play.

But I always respect their place and space. When I see they are sleepy and mostly down under I only observe and feel blessed just to be there. It is very powerful to see them.

Now I started to paddle with the local canoe club as well and I am so shocked how the local NOAA and authorities allow the boats to drop people where the dolphins rest and then harass them each time - hearing how the boat captain almost shouts at the people - jump now or you will not see them! **This is not only very disturbing for the dolphins but also very commercial. Dolphins are not products to sell. They are natural habitat. We need to be more respectful.**

Do local boat owners and dolphin tour owners contribute to the local dolphin and sea education for the people on their boats or in local communities. I do not think there is a fee for them.

I at times have my guests or visitors coming to swim with me and I always talk about the etiquette in the water and what to do and what not to do. They always follow it and we have never harassed the animals and had amazing experiences. many of my people have had water fear. After swimming with dolphins they have no fear of water and no fear of life any more. It is a huge game changer for them and their lives.

What is truly needed is more ocean education. Like to use more rashguard shirts instead of chemical sun creams which kill the corals (they estimate if we do not change anything in less than 30 years the corals are gone!!!!)

That is why I am part of the group Hawaii' Dolphin Initiative where we have had meetings and come up with community ideas how to help it and how to solve it locally. There is a huge need for volunteers who would be on the beaches daily (smth like they do with Reef Teach in Kahaluu bay) and talk to the locals even the simple things like where to go into the water not to injure yourself and the local reefs (happens a lot on Kahaluu and also Honaunau).

The issue is not that much about the people who swim, but people who are not educated how to swim.

Now they are educating people on the plain TV about the bad suncream, but the same should be about the local animals in the water. It does not take much. Even I can make a movie like that.

If there are people who bring retreats here to swim (and there are more and more coming) - they should pay a donation or set fee to the local community to help to educate more people about the swimming with the dolphins per swim or the period they are here.

It is really not a solution to make a zone and fine people with doing something as natural as swimming with the animals.

It is actually healing every individual as well the planet if it is done properly.

The local Hawaiians had different groups with different viewpoints about the dolphins. Some were swimming and not only, even giving birth with the dolphins, some Hawaiians were paddlers, who knew about the dolphins that way, some were just fishermen or living on land. Dolphins have played an important role in the local culture, **but to say that all Hawaiians support that would be wrong.** If needed I can start a new anthropological study to prove that to be wrong myself.

Hawaii is a very special place and I am completely pro for more better logistics as well some regulations which support the local communities as well respect them, but I also think there needs to be more dialogue between the government institutions as well the locals in order to make it work for all sides.

So I hope my email will be another voice about the topic and that you take it seriously. Thank you very much.

Best regards,
Crystal Ra Laksmi-Ditton

BELT COLLINS

December 3, 2019
19P-070

Ms. Crystal Ra Laksmi-Ditton
crystalexpansion@gmail.com

Dear Ms. Laksmi-Ditton,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 22, 2018.

Your key point, that humans need more and better information about dealing with dolphins, is important. Both signage and verbal instructions to those who visit the Bay can be improved.

You suggest that Hawai'i Dolphin Initiative volunteers be asked to provide education to visitors to the Park. Collaboration with the Hawai'i Dolphin Initiative could be fruitful, so long as the educational program does not run counter to federal law.

As you note, commercial tour operators may place swimmers in the water in the path of dolphins, encouraging interactions with dolphins. This practice is not supported by federal or state authorities, but neither agency has the resources to enforce compliance with the law in all cases.

You ask whether local "dolphin tour" boats pay fees for their activity in KBSHP. They do not. Only the Fair-Wind and commercial kayak tour operators pay fees, since they hold permits issued by the Division of State Parks.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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Joanne Hiramatsu

From: Milton Leslie <mikaele9@hotmail.com>
Sent: Wednesday, April 11, 2018 5:38 PM
To: John Kirkpatrick
Subject: Kelakekua Bay State Historical Park Plan / Draft Environmental Impact Statement

Hi John,

I will not be able to participate in the subject meeting because of a prior commitment. Thus, I'm writing to provide input to the DEIS. After reviewing the DEIS online, I'm in agreement with the proposed action. However, I would like to recommend that providing public parking be given a high priority. Currently, visitors are parked along the road from the pier to the Heiau making it difficult for residents to egress and ingress their property.

Thank you, et al for the work you've put into this plan. I hope DLNR can move forward with implementation. I served on the initial Advisory Committee for the development of the park back in the early 80s. And it's 2018. Lets move forward!
Thank you,
Milton Leslie

December 3, 2019
19P-070

Mr. Milton Leslie
mikaele9@hotmail.com

Dear Mr. Leslie,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mail of April 11, 2018.

The Division of State Parks (DSP) agrees with you that development of the parking lot at Nāpōʻopoʻo is a high priority that should resolve some of the parking issues in the village. DSP will be seeking permits and requesting funds to construct the parking lot and other priorities in the Master Plan. As you note, the planning process has been very, very long.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Yent, Martha E <martha.e.yent@hawaii.gov>
Sent: Monday, April 23, 2018 4:06 PM
To: John Kirkpatrick
Subject: FW: Kealakekua Bay

On 4/23/18, 3:59 PM, "jeankingsleylove@yahoo.com" <jeankingsleylove@yahoo.com> wrote:

Aloha, I have lived near the bay since 2001. I often swim in the morning there. The dolphins come in after being out at sea at night and are usually in a playful mood, they come there a few times a week and are very friendly. When they get sleepy they usually go by the monument and rest there. I and others try and educate tourists about not harassing them, like trying to touch them ect. The truth is dolphins are very intelligent and fast! If they don't want to swim with people they don't!!! Buoys have been in the bay in the past, after the earthquake and the dolphins just came to us anyway. I believe education about their sleep pattern makes a lot more sense. Please know that they enjoy playing sometimes and it is their choice. Don't ugly up the bay and waste money please.
Sent from my iPad

BELT COLLINS

December 3, 2019
19P-070

Ms. Jean Love
jeankingsleylove@yahoo.com

Dear Ms. Love,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 23, 2018.

You express opposition to the use of buoys to demarcate a dolphin rest zone. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

You note that available research on dolphin behavior is limited. The statements of local observers such as yourself that dolphins' movements are more complex than suggested in the EIS deserve attention before any area limitation is imposed.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Kelly Mankin <akeakeautodetailing@gmail.com>
Sent: Sunday, April 22, 2018 12:15 PM
To: John Kirkpatrick
Cc: martha.e.yent@hawaii.gov
Subject: Opposition to massive no-swim Zone for Kealakekua Bay

To whom it may concern:

I am writing in response to implementing Dolphin Rest Zones in Kealakekua Bay - which I am strongly opposed to.

I have been coming to this island for nearly 30 years and lived here for the past 16. I spend lots of time with dolphins, both the northern and southern pods - even recognize many of them by sight and behavior. I think that this eyesore can be avoided by beefing up education and allowing for the human / dolphin interaction to continue. I always wonder who the people are that are implementing these rules and regulations, because those who have had connective interacting moments with these beautiful creatures, would know that they interact by choice with us and if they didn't want to, they would simply swim away.

Why are you trying to separate human and cetacean interaction?

There are so many different ways to spearhead these issues - putting up an eyesore in the bay isn't really going to help. The scenic beauty of this landscape needs to be preserved. Its one of the things that is so precious about the island. Don't ruin this bay by putting a building sized area with buoys…continue education for ways we can interact with nature, not separate.

I know this will be not only beneficial to the people of Aloha from this island, but also these beautiful animals that clearly chose interaction with us. Please think again before taking this action. Its not what the people who live here want.

With much Aloha - Kelly Mankin - Owner Ake Ake Professional Detailing LLC

BELT COLLINS

December 3, 2019
19P-070

Kelly Mankin
akeakeautodetailing@gmail.com

Dear Kelly,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 22, 2018.

You express opposition to the use of buoys to demarcate a dolphin rest zone. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

You note that available research on dolphin behavior is limited. The statements of local observers such as yourself that dolphins' movements are more complex than suggested in the EIS deserve attention before any area limitation is imposed.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Scott Marshall <marshall.construction@yahoo.com>
Sent: Monday, April 23, 2018 2:33 PM
To: John Kirkpatrick
Subject: Kealakekua Bay State Park Draft Environmental Impact Statement

To John Kirkpatrick,
PhD. LEED AP I Senior Socio-Economic Analyst
Belt Collins Hawaii LLC

Hello John,

I have studied the Kealakekua Bay Park Environmental Impact Statement and I was very impressed by the thoroughness of this report. From the parcel ownership history, to the fresh water infiltration into the bay, you and your staff analyzed all aspects of this region. I was especially impressed by the listing of all of the correspondence from all of the concerned neighbors and stakeholders. You responded to every individual in a positive and supportive manner even if the tone of some of these letters was argumentative.

My wife, Deanna, and I are generally very supportive of the proposed plan presented in the EIS. We are in favor of removing invasive vegetation so that the historical/culture aspects of the park can be shared with ongoing generations of families, either Hawaiian natives or visiting tourists. Clearly, creating a new parking lot is an idea that appears to have the support of most everyone. We think it is great idea to have at least one day a week for no motorized boats in the bay. Like most people, we love seeing the dolphins in the water, we just hope that there is an equitable solution to dolphin health and human interaction with our intelligent mammal friends. Personally, my family would enjoy having a sandy beach access into the water at Napo'opo'o Beach. I know the geographic history of the beach face and that another huge wave event is unlikely to undo the current rock beach situation. This is one time that I think human intervention would help speed up the multi century process of sand deposit on the rock beach. I have seen countless numbers of people being grated like cheese as they attempt to enter or exit the water.

A few items that we would like to be researched in more detail:

1) We love the idea of being able to bring our kayak from our home across the street to launch at the wharf, but what is the going to be the permit process? What is going to stop this from turning into another mass of unscrupulous kayak rentals out of the backs of their trucks from the parking lot? How will it be enforced?

2) When the new parking lot is completed, it is possible that a control gate might be installed at the beginning of Beach Road? I understand this will take coordination of several government agencies. Beyond that issue, how will guests of the homeowners in this area enter the locked gate? Will access be transferrable? A card or a code?

3) Lastly, on the issue of the demarcated dolphin rest area. How big would these buoys be? They need to be visible from a distance yet I don't think anyone wants them to detract from the scenic beauty of the bay.

John, Belt Collins is making great progress on this study, thanks for your work. Keep it up.

Scott Marshall and Deanna Lin
82-6046 Puuhonua "Beach" Road (adjacent to the grass basketball court)

BELT COLLINS

December 3, 2019
19P-070

Mr. Scott Marshall and Ms. Deanna Lin
marshall.construction@yahoo.com

Dear Mr. Marshall and Ms. Lin,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mail of April 23, 2018. Thanks also for your kind words about the draft EIS.

You support the idea of a weekly one-day closure of the Bay for motorized vessels. It is not clear to me what issue this would address, although you may be addressing peace and quiet for the dolphins and homeowners near the water.

Beach restoration would clearly be of value to beachgoers. This was not included in the Master Plan for several reasons. First, restoration depends on finding a source of sand nearby. Since Kealakekua Bay is open to the ocean, it does not appear to have large sand deposits that would not be adversely affected by sand mining. Second, the sandy areas of the Bay are already used by spinner dolphins. Any movement of sand from those areas would risk disturbing the resident dolphins. Finally, there is no reason to expect that sand deposited on shore would remain there for any length of time.

The proposed action calls for opening Nāpōʻopoʻo Landing for supervised launch activities. A concessionaire would be responsible for orderly behavior at the Landing and in the parking lot. The Division of State Parks (DSP) would look to its contractual relationship with the concessionaire, supplemented by community observation and enforcement by the Division of Conservation and Resources Enforcement (DOCARE)to avoid "unscrupulous" rental activities.

The details of launch permits and the like will be specified after the concessionaire's contract is issued.

DSP seeks to reduce vehicle traffic to the Beach Road area from the T-intersection to Hikiau Heiau. According to the Hawaiʻi County Department of Public Works, no barrier is permissible on the County roadway. While DSP will continue to discuss this roadway and Nāpōʻopoʻo Road with the County of Hawaiʻi, it will no longer propose a gate on the public roadway.

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The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, DSP is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by DOCARE, community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC



Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Joanne Hiramatsu

From: Kate Martel <kate@martelart.com>
Sent: Monday, April 09, 2018 2:51 PM
To: martha.e.yent@hawaii.gov; John Kirkpatrick
Cc: Hagenbuch Martel Kate; Mark Martel; Max Fish & Canestorp; Lisa Webb
Subject: Kealakekua Bay Master Plan Input

Aloha,
I have read the master plan EISPN for Kealakekua Bay and I strongly support the opening of Napoopoo landing for non-commercial vessels with permit.
http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2017-04-23-HA-EISPN-Kealakekua-Bay-Master-Plan.pdf

I do not support limiting the access to commercial tours nor do I support limiting to outrigger canoes. To do either would penalize residents who live here and pay taxes.

I would support limiting access to guided tours AND nonmotorized watercraft with permits.
Commercially rented kayaks could be banned from launching except with guided tours. i.e. the commercial permit should not include unsupervised rental kayaks or boards.

I strongly support the installation of well-maintained composting toilets at Ka'awaloa. Not chemical porta-potties.

I support a swim/snorkel no powerboat zone at Ka'awaloa.

I support development of additional trails to Ka'awaloa and improved parking at the trailhead(s).

There should be no kayak landing at all, commercial or otherwise, on the ground at Ka'awaloa, unless there is a safe landing developed at the monument, and staffed supervision. Most kayak trips are under two hours and should not require landing. Protect the coral.

What is the "One permitted mooring at Ka'awaloa Cove for commercial tour boat operator?"
I recognize the importance of the tour boats for tourism and that they help support care for the sites. We occasionally enjoy a trip on one of the commercial boats when we have guests.
I do NOT support an additional commercial landing.

Thank you for your work on this important project.

Kate Martel
Captain Cook
808-315-3365

BELT COLLINS

December 3, 2019
19P-070

Ms. Kate Martel
kate@martelart.com

Dear Ms. Martel,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 9, 2018.

In line with your views, the proposed action in the draft EIS calls for opening Nāpōʻopoʻo Landing for launching permitted non-motorized vessels. Launching would be supervised by Parks staff and/or concessionaires, to promote safety and public order.

Your suggestion that commercial permits only be issued for guided tours can be considered further. Please note that both the concessionaire(s) and other commercial operators would be affected, and that many visitors seek independent experiences on the water, not guided ones.

Kayak landings at Ka'awaloa, whether for guided tours or others, would only be permitted if supervised by personnel who could help bring kayaks out of the water to safe storage.

The Division of State Parks (DSP) plans to install waterless toilets at Ka'awaloa. It will need to consider historical resources in locating the facilities and will follow State Department of Health regulations affecting the handling of human wastes.

Provision of additional parking at the Ka'awaloa trailhead would occur on County and/or private land. Again, trail improvements for additional trails to Ka'awaloa would affect private property. DSP supports actions to improve trail access and minimize the current problems at the trailhead, but cannot impose these.

The "one permitted mooring" at Ka'awaloa Cove is the existing mooring for which the Fair Wind sought environmental review and a permit years ago. No additional mooring is proposed.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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This email was not deliverable. Email returned.

Joanne Hiramatsu

From: SAXON PARKS <saxonparks88@yahoo.com>
Sent: Monday, April 23, 2018 11:03 PM
To: John Kirkpatrick; martha.e.yent@hawaii.gov
Subject: COMMUNITY MEMBER INPUT RE: THE KEALAKEKUA BAY MASTER PLAN PROPOSAL

April 23, 2018
Captain Cook, Hawaii

Dear John and Martha

I am a long term resident of Captain Cook and live very close to Kealakekua Bay and I am writing to submit my input in regard to the Kealakekua Bay Master Plan Proposal and the proposed Dolphin Rest Zone.

I have been researching and observing the Hawaiian Spinner Dolphins from 2006 to the present. I have studied the behavior and habits of the Spinner Dolphins at La Perouse Bay and at Kealakekua Bay for the past 12 years and these are my observations:

In 2006, when I began my research of the Spinner Dolphins in Hawaii, I observed hundreds of Spinner Dolphins in La Perouse Bay in Maui. There were a number of Kayak companies taking both locals and tourists out in La Perouse Bay. I observed that the Spinner Dolphins very much enjoyed the interaction and were actually following the kayaks and having a whale of a time! The dolphins greatly enjoyed the human interaction. Subsequently the Government created laws dramatically changing
La Perouse Bay and the lives of the Spinner Dolphins by prohibiting any kayaking in La Perouse Bay. Subsequent to these new laws on Maui, I observed that the Hawaiian Spinner Dolphin population in La Perouse Bay dropped
from hundreds of Spinner Dolphins to only five Spinner Dolphins. The dolphins moved to another Island as they
were no longer able to enjoy the playtime and interaction with humans that they had experienced for so many years.
The Spinner Dolphin population of La Perouse Bay remains to date severely diminished.

In Kealakekua Bay I have observed from 2006 through to the present, a very large and very healthy Spinner Dolphin
population in the Bay. I have observed more than a hundred dolphins in the Bay more than five times each month
and I have observed a resident pod of 50 dolphins on a daily basis on days when the Spinner Dolphins are in the Bay.
I have observed that the dolphin population is healthy and thriving. I have also observed firsthand the
dolphins enjoying humans swimming in Kealakekua Bay. I have observed the dolphins and humans playing
"the Leaf Game" on numerous occasions... The dolphins carry leaves from the trees on their tails, fins and noses

and then drop them, and then a human will try to pick up the leaves but then another dolphin will swim in and
pick up the leaf and then drop it and then another dolphin will take the leaf and the game continues for from one to two hours.
I have seen on more than 278 occasions the dolphins enjoying this form of interaction with humans in Kealakekua Bay.
I observed that this playful interaction occurs between the hours of 6:30 AM and 10:00 AM. After 10:00 Am the Spinner Dolphins usually
go into their sleep state.. a state of being in which half the brain is asleep and the other half is awake so that they can perform life-sustaining functions.
When they are in their sleep state, they swim much deeper and way out towards the Captain Cook monument.

The proposed massive Dolphin Rest Zone contemplated in the
Kealakekua Bay Master Plan proposal, from my past and present observation of the Spinner Dolphins,
would be devastating and extremely damaging to the Hawaiian Spinner Dolphin population of Kealakekua Bay.
The dolphins enjoy the play with the humans in the Bay and have become accustomed to playing the Leaf Game
on a daily basis when they come to the Bay. They don't come to the Bay just to rest, they come to play and play is a very
important part of their lives.

Instead of implementing a Dolphin Rest Zone and prohibiting locals and tourists from swimming with the Spinner Dolphins,
I would highly recommend that the State government in conjunction with local community members implement a program to educate
swimming tourists and kayakers that subsequent to 10:00 AM each day the Spinner Dolphins should be left to sleep.
With an educational program there will be no need to bar the swimmers and the Spinner Dolphins from enjoying the dolphin-human interaction which
which they have enjoyed for more than 12 years. The State should learn from the demise of the Spinner Dolphin population at La Perouse Bay on Maui, that making any changes can be extremely destructive and can permanently wipe out the healthy dolphin population that currently comes to play, mate and rest in Kealakekua Bay. From my observations of the Spinner Dolphins over the last 12 years time, and what occurred in La Perouse Bay as a result of intervention by the State, the proposed Dolphin Rest Zone in the Kealakekua Bay Master Plan Proposal will deter the spinner dolphins from
coming to the Bay and will dramatically reduce the spinner dolphin population in this area. Instead of making any regulations and imposing any restrictions on swimming with Spinner Dolphins, I sincerely recommend that an education program is commenced with the participation of the many locals in the Captain Cook area who would volunteer to educate the tourists and other visitors to Kealakekua Bay. There should no areas of the Bay
that are restricted or barred off with buoys or flags. Instead education should be promoted.

Should the State of Hawaii or the Federal Government impose fines and make it a crime for tourists and or locals swimming in Kealakekua Bay with the Spinner Dolphins, such action by the State, in addition to dramatically reducing the Spinner Dolphin population, would dramatically reduce the number of tourists that visit Kealakekua Bay and the Big Island of Hawaii. Any tourists from foreign countries who get criminally charged or become felons

from swimming with Spinner Dolphins under laws proposed by the State and or Federal Government, would be permanently barred from ever returning to the United States as they would be not allowed into the US with a record of any criminal charges. Therefore implementing a Dolphin Rest Zone which makes tourists and locals subject to criminal prosecution does not serve the dolphins or the tourists or the State of Hawaii. It would be like permanently closing down Kealakekua Bay to tourists and locals. The word would circulate internationally that if tourists swims with dolphins in Kealakekua Bay Hawaii they will become criminals and that will deter any foreign tourists from coming to Hawaii. Instead the tourists will choose other locations to travel to in which they can enjoy interactions with dolphins without being treated as criminals. Without tourism, the Big Island of Hawaii would experience massive financial loss and Kealakekua Bay,would become like La Perouse Bay a Bay where dolphins have become almost extinct.

From my observations of the dolphins for the last twelve years, I urge you to please refrain from making any Dolphin Rest Zone in Kealakekua Bay and
keep the status quo unchanged as I truely believe that the change you are proposing would be detrimental to the dolphin population and
cause permanent destructive impacts which will not be able to be remedied later on.

Education rather than regulation should be the theme that would be the best for the dolphins and the humans at Kealakekua Bay.

BELT COLLINS

December 3, 2019
19P-070

Mr. Saxon Parks
saxonparks88@yahoo.com

Dear Mr. Parks,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 23, 2018.

You express opposition to the use of buoys to demarcate a dolphin rest zone. You suggest that a time-of-day closure instead be implemented. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

You suggest that local volunteers be asked to provide education to visitors to the Park. Such collaboration could be fruitful, so long as the educational program does not run counter to federal law.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Tel: 808.521.5361 | Fax: 808.538.7819 | www.bchdesign.com | honolulu@bchdesign.com
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Joanne Hiramatsu

From: Anne Provax <anneprovax@gmail.com>
Sent: Monday, April 23, 2018 10:44 AM
To: John Kirkpatrick; Martha Yent
Cc: Anne Provax
Subject: Kealakekua Bay Master Plan Proposal

Aloha Martha and John,
I am a local resident, I work and pay taxes, and I swim for recreation every morning from Napo'opo'o Beach with my husband....rain or shine, dolphins or no dolphins...just for the gentle exercise and the joy it brings us to start each day by swimming together in Kealakekua Bay. Only the highest waves keep us onshore for a few days each year. I dearly value Kealakekua Bay and the marine life there as precious resources to protect and to enjoy with great respect.

Mahalo for your time and efforts to develop this proposal. There are many ideas that I agree with. I'm going to comment on what I disagree with and offer alternative ideas and solutions.

DOLPHIN REST ZONE
I am NOT in support of the proposed Dolphin Rest Zone.
I believe that education can eliminate the need for this Zone.

I am one of approximately 70-100 people who are volunteer educators with *Hawaii Dolphin Initiative*, a local organization committed to "Building community by understanding local cultures and respecting Hawaiian dolphins." HDI members are informally educating swimmers in three local bays, including Kealakekua Bay, about how to swim with respect when near Hawaiian spinner dolphins. Swimmers are taught how to identify dolphin resting behaviors and how to respectfully observe resting dolphins without disturbing them. HDI is planning to expand our educational outreach to include kayak vendors, using our printed guidelines of respectful dolphin swim etiquette, which are also found on the HDI website (hawaiidolphinitiative.org).

I suggest that anyone requesting a kayak permit, and also kayak rental customers, be required to read the Dolphin Swim Guidelines and also sign a statement that they will follow these guidelines before they set out into the Bay. This educational procedure will help to reduce or eliminate the currently reported problem that there are some kayakers who are aggressively chasing dolphins.

If after having enough time for coordinated educational efforts, the State decides a zone is still necessary to protect resting dolphins, then *the only reasonable rest zone is where the dolphins actually do their deepest and longest resting behaviors at midday.* This is the area offshore of Ka'awaloa and the Captain Cook monument. Dolphins have been observed in deep resting behaviors within 300 feet offshore in this area. The currently proposed zone is 1300 feet offshore, leaving the dolphins unprotected in an area which is congested with kayakers and tour boats at midday when the dolphins need their deepest rest. The power boats have been a safety hazard to swimmers as well as the dolphins, and I'd like to see a no-powerboat zone that extends more than the proposed 100 feet offshore.

I believe that the most effective dolphin rest zone would start as close to Ka'awaloa as reasonably possible (perhaps 300-500 feet offshore), and continue into the currently proposed rest zone for another 1000 feet or so, for a total dolphin rest area which is 1500-2000 feet long, remaining at 750 feet wide. This is more than adequate as a rest zone to protect the mean number of 41 dolphins who are observed in the Bay 52% of the time. (From Proposal Section 3, Page 3-15, 2010-11 data).

With regards to human-dolphin interaction: *A careful analysis of the existing research shows no conclusive negative impacts on dolphins when humans are swimming nearby.* Swimming does not fall under the definition of harassment, as there is no clear evidence that it harms the dolphins behavioral patterns.

Most of the research studies quoted by NOAA to justify their proposed regulation have serious scientific flaws, including researcher bias and poor data collection/interpretation. I know this from firsthand experience as a volunteer collecting data for one of the studies. We were counting resting dolphin numbers at Ka'awaloa from standing at Napo'opo'o Wharf, 1 mile away! One time we saw NO dolphins for 90 minutes and charted that, then as we were preparing to leave, suddenly a large number of dolphins started jumping. The dolphin pod had been there resting the entire time and we didn't see them until they woke up. I shared this undercounting flaw with the researcher, along with ideas to improve accuracy, but he rudely informed me that he did not care about gathering accurate data. He had never observed dolphin behavior underwater, yet he was convinced that human presence was harmful to dolphins and he was determined for his study to "prove" his belief!

The science simply does not justify closing off almost half of Kealakekua Bay to all recreational swimming access!

Also, the southern half of the proposed rest zone would have an unacceptably large negative impact, since it begins only 300 feet offshore and directly in front of Napo'opo'o Beach, where many local swimmers enter the water for their short and/or long-distance recreational swims.

Regarding people in the community who have expressed concerns about human-dolphin interaction, Hawaii Dolphin Initiative has been listening to their concerns, and sharing what we are doing to alleviate specific concerns through educational outreach. We've also had very helpful and productive discussions with DLNR. Our motto at HDI is: "Bringing Harmony to Communities in a Sustainable Way" and we have made considerable progress since HDI began in September 2016. ***Education is the best solution!***

WHARF

I wholeheartedly support the proposed idea to have the Wharf available for anyone launching a kayak. I also think that **ALL legitimately permitted local kayak vendors should be required to launch at the Wharf** rather than continue to launch at County/private launch site on Kahauloa Road. This would preserve the residential area of Napo'opo'o Village and alleviate the current parking problems and road congestion in the Village. By allowing the kayak vendors to share in a rental concession, the local vendors will be able to continue to financially support their families through their kayak rental businesses.

PARKING

The proposed parking lot will be an improvement, although I think that 60-75 or more parking spaces are needed to accommodate the number of swimmers, kayakers, people using SUPs and visitors.
In the interim before this new parking lot is built, there is a simple solution to alleviate the current parking shortage at Napo'opo'o Beach: **Open up the wharf parking lot for the customers of the three kayak tour companies *immediately*.** Kayak tour customers will be able to park near their launch site, while swimmers and visitors will have more space to park at Napo'opo'o Beach.

I also think it's a good idea for the State to take over the responsibility from the County for the makai side of Beach Road now, rather than wait. **The parking lot needs to be striped now**, so that the maximum number of cars will be accommodated. I'm tired of visitors parking in crazy wasteful ways that use up too much valuable space! They just don't know any better and they need the direction of delineated parking spaces.

Also, the French drain that the County put in on the makai side years ago does not work. Anytime it rains, there is a stinky pond that quickly becomes a health hazard. Since it is directly in front of Hikiau Heiau, it is also a terrible sign of disrespect to the Heiau. This situation needs to be remedied as soon as possible.

TRAFFIC THROUGH VILLAGE

The Proposal suggests to make Pu'uhonua Road through the Village closed to thru traffic. *A better solution is to help fund the County to expand and improve the two block section of the road through the residential area of the Village.*
If all visitors driving to Pu'uhonua O Honaunau are required to take an alternate route, then the environmental impact of that alternate route would need to be assessed. Returning to Mamalahoa Highway is a longer route, so most visitors would probably choose Middle Ke'ei Road to Painted Church Road to Keala O Keawe Road. Middle Ke'ei and Painted Church are narrow and windy roads that serve a residential neighborhood of small farms. Even though the speed limit is 20MPH, visitors have been in head-on car collisions due to not knowing how to share these roads with pedestrians and bicyclists safely. I think it will have a lot less negative impact to improve the two block section of Pu'uhonua Road, rather than trying to improve approximately 3 miles of Middle Ke'ei and Painted Church Roads.

Mahalo for reading my comments!
Aloha, Anne

BELT COLLINS

December 3, 2019
19P-070

Ms. Anne Provax
anneprovax@gmail.com

Dear Ms. Provax,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 23, 2018.

You express opposition to the demarcation of a dolphin rest zone. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

The Division of State Parks (DSP) can and does demand that permittees follow laws and keep safe in the water. You suggest that DSP demand that kayakers read the Dolphin Swim Guidelines of the Hawai'i Dolphin Initiative. Unless it is clear that those guidelines conform to federal law, DSP cannot adopt them.

You note that available research on dolphin behavior is limited, and you report unscientific attitudes by at least one researcher. The statements of local observers such as yourself that dolphins' movements are more complex than suggested in the EIS deserve attention before any area limitation is imposed.

Next, you want the wharf at Nāpō'opo'o Landing open to all. The proposed action calls for opening the Landing for supervised launching, and opens up space at the Landing to drop off and pick up vessels. This approach is intended to provide the access that you and many local stakeholders want, while encouraging safe use of this facility and avoiding illegal commercial activities. DSP cannot regulate behavior on private land or in waters outside the Park, so it cannot demand that all commercial kayaks be launched from the Landing.

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.bchdesign.com | honolulu@bchdesign.com
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DSP aims to reduce the number of parked cars near Hikiau Heiau, so its first priority will be to open the new parking lot. Your suggestions concerning striping, the County's drain, and parking at the Landing will be considered by DSP.

DSP does not propose road closures. The roads in Nāpō'opo'o are County roads, not State ones. Reduced use of the short stretch of road from the T-intersection to the pavilion is proposed, subject to agreement by the County and adjoining residents. Signage at the Park to encourage visitors to take routes other than Pu'uhonua Road is also proposed. You emphasize that visitor use of other roadways could affect residents. Your point is well taken. The suggestion for signage was to direct visitors away from Nāpō'opo'o Village, the transfer station, and the very narrow road to Pu'uhonua o Hōnaunau. If the alternative roads you mention are as unsafe as the Pu'uhonua Road, it might be appropriate to urge all visitors to drive back up Nāpō'opo'o Road to the highway.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,
Belt Collins Hawaii LLC



Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Joanne Hiramatsu

From: Alyson Provax <provax@gmail.com>
Sent: Friday, April 20, 2018 6:56 AM
To: John Kirkpatrick; martha.e.yent@hawaii.gov
Subject: Proposed Dolphin Rest Zone the Kealakekua Bay - Comment

Good morning Mr. Kirkpatrick and Ms. Yent,

Thank you for taking the time to review comments regarding the proposed dolphin rest zone in Kealakekua Bay. I strongly believe in respecting the needs of dolphins, however I believe that the current proposed rest zone fails to take into account the way that dolphins use the Kealakekua Bay. I live on the mainland, but I know many people who live on Big Island and I've visited consistently for over ten years, every time swimming in Kealakekua Bay in the early morning. When I swim, I don't wear fins, making me slow in the water. Despite this, I've had many encounters with wild dolphins in Kealakekua Bay. In the early morning, in the region covered by the proposed dolphin rest zone, I have quietly and slowly swam and been approached by playful dolphins, winding down their nocturnal day. I have noticed that usually at some point the pod will all swim farther out into the bay toward the Monument (where I've seen sleeping dolphins later in the day, while I was on a kayak). Kealakekua Bay is a special place, and the dolphins who live there deserve respect and study, however, I don't believe that the proposed rest zone accomplishes this goal. I believe that a rest zone closer to the Monument, or imposed only mid-day, would be a better protection for the dolphins.

Thanks for your time in reviewing this.

Best,
Alyson Provax
provax@gmail.com

BELT COLLINS

December 3, 2019
19P-070

Ms. Alyson Provax
provax@gmail.com

Dear Ms. Provax,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 20, 2018.

You express opposition to the demarcation of a dolphin rest zone. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the Marine Mammal Protection Act, is proposing revisions of its rules, but no local closures. NOAA appears to oppose any dolphin-related area restriction in the Park and therefore, the Division of State Parks (DSP) is reconsidering its proposal for a dolphin rest zone demarcated by buoys. While DSP can manage the Park and close off areas as necessary for public safety, NOAA reserves the right to create rules for protection of species under the Marine Mammal Protection Act. Until NOAA and the State resolve the legal uncertainties created by these overlapping responsibilities, DSP will need to rely on enforcement by the Division of Conservation and Resources Enforcement (DOCARE), community observation, and education, rather than a zone marked by buoys, to minimize interference with the spinner dolphins.

You note that available research on dolphin behavior is limited. The statements of local observers such as yourself that dolphins' movements are more complex than suggested in the EIS deserve attention before any area limitation is imposed.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: John Provax <john.provax@gmail.com>
Sent: Thursday, April 19, 2018 3:32 PM
To: John Kirkpatrick; martha.e.yent@hawaii.gov
Subject: Napo'opo'o Beach Park

There are at least three areas of your proposal that I strongly disagree with.

The dolphin rest zone should not be instituted. It is based on "scientific" studies that were very poorly done. This proposal is also based on belief and conjecture and then constructed to uphold those beliefs. If you persist in implementing this mistake, the current proposed zone is unacceptable. Closing basically the entire bay that swimmers use, starting 300 feet or so from the beach is much too close. Plus it extends across the entire entrance to the bay from the rocky beach. Add to that that it ends 1300 feet from Ka'awaloa & the Captain Cook monument beach. The dolphins tend to be awake from the time they enter the bay till 9 am or 10am. Then they tend to head deeper into the bay to rest. The tour boats come into an area near the monument at 10 am that is not protected. The tour companies have a financial interest in maintaining their business and are not above lying to protect it. If your goal is to give the dolphins an area to rest that area should include the area they rest in. So, maybe 300 or 500 feet from Ka'awaloa & the monument. On the other end of the bay it should begin at the very least 2500 feet from the rocky beach. It is also makes no sense for it to not extend to the pali. It's west/north boundary could be the pali and then extend maybe 500 feet into the bay. Again, I see absolutely no need for this rest area. But if you are determined to do it, at least put it in an area that makes sense.

The **wharf area** needs to be open to all and not just a few selected companies. Launching of kayaks and parking should be open to all. If kayak companies need parking they should have to find it just like the rest of us. Do they even pay for this coveted privilege? Parking in the Napo'opo'o beach area is sometimes next to impossible and there is a locked and barely used state parking lot right near there at the wharf. Though there is a planned parking lot mauka, when will that be built?

Closing Napo'opo'o village to through traffic gives a great benefit to those who live there. But the price for this is that traffic will increase for those on Napo'opo'o Road, Middle Keei Road, Painted Church Road and Keala O Keawe Road. This is a ridiculous trade off. Many more people will be negatively impacted by this. Just leave it be.

I am a local resident who swims at Napo'opo'o Beach every day.

Thank you for your consideration.

John Provax

BELT COLLINS

December 3, 2019
19P-070

Mr. John Provax
john.provax@gmail.com

Dear Mr. Provax,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 19, 2018.

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Next, you want the wharf at Nāpōʻopoʻo Landing open to all. The proposed action calls for opening the landing for supervised launching, and opens up space at the landing to drop off and pick up vessels. This approach is intended to provide the access that you and many local stakeholders want, while encouraging safe use of this facility and avoiding illegal commercial activities.

The Division of State Parks does not propose road closures. The roads in Nāpōʻopoʻo are County roads, not State ones. Reduced use of the short stretch of road from the T-intersection to the pavilion is proposed, subject to agreement by the County and adjoining residents. Signage at the Park to encourage visitors to take routes other than Puʻuhonua Road is also proposed. You emphasize that visitor use of other roadways could affect residents. Your point is well taken. The suggestion for signage was to direct visitors away from Nāpōʻopoʻo Village, the transfer station, and the very narrow road to Puʻuhonua o Hōnaunau.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,
Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Aloha. My name is Cherish Ravenscraft. I reside in the area of Onouli-Uka, but my spiritual practice encompasses much of the area of Kapalilua, or South Kona.

I was raised Mormon, but because I was never baptized by the Church, I'm not allowed in the Mormon Temples. These most sacred of places are not open to outsiders, they are reserved for those who practice the religion, a place where Mormons can worship in peace alongside other Mormons. A house to hold and amplify the intentions, and mana of their religion.

My story is not an unfamiliar one, and is not limited to the religion I was raised with or the place I was raised. This upbringing gave me a sense of respect for the temples not only of my family's religion, but of the other religions of the world. Temples are not a place to be opened to the public; they are not museums, they are not a 'tourist destination'. Yet, this EIS seems to believe that the Hawaiian practitioners, who practice at Hikiau Heiau at Kealakekua Bay, either no longer practice there, or that these practitioners welcome any and all into their sacred temple.

The traditions and practices of Native Hawaiians that are still practiced today do not appear to be taken into consideration in this EIS. The EIS claims it is "better protecting the marine life and the historic resources in the Park", yet many traditional practices of Kapukapu are not considered in this plan, such as the Hale Poki, the funerary customs, which includes the care of bones that become exposed in the area today. Practitioners of such rites and customs would be forced to perform sacred rituals in front of and unknown number of people who do not share in these traditions, and likely do not respect them. The current draft EIS looks to make a path around Hikiau heiau, which highlights the lack of knowledge into the amount and depth of cultural and religious practice that takes place there today.

Managing a life in the modern world while maintaining connections to the traditions and customs of one's ancestors is a difficult balance, yet the wisdom keepers do so, striving every single day for that balance between past and present, self and ancestor, land and sea. These wisdom keepers, practitioners and descendants of the Kapukapu area, breathe life and love into the area through their work, both internal and external. The practices, the traditions, the ceremonies are what give that wahi, or place, a pulse. These traditions are a source of connection, maoli pride, and community that should be regarded with the utmost respect in their importance, especially to this highly significant Historical site.

At Puuhonua o Honaunau, a site where we balance past and present, Hale o Keawe is a well-known and recognizable tourist destination, where many flock to see the "tikis". With little regard to the religious, cultural, and historical significance to the site, people often climb onto walls and into Hale o Keawe, trample and vandalize (i.e. stone stacking, moving stones to create art) sacred sites, and molest the ki'I (tikis) that hold incredible significance for today's practitioners. Puuhonua o Honaunau has staffed rangers to protect this area, but both day and night it is vandalized by those who do not understand or respect the area. With so much risk to a sacred site with staff paid to care for it, I am very concerned for the publicity this proposed development would bring to Kealakekua Bay, and to Hikiau Heiau. I do not feel that protection of the sacred sites at Kapukapu, nor the sacred rituals and customs that occur in this area have been highly prioritized. I would recommend that a Cultural Advisory Group be put immediately into place.

The current draft EIS overlooks much of the traditional practices in the area it claims to protect. With such a heavy emphasis on tourism and improving visitor experience, the EIS does not appear to plan to provide for the Cultural Practitioners at Hikiau Heiau, and I have to wonder how this proposed "recreation area" will be limited only to the designated area. How can we maintain Hikiau Heiau and the spiritual and cultural ceremonies that take place there despite opening up the area for anyone to walk through?

I urge you to place a stronger emphasis on the cultural practice at Hikiau Heiau. We know it has an ancient and rich history and deserves our protection, as do the practitioners there.

BELT COLLINS

December 3, 2019
19P-070

Ms. Cherish Ravenscraft
houseravenscraft@gmail.com

Dear Ms. Ravenscraft,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your spoken comments of April 14, 2014 and your letter of April 23, 2018.

You find that the Cultural Impact Assessment and the draft EIS fail to describe important cultural practices. The key problem is that the Cultural Impact Assessment was substantially completed in 2010 and failed to recognize the cultural practices occurring since this time and the Native Hawaiian ceremonies being conducted at the sites in KBSHP. Your testimony and that of others at the April 14 meeting correct this omission. The Final EIS will include additional text recognizing Hawaiian practitioners and ongoing cultural practices.

We are also aware of an interest in creating a Cultural Advisory Committee for KBSHP. The Department of Land and Natural Resources' 'Ahā Moku Advisory Committee (AMAC) assisted the Division f State Parks (DSP) in identifying appropriate members and the Cultural Advisory 'Ohana is assisting DSP with a culturally appropriate approach to the planning for KBSHP. Its role will be stated clearly in the Final EIS.

The input from the Cultural Advisory 'Ohana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional rights, and the history and resources of Kealakekua Bay are preserved and protected.

You are concerned that tourists could fail to respect Hikiau Heiau and cultural practitioners. DSP will consult with the Cultural Advisory 'Ohana before developing any new trails and will raise the question of appropriate protocol to avoid impacts of other visitors on cultural practices.

Thank you for your commitment to Kealakekua Bay State Historical Park. You will be notified when the Final EIS is published.

Very truly yours,
Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Kealakekua Bay State Historical Park: Master Plan & EIS
Comment Sheet

We would like to hear from the community. Please use the space provided below to share your comments on the Kealakekua Bay Master Plan and Draft EIS. We would like to make sure we understand what you see as the major concerns, priorities, and opportunities for the State Historical Park as we go forward with this project. Mahalo!

As a resident of this area, I appreciate living among local neighbors and rentals that house Tourists - sometimes from around the world.
However, over the past two years, I've noticed an increase of cars, especially on the narrow one lane part of Puuhonua, since many of us residents work and leave for work when many Tourists want to be down to the Kealakekua Bay or Manini Beach To "swim with dolphins" as early as possible. Traffic and parking - even in residents' driveways - has become a major problem in these neighborhoods.
Because many local residents depend on Tourism, it is important to make the changes needed a "win/win" situation - good for the residents who want less Traffic in their neighborhoods; good for the Tourists who want to enjoy a week or so of Hawaiian paradise with minimum hassle re: parking.

Name: Catherine Sagum E-mail: cfsagum1@gmail.com Phone: 707 483-4161

Any further comments? Please e-mail us at jkirkpatrick@bchdesign or send them by mail to John Kirkpatrick at Belt Collins Hawaii LLC, 2153 N. King Street, Suite 200, Honolulu, HI 96819. Please get your comments in before April 23, 2018. Thanks!

BELT COLLINS

December 3, 2019
19P-070

Ms. Catherine Sagan
Cfsagan1@gmail.com

Dear Ms. Sagan,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your written comments from the meeting on April 14, 2018.

The Division of State Parks (DSP) recognizes that visitors' parking along the roads in Nāpōʻopoʻo is a major problem for residents. For that reason, the draft EIS and Master Plan propose a new parking lot, and directing visitors to the new lot rather than the spaces near the Bay and Hikiau Heiau. This new facility and the opening of the Landing for supervised launch activities should go far to alleviate this problem.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joanne Hiramatsu

From: Cherokee Shaner <maluhiafarm@gmail.com>
Sent: Friday, April 20, 2018 9:04 AM
To: John Kirkpatrick; anneprovax@gmail.com
Subject: dolpin rest area

Please give us who have swum in the bay - me for over 30 years- a chance to turn the tide in favor of the dolphins by educating people and being our own neighboorhood watch ... and my question to you is ,,, how do you enforce the law in terms of it's application to the Bay ... you are understaffed now .... Thank you for taking time to read and consider this alternative.
Cherokee Shaner, Honaunau

BELT COLLINS

December 3, 2019
19P-070

Ms. Cherokee Shaner
maluhiafarm@gmail.com

Dear Ms. Shaner,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your e-mailed comment dated April 20, 2018.

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You suggest that community volunteers be asked to provide education to visitors to the Park. Collaboration with the Hawai'i Dolphin Initiative or other community groups could be fruitful, so long as the educational program does not run counter to federal law.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Kealakekua Bay State Historical Park: Master Plan & EIS
Comment Sheet

We would like to hear from the community. Please use the space provided below to share your comments on the Kealakekua Bay Master Plan and Draft EIS. We would like to make sure we understand what you see as the major concerns, priorities, and opportunities for the State Historical Park as we go forward with this project. Mahalo!

I am supportive of the plan. The current situation at the Heiau is disrespectful of the cultural importance of the site. Removing parking at the Heiau to the Gaspar hill site will improve the experience of the Heiau and the waterfront.
The state should be ashamed of the lack of support for budget assistance.
Access to Ka'awaloa via the old cart road or other options would make access via trail more accessible to people with limited mobility to tackle the steep trail.
The landing proposal is a good one & should be implemented to more equitably provide access.
Get the toilet at Ka'awaloa ASAP – the current situation is disgraceful.

Name: LLOYD WALKER E-mail: LLOYD.WALKER@COLOSTATE.EDU Phone: 970-218-4275

Any further comments? Please e-mail us at jkirkpatrick@bchdesign or send them by mail to John Kirkpatrick at Belt Collins Hawaii LLC, 2153 N. King Street, Suite 200, Honolulu, HI 96819. Please get your comments in before April 23, 2018. Thanks!

December 3, 2019
19P-070

Mr. Lloyd Walker
Lloyd.walker@colostate.edu

Dear Mr. Walker.

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your written comments from the meeting on April 14, 2018.

Your support for the new parking lot and reduced dependence on the parking spaces near Hikiau Heiau is appreciated. Changes to the road and parking near the heiau can only occur with the agreement of the County, which owns the roadway, and residents.

Access to Ka'awaloa via the Old Cart Road would, as you suggest, improve access to that area. However, such access would need to be supported by parking on County or private land near the new Bypass road, outside the area controlled by the Division of State Parks (DSP).

DSP can only put in a toilet at Ka'awaloa when a site has been shown not to affect historic resources, and provision has been made for removal of wastes. It may be necessary to remove wastes by helicopter, in order to follow State Department of Health regulations.

Thank you for your commitment to Kealakekua Bay State Historical Park. We will notify you when the Final EIS is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.bchdesign.com | honolulu@bchdesign.com
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RECEIVED
2018 APR 23 PM 1:06
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DAVID Y. IGE
GOVERNOR

RODERICK K. BECKER
Comptroller

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1110.8

APR 19 2018

Mr. John Kirkpatrick, Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Kirkpatrick:

Subject: Draft Environmental Assessment
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawaii

Thank you for the opportunity to provide comments on the subject project. The project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, your staff may call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

KEITH S. KOGACHI
Acting Public Works Administrator

DD:mo
c: Mr. Cory Kaizuka, DAGS Hawaii

BELT COLLINS

December 3, 2019
19P-070

Mr. Keith S. Kogachi
Acting Public Works Administrator
State of Hawai'i Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

Dear Mr. Kogachi:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments you provided in your letter of April 19, 2018.

You note that the KBSHP project does not affect projects or facilities of your Department.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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DAVID Y. IGE
GOVERNOR
STATE OF HAWAII

DOUGLAS S. CHIN
LT. GOVERNOR
STATE OF HAWAII

JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

WILLIAM J. AILA, JR.
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

March 15, 2018

John Kirkpatrick, Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

Dear Mr. Kirkpatrick:

Subject: Environmental Impact Statement (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawaii

The Department of Hawaiian Home Lands acknowledges receiving the request for comments on the above-cited project. After reviewing the materials submitted, due to its lack of proximity to Hawaiian Home Lands, we do not anticipate any impacts to our lands or beneficiaries from the project.

However, we highly encourage all agencies to consult with Hawaiian Homestead community associations and other (N)native Hawaiian organizations when preparing environmental assessments to better assess potential impacts to cultural and natural resources, access, and other rights of Native Hawaiians.

Mahalo for the opportunity to provide comments. If you have any questions, please call Rae Ann Hyatt, at 620-9480 or contact via email at raeann.p.hyatt@hawaii.gov.

Sincerely,

M. Kaleo Manuel
Acting Planning Program Manager

RECEIVED
2018 MAR 21 PM 1:22
BELT COLLINS HAWAII

BELT COLLINS

December 3, 2019
19P-070

Mr. William Aila
Department of Hawaiian Homelands
State of Hawai'i
P.O. Box 1879
Honolulu, HI 96805

Dear Mr. Aila:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your letter of March 15, 2018

As you note, no Hawaiian Home Lands are located near KBSHP, so no impact on your Department's lands and beneficiaries appears likely.

In planning for KBSHP, the Division of State Parks (DSP) has been concerned to respect both Hawaii's history and the surrounding community, where many residents are native Hawaiians of families that have long been in the area. Engagement with that community has consistently been part of the planning process. In response to comments from members of the Hawaiian community in Nāpō'opo'o, DSP created the Kealakekua Cultural Advisory 'Ohana and is already working with this 'Ohana on park projects and addressing cultural concerns. Its role will be stated clearly in the Final EIS.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:
EPO 18-063

March 21, 2018

Mr. John Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819
Email: honolulu@bchdesign.com

Dear Mr. Kirkpatrick:

SUBJECT: Draft Environmental Impact Statement (DEIS) for Kealakekua Bay State Historic Park Master Plan Improvements
TMK: 3-8-1-7:50; 3-8-1-10:1; 3-8-1-11:1; 3-8-1-11:3; 3-8-1-11:4; 3-8-1-11:5; 3-8-1-11:6; 3-8-1-11:7; 3-8-1-11-8; 3-8-1-11:9; 3-8-1-11:10; 3-8-1-11:12, 3-8-1-11:13; 3-8-1-11:14; 3-8-1-11-16; 3-8-2-4-1; 3--8-2-4-2; 3-8-2-4:8; 3-8-2-4:9; 3-8-2-4:10; 3-8-2-4:15

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your DEIS to our office on March 19, 2018

We understand from the project summary that your proposed action is, *"Development or replacement of facilities needed to support preservation and interpretation of the Park's resources, while encouraging safe, sustainable recreational use and visitation of Kealakekua Bay State Historical Park notably:*

Kealakekua Bay: *Restoration of navigational aids to demarcate the boundaries of the State Historic Park/Marine Life Conservation District; restoration of navigational aids identifying rockfall danger zones; use of buoys to demarcate a swimmers-only area offshore from the Cook Monument; use of buoys to demarcate a zone dedicated to spinner dolphins.*

Ka'awaloa: *Installation of a waterless toilet; restoration of the cultural landscape; construction of an interpretive shelter and trails in areas where archaeological surveys have been completed; and demarcation of a helicopter landing zone for emergency use and maintenance.*

Nāpō'opo'o: *Restoration of the pier at the Landing; development of a new parking area, interpretive center with restrooms, and trails; restoration of the cultural landscape with a low rock wall between Nāpō'opo'o Beach and the cultural/archaeological sites; restriction of the use of the Beach Road between Nāpō'opo'o Landing and Hikiau Heiau to pedestrians and local vehicles."*

Hawaii's environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of 'impacts,' §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

We advocate that you consider health from a broad perspective; one that accounts for the social, economic, and environmental determinants of health and wellbeing. Community well-being can be impacted by access to physical

activity, health care, feelings of social connectedness and safety. Design solutions that take these factors into consideration positively contribute to the social determinants of health in a community, improving the well-being of those who live there by influencing health promoting behaviors. Social determinants contribute to preventable chronic diseases such as asthma, diabetes, obesity, and cardiovascular disease.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: http://health.hawaii.gov/epo/landuse. Projects are required to adhere to all applicable standard comments.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: https://eha-cloud.doh.hawaii.gov. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

We suggest you review the requirements of the Clean Water Branch (Hawaii Administrative Rules {HAR}, Chapter 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: http://health.hawaii.gov/cwb. If you have any questions, please contact the Clean Water Branch (CWB), Engineering Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

Injection wells used for the subsurface disposal of wastewater, sewage effluent, or surface runoff are subject to environmental regulation and permitting (HAR, Chapter 11-23, "Underground Injection Control {UIC}"). DOH approval must be obtained before any injection well construction commences. A UIC permit must be issued before any injection well operation occurs. For specific questions please email sdwb@doh.hawaii.gov or call (808) 586-4258.

Please note that all wastewater plans must conform to applicable provisions (HAR, Chapter 11-62, "Wastewater Systems"). We reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please review online guidance at: http://health.hawaii.gov/wastewater and contact the Planning and Design Section of the Wastewater Branch (WWB) at (808) 586-4294.

If temporary fugitive dust emissions could be emitted when the project site is prepared for construction and/or when construction activities occur, we recommend you review the need and/or requirements for a Clean Air Branch (CAB) permit (HAR, Chapter 11-60.1 "Air Pollution Control"). Effective air pollution control measures need to be provided to prevent or minimize any fugitive dust emissions caused by construction work from affecting the surrounding areas. This includes the off-site roadways used to enter/exit the project. The control measures could include, but are not limited to, the use of water wagons, sprinkler systems, and dust fences. For questions contact the Clean Air Branch via e-mail at: Cab.General@doh.hawaii.gov or call (808) 586-4200.

Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control"). The open burning of any of these wastes, on or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf Additional information is accessible at: http://health.hawaii.gov/shwb. For specific questions call (808) 586-4226.

If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at: http://health.hawaii.gov/irhb/noise EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.

The Hawaii Disability and Communication Access Board (DCAB) recommends the inclusion of access for persons with disabilities through all phases of design and construction. New construction and alteration work shall comply with all applicable accessibility requirements. Projects covered by §103-50, Hawaii Revised Statutes, and HAR Title 11 Chapter 216 shall seek advice and recommendations from DCAB on any construction plans prior to commencing with construction. If you have any questions please contact DCAB at (808) 586-8121 or dcab@doh.hawaii.gov.

Hawaii's climate is changing. Sea level rise and the associated coastal impacts have the potential to harm an array of natural and built environments in Hawaii. For additional information on projected sea level rise in Hawaii, EPO recommends that you visit the State of Hawaii Climate Adaptation Portal: http://climateadaptation.hawaii.gov

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: http://www.epa.gov/ejscreen.

We hope this information is helpful. If you have any questions please contact us at DOH.epo@doh.hawaii.gov or call us at (808) 586-4337. Thank you for the opportunity to comment.

Mahalo nui loa,

Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office

LM:nn

c: DDEH, DHOH, EMD, CWB, CAB, SDWB, WWB, SHWB, IRHB, PHP, DCAB {via email only}

Attachment: U.S. EPA EJSCREEN Report for Project Area

Attachment: U.S. EPA EJSCREEN Report for Project Area

EPA United States Environmental Protection Agency

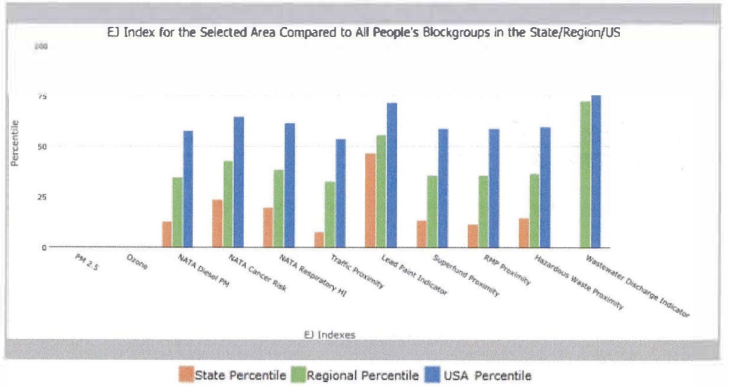
EJSCREEN Report (Version 2017)

1 mile Ring Centered at 19.474247,-155.919297, HAWAII, EPA Region 9

Approximate Population: 672

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	13	35	58
EJ Index for NATA* Air Toxics Cancer Risk	24	43	65
EJ Index for NATA* Respiratory Hazard Index	20	39	62
EJ Index for Traffic Proximity and Volume	8	33	54
EJ Index for Lead Paint Indicator	47	56	72
EJ Index for Superfund Proximity	14	36	59
EJ Index for RMP Proximity	12	36	59
EJ Index for Hazardous Waste Proximity	15	37	60
EJ Index for Wastewater Discharge Indicator	N/A	73	76



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

March 20, 2018 1/3

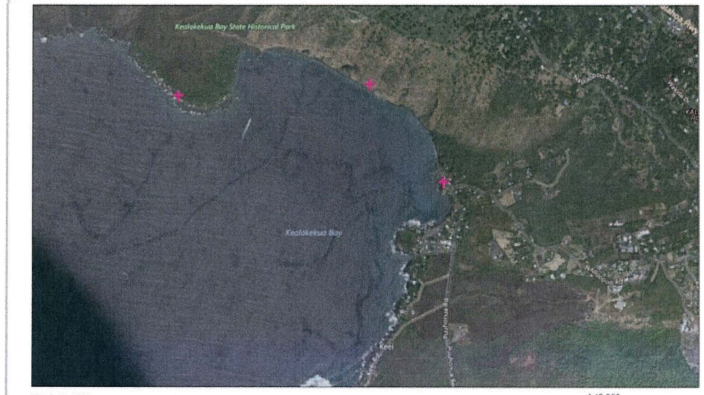
EPA United States Environmental Protection Agency

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 19.474247,-155.919297, HAWAII, EPA Region 9

Approximate Population: 672

Input Area (sq. miles): 3.14



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EPA United States Environmental Protection Agency

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 19.474247,-155.919297, HAWAII, EPA Region 9

Approximate Population: 672

Input Area (sq. miles): 3.14

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m³)	N/A	N/A	N/A	9.9	N/A	9.14	N/A
Ozone (ppb)	N/A	N/A	N/A	41.8	N/A	38.4	N/A
NATA* Diesel PM (µg/m³)	0.0058	0.149	1	0.978	<50th	0.938	<50th
NATA* Cancer Risk (lifetime risk per million)	24	34	1	43	<50th	40	<50th
NATA* Respiratory Hazard Index	0.47	1	1	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	42	1000	36	1100	27	590	37
Lead Paint Indicator (% Pre-1960 Housing)	0.12	0.16	53	0.24	48	0.29	40
Superfund Proximity (site count/km distance)	0.0032	0.1	7	0.15	0	0.13	0
RMP Proximity (facility count/km distance)	0.018	0.39	0	0.98	0	0.73	0
Hazardous Waste Proximity (facility count/km distance)	0.0033	0.1	7	0.12	0	0.093	0
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0	0.04	N/A	13	59	30	40
Demographic Indicators							
Demographic Index	41%	51%	18	47%	42	36%	64
Minority Population	59%	77%	17	59%	49	38%	73
Low Income Population	22%	26%	47	36%	33	34%	34
Linguistically Isolated Population	1%	6%	29	9%	23	5%	50
Population With Less Than High School Education	8%	9%	57	17%	35	13%	41
Population Under 5 years of age	8%	6%	72	7%	66	6%	69
Population over 64 years of age	15%	16%	48	13%	69	14%	61

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

BELT COLLINS

December 3, 2019
19P-070

State of Hawai'i Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

To whom it may concern:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments you provided in your letter of March 21, 2018.

In the course of planning for KBSHP, the Division of State Parks (DSP) has reached out to the Department of Health and its divisions to identify permitting requirements. The draft EIS lists permits that are expected to be needed for the project. DSP will require that any contractor follow best management practices to minimize or avoid impacts on the environment, including impacts on the nearby Nāpō'opo'o community.

The EJSCREEN tool incorporated in your letter is innovative. Environmental justice has been considered in the planning policies of DSP; a new tool to assess environmental justice is welcome.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.bchdesign.com | honolulu@bchdesign.com
Belt Collins Hawaii is an Equal Opportunity Employer

April 22, 2018

Mr. John Kirkpatrick

c/o Belt Collins Hawai'i LLC

2153 N. King Street, Suite 200

Honolulu HI 96819

Re: Kealakekua Bay State Historical Park Master Plan and Draft EIS

Aloha Mr. Kirkpatrick,

I am writing with regard to the community meeting Belt Collins conducted on Saturday, April 14, 2018 at the Konawaena Elementary School cafeteria to present the Kealakekua Bay State Historical Park Master Plan and Draft Environmental Impact Statement.

Please note that, despite the fact that I'd signed up at the prior meeting held at Konawaena Elementary School cafeteria and contacted you on-line previously, I was notified of the most recent meeting only days before, as were most people in attendance, via social media and the "coconut wireless". Belt Collins professes the importance of Kealakekua Bay and its environs, yet was not able to given sufficient notice for people to make plans to attend. I had to race from a charity walk in Hilo (over two hours away) and many others could not attend because of an important public meeting in Ka'u which had given six weeks notice. Legislation to increase the public comment period for DEIS is sorely needed.

It was shocking the remarkable knowledge and information presented in public testimony was not recorded by Belt Collins, but was instead transcribed by a person with little or no knowledge of Native Hawaiian culture. Thankfully, much of the meeting was recorded by a local news organization and is available to Belt Collins so others in the firm may judge for themselves whether the work performed to date meets the legal and contractual obligations to the State of Hawai'i and its citizens.
http://www.bigislandvideonews.com/2018/04/15/video-kealakekua-bay-meeting-on-master-plan-eis/

Despite the lack of public notice, over 800 pages of the documents, no sound system, a failed attempt to project images on a concrete block wall, and ill-fitting maps taped to cafeteria tables, members of the public were able to point out numerous material and substantial errors and omissions related to constitutionally-protected cultural and environmental resources and Native Hawaiian traditional and customary practices.

Given the number of projects with which Belt Collins has been involved in the Kealakekua Bay area, the highly-litigious Hokuli'a project being one, Belt Collins has a substantial professional institutional memory and knowledge of the potential harm this work product could cause to these resources and practices. My opinion is the current DEIS does not represent an exercise of reasonable care.

Please note that the core concept of negligence is that people should exercise reasonable care in their actions, by taking account of the potential harm that they might foreseeably cause to other people or property.

The Kealakekua Bay Historic District is on the National Register of Historic Places, its religious importance being one of the criteria. The ancient ala loa trail and is its essential connection to Makahiki and Kapukapu (the ancient name of Kealakekua Bay) is omitted from the DEIS. Further, there are discussions and comments in the DEIS about getting permissions from private landowners and blocking or closing of publicly-owned trails. It is unacceptable that a professional EIS consulting firm seems to willfully ignore existing law regarding publicly-owned trails. https://dlnr.hawaii.gov/recreation/files/2013/09/Highways-Act-Summary.pdf

Kealakeua Bay is also a marine conservation area, yet the Department of Land and Natural Resources "hierarchy of priorities" is ignored in the work product. https://nmshawaiihumpbackwhale.blob.core.windows.net/hawaiihumpbackwhale-prod/media/archive/management/pdfs/aquaculturelemmo.pdf

My kumu kupuna lomilomi, Margaret Kalehuamakanoelu'ulu'uonapali Machado, grew up, lived, taught, and practiced here. Her grandfather was the last kahu of the Hiki'au heiau and he blessed her and passed his gifts onto her before he passed. My kumu kupuna ho'oponopono, Moana Kapule Kahele, published "Clouds of Memories" so her knowledge and the stories and history of this place would be preserved forever. One of my kumu kupuna 'olelo, William Panui, grew up here and told of the shark god who still lives in this place and the visits by ali'i to this place throughout history, whose visits are reflected in place names. This place is sacred to me. And so it is with so many others in our community and around the world.

Kealakekua Bay should not be primarily a tourist destination. Indeed, it has been a life-cycle destination for many other forms of life for far longer than tourists and a complex web of life of we are just a small part. The 'aina of Kealakekua Bay is immense. It is from the mountain-top into the ocean ranging as far as the flying fish. Our community co-exists in a symbiotic relationship. The health of one is essential to the health of the other. Hawaiian traditional and customary practices developed over centuries and generations reflect this knowledge. Some of us have been blessed to have been taught some of this knowledge, the true knowledge essential to "sustainability" here in this place, tried-and-true sustainability, not some commercial version. Hawaiian traditional and customary practices live this truth and we must begin learning it, planning for it, living it, and teaching it as well.

The DEIS work product should be withdrawn by Belt Collins and the firm should "go back to the drawing board". If the same cookie-cutter approach that Belt Collins and the EIS consulting industry as a whole have come to use, then no plan or EIS will actually enable the preservation and protection of cultural and environmental resources and Hawaiian traditional and customary practices in a manner that strengthens and enhances our community and its socio-economic environment.

Belt Collins should create a "master plan" that creates investment in ancient knowledge and wisdom from which a healthy ecosystem and economy can be realized. Otherwise, the contract with our aupuni (government) and its po'e (people) should be terminated now before any more of our treasury is wasted.

Mahalo,

Charles Flaherty

P O Box 922

Captain Cook HI 96704

oneheart@aloha.net

(808)345-2453

cc: Aaron Akau, Cheryl Palesh, and Michael Terry

BELT COLLINS

December 3, 2019
19P-070

Mr. Charles Flaherty
P.O. Box 922
Captain Cook, HI 96704

Dear Mr. Flaherty,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawai'i Revised Statutes, Chapter 343, public and agency review process. I am writing in response to the comments you provided in your letter of April 22, 2018.

Your letter largely consists of claims about Belt Collins Hawaii LLC (BCH) and its staff. At the end you deal with substantive matters affecting the Master Plan and EIS. I will respond to these separately.

First, although you may have attended the January 2016 community meeting, your name does not appear on the sign-in sheets for that meeting. Nor do we find any e-mails addressed to Dr. Kirkpatrick in his Outlook and archive folders. Your name is now in our contact list for the Kealakekua Bay State Historical Park project.

The community meeting on April 14, 2018 was advertised via announcements to all persons on the contact list, an advertisement in West Hawai'i Today, and an announcement on the DLNR website. That notification exceeds the level indicated in State law and the guidelines of the Office of Environmental Quality Control.

You assert that the notes taken at the meeting here by a person "with little or no knowledge of Native Hawaiian culture." That is not true. The notes were taken by a skilled planner with prior experience in dealing with complex cultural issues, notably in the course of her work with a major archaeological firm in Honolulu. The notes will be included in the Final EIS, and meet the legal and contractual obligations of the Division of State Parks (DSP) and BCH.

You fault our attempt to hold a low-key meeting in which many different people would be able to present information and concerns in several ways. You write that "members of the public were able to point out numerous material and substantial errors and omissions" with the clear implication that BCH failed thereby. In fact, you are documenting a *successful* moment in the EIS process. The meeting gave members of the community opportunities to challenge or correct the draft EIS. The Final EIS will include those corrections as appropriate.

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The problem of access to public trails is contentious. Your point is correct, that the 1892 Highways Act and subsequent legislation make "Old Government Roads" public trails or roadways. However, that fact does not provide DSP with rights to trails on nearby properties, much less the resources to assess and maintain those trails.

DSP seeks to protect the historic and cultural resources at KBSHP, and to provide interpretive materials and venues to share knowledge of those resources. The increased staffing proposed in the Master Plan will help to achieve these objectives.

In planning for KBSHP, DSP has been concerned to respect both Hawai'i's history and the surrounding community. Engagement with that community has consistently been part of the planning process. In response to comments and concerns expressed by the Hawaiian community, DSP has convened a cultural advisory 'ohana for the Park. DSP's commitment to a culturally appropriate approach in planning for KBSHP will be stated clearly in the Final EIS.

Thank you for your comments. A CD of the Final EIS will be sent to you when it becomes available.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Harry Kim
Mayor

Wil Okabe
Managing Director

Allan G. Simeon, P.E.
Director

Merrick H. Nishimoto
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630
public_works@hawaiicounty.gov

April 23, 2018

John Kirkpatrick
Belt Collins Hawaii
2153 North King Street, Suite 200
Honolulu, HI 96819-4554
Email: jkirkpatrick@bchdesign.com

Subject: Draft Environmental Impact Statement
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

We have reviewed the Draft Environmental Impact Statement (DEIS) and our comments are as follows:

1. Any pedestrian walkways installed within the County Right-of-Way or proposed restriping of Nāpō'opo'o Road should be installed as part of this project, meeting the approval of the County of Hawaii, Department of Public Works (DPW). All work within the County Right- of-Way shall conform to Chapter 22 – County Streets – of the Hawaii County Code. Be advised, there may not be adequate Right-of-Way to install a pedestrian walkway within the existing Nāpō'opo'o Road Right-of-Way. See attached map titled Napoopoo Government Remnants.

2. Work to improve and widen the shoulder along Nāpō'opo'o Road or to improve an off-street parking area in and around the area of the Ka'awaloa Trail need to be looked at as part of this project as outlined in section 7.2 of the Draft Transportation Impact Analysis Report (Appendix E). Parking is and will be an increasing concern along Nāpō'opo'o Road by the trail, especially with the expected uptick in demand due to enhancements of the Ka'awaloa area.

3. Beach Road, also known as Puuhonua Road, is a County owned and maintained road. Gating and/or restricting access to the Beach Road is not permissible per Chapter 22 of the Hawaii County Code, specifically sections 22-2.1 – Encroachments – and 22-2.4 – Impeding and obstructing the public; endangering persons and property.

4. The posted speed limit for the Mamalahoa Bypass Road (described in the DEIS as Ali'i Highway) varies between 35 and 45 miles per hour and should be updated in the DEIS.

5. Special Flood Hazard Areas VE, AE, and AEF affects the parcels identified in the DEIS as designated by the Flood Insurance Rate Map (FIRM). Improvements in a floodplain will be subject to the requirements of Chapter 27 – Floodplain Management – of the Hawaii County Code.

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6. All earthwork and grading shall conform to Chapter 10 – Erosion and Sedimentation Control – of the Hawaii County Code.

Should there be any questions concerning this matter, please feel free to contact Natalie Whitworth of our Kona Engineering Division office at 323-4853.

Sincerely,

Allan G. Simeon, P.E.
Director
NW

Enclosure

Copy: ENG-HILO/KONA

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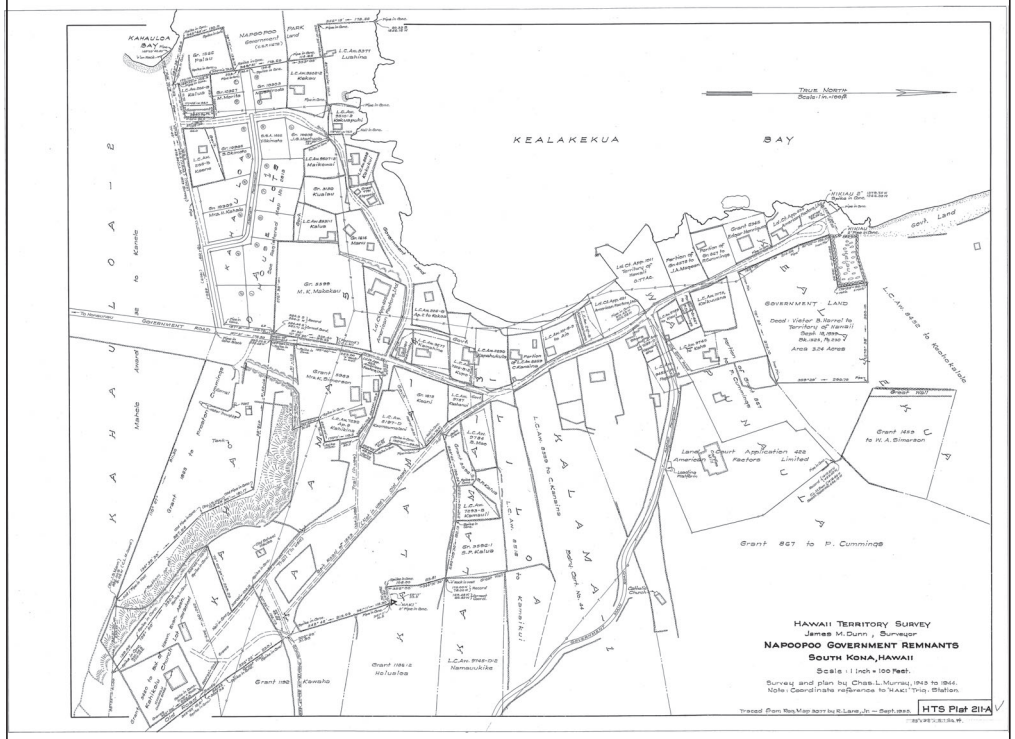

BELT COLLINS

December 3, 2019
19P-070

Mr. Alan G. Simeon, P.E., Director
Department of Public Works
County of Hawai'i
101 Pauahi Street, Suite 7
Hilo, HI 96720

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your letter of April 23, 2018. This response follows the ordering of topics in your letter.

1. Any proposal for a pedestrian marking or other changes to Nāpō'opo'o Road or to the Pu'uhonua Beach Road would of course be subject to review and approval by the County of Hawai'i. The EIS is intended to state clearly that some improvements could address current and anticipated problems, but that all changes in the County roadway would be determined by the County, not the State of Hawai'i.
2. The current and likely future congestion at the Ka'awaloa Road trailhead is a concern for residents, the County and the Division of State Parks (DSP). DSP appreciates the County's posting of an advisory sign at the trailhead. None of the land at or near the trailhead is State property, and DSP looks to the County to propose a solution for the problems of congestion and safety along Nāpō'opo'o Road near the trailhead.
3. Beach Road is a County roadway. The suggestion that it be gated will be withdrawn in light of Hawai'i County Code sections 22-1 and 2, in line with your letter.
4. The Final EIS will identify the Māmalahoa Bypass Road by that name and will correct the statement about its posted speed limit.
5. The requirements of Hawai'i County Code Chapter 27 (Floodplain Management) will be followed in the design of proposed improvements in the Park.
6. All earthwork and grading for improvements to the Park will be done in conformity with Hawai'i County Code Chapter 10.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

April 25, 2018

RECEIVED
2018 APR 26 PM 12:53
BELT COLLINS HAWAII

Mr. John T. Kirkpatrick
Belt Collins Hawai'i LLC
2153 North King Street, Suite 200
Honolulu, HI 96819

Dear Mr. Kirkpatrick:

Subject: Draft Environmental Impact Statement
Project – Kealakekua Bay State Historical Park Master Plan
Tax Map Key (3) 8-1-007:050; 8-1-010:001; 8-1-011:001, 003 to 014, 016; 8-2-004:001, 002, 008 to 010, 015

We have reviewed the subject Draft Environmental Impact Statement and have the following comments.

Please note that the Department of Water Supply acknowledges that potable water is Hawai'i Island's most precious resource and encourages our communities to promote water conservation and reserve the highest quality of water for the most valuable end use, which is the sustenance of life.

The Department requests that the applicant address the demand for landscape irrigation by using drought-tolerant, native, or appropriate landscape. The Department recommends that the applicant supply landscape irrigation water by alternate methods (i.e. rainwater catchment, reclaimed or reuse water). The County of Hawai'i, Department of Public Works, and/or State of Hawai'i, Department of Health has guidelines, recommendations, or regulations regarding these types of systems.

Please be informed that the sizing of the fire-domestic water meter may not coincide with the water demand and can be determined during the design phase for the proposed Nāpō'opo'o Interpretive Center.

Should there be any questions, please contact Mr. Ryan Quitoriano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

Keith K. Okamoto, P.E.
Manager-Chief Engineer

RQ:dfg

copy – State of Hawai'i, Division of State Parks, Department of Land and Natural Resources

. . . Water, Our Most Precious Resource . . . Ka Wai A Kāne . . .

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BELT COLLINS

December 3, 2019
19P-070

Mr. Keith K. Okamoto, Manager-Chief Engineer
Department of Water Supply
County of Hawai'i
345 Kekuanaoa Street, Suite 20
Hilo, HI 96720

Dear Mr. Okamoto,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your letter of April 25, 2018.

Water conservation measure such as drought-tolerant, native, or appropriate landscaping will be used to minimize the need for irrigation. The interpretive center will not require water service.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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RECEIVED
2018 MAY -7 PM 12:50
BELT COLLINS HAWAII

County of Hawai'i
PLANNING DEPARTMENT

East Hawai'i Office
101 Pauahi Street, Suite 3
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Phone (808) 961-8288
Fax (808) 961-8742

May 1, 2018

Mr. John T. Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street
Suite 200
Honolulu, HI 96819-4554

SUBJECT: Draft Environmental Impact Statement
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawaii County, Hawaii
TMK: (3) 8-1-007: 050; 8-1-010: 001; 8-1-011: 001, 003 to 014, 016;
8-2-004: 001, 001, 002, 008 to 010, 015

This letter is in response to your request for comments on your Kealakekua Bay State Historical Park Master Plan Improvements Draft Environmental Impact Statement in South Kona, Hawaii County, Hawaii. Thank you for your email of April 23, 2018, allowing additional time to comment.

The Kealakekua Bay State Historical Park involves the following:

- Approximately 222 acres of fast land and Kealakekua Bay, a marine area of approximately 315 acres for a total of approximately 537 acres.
- State Land Use: Conservation (approximately 218 acres of land) and Urban (approximately 4 acres of land).
- Hawaii County Zoning District: Open (approximately 218 acres) and Single-Family Residential (approximately 4 acres).
- The park lands are also within the Special Management Area (SMA)

The section on regulatory permits should note that in the SMA review, a certification of shoreline will be required and depending upon the location of any improvements, a shoreline setback variance may be required.

Several issues are identified, but appear to be unresolved with no alternative mitigation or measures noted. The parking problem along Napo'opo'o Road is a major traffic and safety problem for not only the park visitors, but also for the residents that live within the valley above

Kealakekua Bay and no alternative mitigation measures for the traffic and safety problems are noted.

The October 2, 2017 response letter to this department's comments to the EISPN and the Draft EIS still do not address adequately the following:

3.7 Other Potential Issues:

Section 3.7.1 Upper Napo'opo'o Road Parking

Parking: The existing dangers of undesignated parking along Napo'opo'o Road are not described in the Draft EIS and should be analyzed and alternative mitigation measures for adequate safe parking at the park should be described, as pointed out in this department's May 23, 2017 comments to the EISPN.

Section 3.13.2.2 Potential Impacts and Mitigation Measures

Restroom facilities: Currently, no restroom facilities exist for this park. The Draft EIS should analyze and describe possible mitigation measures such as alternative toilet facility sites located closer to the park facilities as pointed out in this department's May 23, 2017 comments to the EISPN.

Ka'awaloa Section

The Draft EIS, in reference to the Master Plan for the Ka'awaloa Section does not and needs to address safe parking for the Bay and describe alternative mitigation to provide for safe parking other than parking along the shoulder of Napo'opo'o Road as was noted in this department's May 23, 2017 comments to the EISPN.

The Draft EIS needs to address Water quality of the Bay and the lack of sanitation at the Waterfront Park and needs to provide alternative mitigation to prevent polluting the Bay.

The Draft EIS does not and needs to analyze safety of the trail from Napoopoo Road to the Bay and identify alternative mitigation measures that will improve safety for the pedestrians as was noted in this department's May 23, 2017 comments to the EISPN.

Napo'opo'o Section

The Draft EIS does not and needs to address the long distance from proposed parking to the Bay, for pedestrians and disabled park users, and the impacts of closing Beach Road to the general

public for vehicular access to the Bay, and provide possible mitigation measures such as an alternative parking lot location closer to the Bay, as was noted in this department's May 23, 2017 comments to the EISPN.

If any questions, please call Planner Terry Dunlap at 808-323-4774.

Sincerely,

Michael Yee
Planning Director

TKD/tkd: \\coh141v\planning\Staff\Terry\AAA-REVIEWS\EIS Kealakekua Bay\EIS Kealakekua Bay response to Draft Environmental Impact Statement, February 2018.doc

BELT COLLINS

December 3, 2019
19P-070

Mr. Michael Yee, Director
Planning Department
County of Hawai'i
101 Pauahi Street, Suite 3
Hilo, HI 96720

Dear Mr. Yee,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your letter of May 1, 2018. This response follows the ordering of topics in your letter.

Regulatory Permits: The Final EIS will note that, in the Special Management Area review, a certification of shoreline may be required. The only construction activity proposed in the immediate shoreline area is repair of the existing wharf at Nāpōʻopoʻo Landing. Since this work is the repair of an existing structure, the Division of State Parks (DSP) expects that a shoreline setback variance will not be required. However, DSP will review all plans for construction and landscaping with the Planning Department in the design phase to gain the Department's concurrence on this matter.

Parking on Upper Nāpōʻopoʻo Road: DSP seeks to work with the County and landowners to address this issue, but DSP does not have jurisdiction over the County roadway or private lands. The Kaʻawaloa section of the Park is, at its mauka edge, approximately 1.0 mile from the trailhead on Nāpōʻopoʻo Road.

Two alternative mitigative strategies have been considered. First, the concept of a parking area on private land has been suggested, but issues of cost and DSP's support for additional actions on private land have not been clarified. Please keep in mind that the Master Plan responds in part to Court filings that opposed taking of private lands for State Park use. Second, DSP could post signs closing its section of the Kaʻawaloa Trail until the parking issue is resolved, and could ask the County to revise its sign on the trail, to indicate that the DSP portion of the trail is closed. This action might not deter hikers or significantly reduce the problem of parking near the trailhead.

Earlier Correspondence: The draft EIS has discussed issues raised on the May 23, 2017 sent by your Department (if perhaps not to the satisfaction of the Department), including:

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- Parking at the trailhead (as discussed above), which was identified as an unresolved issue. Restroom facilities are discussed in the draft EIS.
- A site for a waterless toilet has been provisionally identified on the basis of earlier archaeological studies. A site closer to the shoreline might be convenient for kayakers, but would be located on or close to historical resources which need to be protected. Provision for toilet facilities and for removal of human wastes must respect the historic resources and the requirements of the State Department of Health, as noted in the EIS.
- Water quality in the Bay was addressed in the draft EIS. The Final EIS will add information about the State Department of Health's recent finding based on sampling at the Nāpōʻopoʻo side of the Park.
- Measures to prevent or reduce pollution in the Bay include maintenance and cleaning activities by DSP staff and volunteers, installation of a waterless toilet at Kaʻawaloa, as described in the EIS, and the adherence of boaters to a KBSHP rules and to a proposed Drift Plan that would reduce motor use.
- The EIS did not discuss safety on the Kaʻawaloa Trail. It is a hike of moderate difficulty, not because of safely issues so much as heat and possible dehydration of hikers as they return up the hill, if they have not followed the advice posted by the County at the trailhead. While this issue can be discussed at more length in the final EIS, the fact remains that the trailhead and the first mile of this trail are not under DSP's control.
- At Nāpōʻopoʻo, a new parking lot will include spaces for the disabled, and a new path will be designed in accordance with ADA regulations. Those who cannot navigate that trail can drive on the Beach Road to the existing parking area, and see the Bay from that site. (DSP will direct most visitors away from the Beach Road. It recognizes that, as a County roadway, Beach Road cannot be gated.)

A common thread in many of the issues raised and the responses above is that KBSHP is interdependent with both the surrounding community and the County of Hawaiʻi. The County has taken steps to improve circulation by posting No Parking signs on narrow roads of Nāpōʻopoʻo Village, and by posting a warning sign at the Kaʻawaloa trailhead. DSP has explored problems of access with members of the community and with County staff. DSP seeks to continue discussions with the County as design of improvements proceeds.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JHE:hp

Jesse Kekoa Kahoʻonei
74-207 Ililoa Street • Kailua-Kona, HI 96740
Jkkahoonei@gmail.com • 808-346-8901

ʻO Muku i kēia pō mahina, a ʻo Welo i ka malama
The moon is Muku, and Welo is the month
ʻApelila 14, 2018

DLNR – Division of State Parks (DSP)
Belt Collins Hawaiʻi

Re: Public Comment on the Draft EIS for Kealakekua Bay State Historical Park

Aloha mai kākou,

As a lineal descendant from the chiefs and commoners from Kealakekua to Hōnaunau under family names such as Kapahukula, Keliʻikuewa, and Maʻele to name a few, I must say that I am continually drawn to the many wahi pana of these places. I am drawn to them for the sake of protection, preservation and most importantly continuation of the ʻike of my kūpuna both near and far. This ʻike is not just knowledge of information, but knowledge represented through practice and intent. ʻIke demonstrated perhaps as a rock wall, a fishpond, or a heiau. Also, the ʻike to utilize these things with the intent of our kūpuna when they brought them into fruition. Though I have spent the first part of my life separated from the ways and teachings of my kūpuna, within the past decade I have firmly reestablished myself to these aforementioned ways and teachings. I plan to continue the preservation and protection of these ways as well as continue the growth of our culture. Our culture here in Hawaiʻi is a living and thriving one and should not be viewed as a relic of the past for the sole sake of observation and admiration. Additionally, we should all be making collective strides to encourage the growth of this culture while still staying true to its nature.

I continue the growth of these ways by engaging in ʻulana (weaving), kālai(carving), mahiʻai(farming), and training in priestly duties, as well as in many other aspects of the traditional life here in the islands of Hawaiʻi. Most recently, for the past three years I have been heavily involved in the revitalization of traditional ceremonies from Hikiau to Hōnaunau. I have been fortunate enough to learn these ceremonies under the guidance of ʻike kūpuna as well as from generational resident Shane ʻAkoni Palacat-Nelsen. I believe that it is important to mention that although much of my ceremonial guidance has been under ʻAkoni, that the opinions in this testimony are my own and the relationship I feel to Kealakekua is a very personal one. As a child, my ʻohana, who resides in Hōnaunau to this day, and I would frequently visit Nāpoʻopoʻo to swim and to pass time. During that time, the sacredness and importance of the bay and the surrounding area as well as Hikiau,

were made aware to us. I was educated on the shark 'aumākua(ancestral dieties) who visited the bay as well as the sacred kapu (taboo) ceremonies that took place at Hikiau. Since that time I have always respected the sacredness of this site and have felt it an obligation to continue its mo'ōlelo(oral traditions) to ensure the mana of Kealakekua is maintained.

After reviewing the EIS, I do have a few humble but vital suggestions and comments to ensure that whatever process and future steps are taken, are done so properly and with the history, culture and community's interests as its priority. These suggestions and comments are in response to the recommendations provided at the end of the CIA as well as a few additional thoughts.

1. There is an immediate necessity to establish and maintain a Cultural Advisory Group before any final draft of the EIS/CIA is completed. This Cultural Advisory group should be separate from the "Friends of KBSHP" and will provide knowledge and insight about Traditional and Customary practices at Kealakekua and the surrounding area.
2. The Cultural Advisory Group shall be tasked but not limited to the development of a Cultural Plan that would include interpretation, function, and continued practices, and subject to the HRS Chapter 91 public consultation meetings.
3. This current EIS lacks sufficient research and determination for the general public to even begin to comment, and even states so while mentioning the need for more archaeological and traffic studies. This must be properly completed to guarantee that the State DLNR is moving forward with good faith and due diligence.
4. Work within the project site has already begun before any decision has been finalized. There has been little if any communication with those practitioners who celebrate this wahi pana, and more communication as well as recognition of these practitioners need to be addressed to prevent any offense or disrespect to those who continue the Traditional and Customary rights at Kealakekua.
5. The Makahiki ritual practices, documented in writings from famous historians such as John Papa 'Ī'Ī and David Malo, have been firmly reestablished at Kealakekua since 2011. The CIA and EIS fails to recognize the impacts of modern eco/recreation community on the cultural practices that are ongoing and taking place at the Bay. These drafts only focus on accommodating recreational uses and how archaeology will be supported, without any consultation from those practitioners.
6. Lastly, regarding Native Hawaiian Traditional and Customary practices for subsistence and religious purposes. The EIS describes the project as "Largely Undeveloped" and fortunately enough aligns with the Hawaii Supreme Courts ruling regarding the exercise of Traditional and Customary rights on developed and undeveloped lands. I cannot stress enough the importance of addressing the current cultural privileges appropriately and once again staying within good faith, because the expectations of the practitioners currently involved at Kealakekua are indeed very high and will continue to be so as time progresses.

In summary, the Draft EIS/CIA is still very much incomplete and more work needs to be done to address Native Hawaiian Traditional and Customary rights and practices. The use of the word recreational activity can be interpreted differently between modern western culture and traditional Hawaiian culture. Every aspect of Hawaiian life is upheld with sacredness, even activities that may be considered today by western culture as recreational. Fishing, surfing, preparing barkcloth, and weaving as well as many other activities, all involve a sense of sacredness connecting back to the ancestral 'ike and observations of our kūpuna. To me, when I hear the words recreational these are the activities I envision, not with tourism as our first objective or solely the preservation of our cultural practices, but creating a space for the continuation of these practices.

December 3, 2019
19P-070

Mr. Jesse Kekoa Kaho'onei
74-207 Ililoa Street
Kailua-Kona, HI 96740

Dear Mr. Kaho'onei,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments in your presentation and letter of April 14, 2018.

You request that a Cultural Advisory Committee be formed for KBSHP. You state that such a group should begin work on a Cultural Plan before the EIS is approved by the Board of Land and Natural Resources. You further request that more oral histories be collected and current cultural practitioners be part of the discussion.

In planning for KBSHP, the Division of State Parks (DSP) has been concerned to respect both Hawaii's history and the surrounding community, where many residents are native Hawaiians of families that have long been in the area. Engagement with that community has consistently been part of the planning process. In response to comments and cultural concerns expressed during the preparation of the Draft EIS, DSP convened a Cultural Advisory 'Ohana to assist with a culturally appropriate approach in planning for KBSHP. Its role will be stated clearly in the Final EIS.

The input from the Cultural Advisory 'Ohana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional rights, and the history and resources of Kealakekua Bay are preserved and protected. Rather than developing a separate Cultural Plan, DSP and the Cultural Advisory 'Ohana are collaborating the protection of cultural resources and traditions, the development of a culturally appropriate interpretive program, and park management strategies.

You note that the Cultural Impact Assessment (CIA) and draft EIS do not recognize the re-establishment of makahiki practices since 2011. The final EIS will address that omission. The following will be added to section 3.7.1;

> *Hikiau Heiau and its environs continue to be a focus of cultural activities. Since 2011, cultural practitioners have convened at and near Hikiau Heiau for ceremonies related to the makahiki. They have also conducted astronomical observations, drawing on traditional knowledge.*

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Additional interviews have been conducted with current cultural practitioners and will be included in the Master Plan as an important input guiding DSP in managing the Park.

You mention that recreation can include much more than the pastimes of visitors and can be respect for the land and traditional cultural practices. The emphasis on restoration of the cultural landscape in the Master Plan is intended to help in the interpretation and perpetuation of Kealakekua Bay as a storied place. DSP intends, with the cooperation of the Cultural Advisory 'Ohana and other stakeholders, to protect, preserve and interpret the historical resources of KBSHP for many years to come.

Thank you for your commitment to Kealakekua Bay State Historical Park. A CD of the Final EIS will be sent to you when it is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Crystal Kia-Paul
PO Box 51192
Denton, Texas 76206
crystalkpaul@yahoo.com 808-640-4409

April 14, 2018

DLNR - Division of State Parks
Belt Collins Hawaii

Re: Public Comment on the Draft EIS for Kealakekua Bay State Historical Park

Aloha,

Thank you for being here today and allowing me to submit my testimony. I am one of many descendants of Nae`ole, my name is Crystal Keahipio`oleokalani Kia Paul. Our `ohana is very connected to Kealakekua Bay. It is important that you folks listen to all of our words today. We are here to improve on the area.

In 2010, Mark D. Needham, Ph.D. with the Department of Forest Ecosystems and Society at Oregon State University and Brian W. Szuster, Ph.D., with the Department of Geography at University of Hawai'i at Mānoa conducted a study for and in cooperation with the Hawai'i Division of Aquatic Resources, Department of Land and Natural Resources titled ***Community Perceptions of Activities, Impacts, and Management at Kealakekua Bay, Hawai'i.***

Due to the time constraints, I have submitted some of the Positive and Negative Comments from this report. The negative comments outweighed the positive which is a good place to start for what is needed at Kealakekua Bay.

Positive Comments - The following are positive comments from residents transcribed verbatim and listed in no particular order:

- A lot of friend's respect and take care of the bay.
- Bay is beautiful.
- I was raised fishing, surfing, and loving this bay.
- Bay is so important to my life and value the spiritual connection along with cultural history.
- Beautiful area and should be kept that way.
- I like swimming and snorkeling there and get there on my motorboat.
- I took my children fishing in the bay 50 years ago and have not been to the area often since.
- It is awesome here.
- Kealakekua Bay is a great place for my grandkids to learn about the coral reef and the fish and other species that live there.
- Thank you for your efforts to protect the bay for all and future generations.

Negative Comments and Suggestions - The following are negative comments and suggestions /recommendations from residents transcribed verbatim and listed in no particular order:

- Twenty years of studies, but now we need leadership.
- Make kayak rentals safe and up to standard or do not allow them at all.
- A few hundred people off Captain Zodiac and Fair Winds and the bums running the Napoopoo parking are the main problems.
- A management plan is good and probably necessary.
- The area needs enlightened active stewardship very quickly.
- Visitors do not respect rights and property of residents; keep our village quiet and peaceful.
- Always respect my ancestor's land at Napo'opo'o; my ancestors and ohana's is buried there.
- Avoid commercializing; keep scenic values, protect dolphins, fish, and coral reefs.
- Decrease regulations on swimming and dolphins, but there should be no boat chasing.
- Government involvement means politics and the loudest mouth gets what it wants - politics.
- Limit commercial activity and expand public non-commercial use.
- Having a lifeguard on duty would be extremely important.
- Hawaii DLNR is grossly understaffed and cannot be expected to manage the entire island.
- I am angry that public input at meetings is ignored unless it agrees with what the government wants to do.
- I am very sad how overly used Kealakekua Bay is by ignorant selfish people; broken hearted.
- Take care of the tourists because that is Hawaii's main economy.
- Buoys to tie up to would be nice as there is no anchoring allowed.
- I strongly believe that only residents of Napoopoo should provide input on this survey.
- I strongly oppose having these areas denied to everyone except natives.
- I support a complete ban of commercial activities in the bay; commercial activities have stolen the bay from residents and are destroying the bay and its cultural resources at an alarming rate.
- If the bay is compromised by too many problems, DLNR should take any measures to address the source of the problems even close the area until rectified; we must protect his area and it cannot recover from permanent damage.
- Immediately perform analytical water quality survey to check for pollutants, sewage, hydrocarbons, chemicals at various depths. Include analysis in an EIS as a primary indicator to the extent that damage and threat exists.
- It appears the state does not care about the residents who live right at the bay.
- Support Hawaiian fishing and activity rights.
- It was a beautiful place when I was young, but it can never be returned to the way it was.

It's obvious for those that took the time to complete the survey with their additional remarks truly care about Kealakekua and how it's being preserved, cared for and shared with others. My primary concern is that Native Hawaiian and cultural gathering rights are protected. Our ancestors knew the land and ocean did not truly belong to us. We are just the caretakers. There has been precedent with Hawaiian Kingdom laws, State of Hawai`i laws and Federal United States laws on how environmental impact statements and cultural impact assessments are to be conducted to ensure the viability of the `āina, kai and the cultural rights of Hawaiians.

The information is vital for the health and wellbeing of all the inhabitants of Kealakekua Bay, as well as all the users of the area. The EIS and CIA give us a baseline of what resources we have and what we need to improve on. I ask that you do your due diligence by crossing every "T" and dotting every "I" to ensure the health and longevity of Kealakekua Bay for all generations, the ones using the area now and those yet to come.

Please extend the commenting period to include discussions from the various user groups, as well as the scientific community. Form these groups as soon as possible to get things moving in the best direction for all users. Here is a short list of user groups.

- Cultural Practitioners
- Recreation/Visitor Industry
- Village Lifestyle
- Scientific (Marine, Flora/Fauna).

I further ask that you consider restricted Dolphin Tour activity immediately. There have been numerous studies of the harm humans cause Dolphins. In the western Mediterranean, they have seen a decline in the bottlenose dolphin numbers by 30% in the Marine Protected Areas[1]. Here in Hawai`i, we have too many people wanting to "swim" with the dolphins and do not realize the laws protecting them. The Marine Mammal Act specifically makes it illegal to harass or disturb any marine mammal[2]. According to the Dolphins for Kids[3] website they list how humans harm dolphins. They are tuna fishing, pollution, boat traffic, noise, hunting, tourism and dolphins, and climate change. This is their explanation under tourism and dolphins:

- Many humans want to get close to dolphins. Dolphin-watching boats need to be careful not to approach dolphins too closely. Intrusive tourist boats can disrupt dolphins and other marine mammals and scatter groups which may be especially harmful to females with young calves.
- If dolphins are fed by humans, they can become dependent on handouts rather than hunting for themselves. Dolphins that approach boats for food are often more vulnerable to injury from engine propellers, fishing gear and so on.

[1] "Human impact on Bottlenose dolphins in MPAs". TheBlueReporters, 09 December 2015. www.thebluereporters.com/2015/12/02/human-impact-on-bottlenose-dolphins-in-mpas
[2] Hawai`i Wildlife Fund www.wildhawaii.org/marinelife/dolphins.html
[3] Dolphins for Kids www.dolphins-for-kids.com/how-do-humans-harm-dolphins

- If you want to get close to dolphins, always make sure that you do so with a responsible operator.

Finally a study entitled The short-term impact of dolphin-watching on the behavior of bottlenose dolphins (Tursiops truncatus) in western Australia has shown the negative impact of human interaction and alters their behavior[4]. The researchers compared the dolphin behavior patterns in the presence of the tour boat and without. The analysis of their observation shows that "the presence of the Tour Boat can influence the duration and frequency of behavioral states and also the structure of the population. The time spent resting and feeding decreased, whereas travelling increased. The frequency of all the behavioral states increased, in particular travelling, resting and feeding . The group structure was also influenced, as dolphins tend to spread in more groups of fewer animals in the presence of the Tour Boat."

As you can see humans can be our own worst enemy, however, with conscientious concern for all individuals sharing the bay we can create a plan that is sustainable.

Sincerely,
Crystal Kia-Paul

[4] The short-term impact of dolphin-watching on the behaviour of bottlenose dolphins (Tursiops truncatus) in western Australia has shown the negative impact of human interaction and alters their behaviorhttp://www.oers.ca/journal/Volume%202/200921arcangeli.pdf

BELT COLLINS

December 3, 2019
19P-070

Ms. Crystal Kia-Paul
P.O. Box 51192
Denton , TX 76206

Dear Ms. Kia-Paul,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments in your letter of April 14, 2014.

First, thank you for citing the results of the Needham and Szuster (2010) survey. It has been considered in developing the Master Plan and the proposed action discussed in the EIS.

You are concerned that Native Hawaiian and cultural gathering rights are protected at KBSHP. The Division of State Parks (DSP) shares your concern and has sought to respect both Hawaii's history and the surrounding community, where many residents are native Hawaiians of families that have long been in the area. Engagement with that community has consistently been part of the planning process. In response to comments and cultural concerns expressed during the preparation of the Draft EIS, DSP convened a Cultural Advisory 'Ohana to assist with a culturally appropriate approach in planning for KBSHP. Its role will be stated clearly in the Final EIS.

The input from the Cultural Advisory 'Ohana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional rights, and the history and resources of Kealakekua Bay are preserved and protected. That flow of information should help in celebrating and documenting traditional rights and practices.

As noted in the EIS, human involvement with marine mammals is limited by the Marine Mammal Protection Act (MMPA) and by the appropriate actions of some, but not all, boat operators. The proposed action included restrictions on human access to the area where *nai'a* spinner dolphins are known to rest. The National Oceanic and Atmospheric Administration (NOAA), the federal agency responsible for enforcement of the MMPA, is proposing revisions of its rules, but no local closures. NOAA opposes any dolphin-related area restriction in the Park and therefore, DSP is not currently considering marking the dolphin rest area, and will rely on a combination of enforcement and community observation to minimize interference with the nai'a.

Thank you for your commitment to Kealakekua Bay State Historical Park. A CD of the Final EIS will be sent to you when it is published.

Very truly yours,
Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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HRD 18-8185B

April 26, 2018

John Kirkpatrick
Senior Socio-Economic Analyst
Belt Collins Hawai'i, LLC
2153 North King Street, Suite 200
Honolulu, HI 96819-4544

Re: Comments on Draft Environmental Impact Statement for the Kealakekua Bay State Historical Park Master Plan
Keōpuka, Ka'awaloa, and Kealakelua Ahupua'a, Kona Moku, Hawai'i Mokupuni
Tax Map Keys: (3) 8-1-007:050; 8-1-010:001; 8-1-011:003 through 010, 012, 013, 014, and 016; and 8-2-004:001, 002, 008, 009, 010, and 015

Aloha e Mr. Kirkpatrick:

The Office of Hawaiian Affairs (OHA) received your letter and enclosed compact disk containing a copy of the Draft Environmental Impact Statement for the Kealakekua Bay State Historical Park Master Plan (DEIS). It is our understanding that the Division of State Parks (DSP) is proposing to develop and implement a master plan for the Kealakekua Bay State Historical Park. OHA believes that the DEIS is incomplete and that the lack of information provided precludes the public from being fully informed of the proposed action and its potential environmental impacts.

Scope and Timing of the Proposed Action

OHA is concerned that the scope of the proposed action is unclear. According to the summary sheet, the proposed action includes, "development or replacement of facilities needed to support preservation and interpretation of the Park's resources, while encouraging safe, sustainable recreational use and visitation of Kealakekua Bay State Historical Park." Under the proposed action section, however, it states, "the proposed master plan is meant to guide the long-term use and management of the Park, protecting its unique resources while supporting visitation and respectfully sharing knowledge of this natural, historic and cultural treasure. This is meant to be a realistic, sustainable plan for the Park." The proposed action as presented in the project summary appears to be focused on specific actions as opposed to a long-term management master plan guiding the long-term use of the park. The DEIS also states that "the timing of components of the

Proposed Action will depend on the availability of funding."[1] Given that the validity of an accepted EIS is dependent upon whether the action has changed substantively in "size, scope, intensity, use, location, or timing, among other things,"[2] OHA believes it is imperative that these characteristics of the action are adequately discussed.

Alternative Actions

The DEIS presents four alternative actions: no action, Alternative A: Recreational Focus, Alternative B: Recreation and Historical Balance, and Alternative C: Historical Focus. The DEIS is missing critical information regarding the alternative actions.

> Pursuant to Hawai'i Administrative Rules (HAR) § 11-200-17(f), the DEIS
>
> shall describe in a separate and distinct section alternatives which could attain the objectives of the action, regardless of cost, in sufficient detail to explain why they were rejected. **This section shall include a rigorous exploration and objective evaluation of the environmental impacts of all such alternative actions** . . . For any agency actions, the discussion of alternatives **shall include, where relevant, those alternatives not within the existing authority of the agency** (emphasis added).

The DEIS, however, does not include a discussion of environmental impacts for the alternative actions. The DEIS also does not include alternative actions not within the authority of DSP. According to the DEIS, alternatives suggested in earlier plans are not considered further in the DEIS because they involve "off-site lands and their owners involve decisions and negotiations that cannot be made by DSP."[3] OHA recommends a revision of the alternative actions section to include the required information.

Environmental Impacts

OHA is concerned that the DEIS does not adequately assess environmental impacts, including secondary and cumulative impacts and impacts to cultural resources and practices. For example, in regards to visitor impacts, the DEIS states that "few impacts on the health and number of corals in the Bay have been observed from current levels of visitation. The proposed action is not expected to have further impacts."[4] The DEIS also states that the alternative action including a reduction in visitors is not being considered in the DEIS because "studies fail to show that current levels of visitation have a significant impact on the park's resources."[5] It appears as if the DEIS focuses solely on current impacts and fails to consider cumulative impacts that may be caused by the increased number of visitors as anticipated in the DEIS.[6]

[1] DEIS at 2-23.
[2] See HAR §11-200-26.
[3] DEIS at 1-19.
[4] Id. at 3-15.
[5] Id. at 1-19.
[6] DEIS Table 1-3 at 1-20.

The Environmental Council's Guidelines for Assessing Cultural Impacts (the guidelines) lists various matters that should be addressed in a cultural impact assessment (CIA). According to the guidelines, the CIA should include

> an analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs' the potential of the proposed action to isolate cultural resources, practices or beliefs form their setting' and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

The CIA, however, states, "without a list of specific planned activities it is difficult to assess 'cultural impacts'."[7] The CIA provides a list of the interviewees concerns but no analysis of the proposed actions' potential effects on cultural resources and practices. The DEIS's Potential Impacts and Mitigation Measures section also does not adequately identify the potential impacts to cultural resources or practices.[8]

During the DEIS community meeting held on April 14, 2018,[9] concerns were raised about the CIA. Among the concerns, included the limited scope of the interviewees, factual inaccuracies in the CIA, and an unbalanced focus on commercial fishing as a cultural practice. OHA requests that a revised DEIS address these concerns.

OHA requests a revised, completed DEIS be resubmitted for public review and comment. Should you have any questions, please contact Teresa Kaneakua, OHA Lead Compliance Specialist, at (808) 594-0231 or teresak@oha.org.

'O wau iho nō me ka 'oia 'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC:tk

[7] DEIS at Appendix B, 172.
[8] Id. at 3-20.
[9] Video available at http://www.bigislandvideonews.com/2018/04/15/video-kealakekua-bay-meeting-on-master-plan-eis/, last accessed April 25, 2018.

BELT COLLINS

December 3, 2019
19P-070

Ms. Sylvia Hussey, Ed.D.
Interim Chief Executive Director
Ka Pouhana/Chief Executive Officer
Office of Hawaiian Affairs
560 N. Nimitz, Suite 200
Honolulu, HI 96817

Dear Ms. Hussey:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to the comments you provided in your letter of April 25, 2018. This letter responds to your comments in the order in which they are raised in your letter.

1. **Scope and Timing of the Proposed Action.** The account of phasing of the proposed action was necessarily vague, but can be more precise. The Division of State Parks (DSP) intends to secure permits for development of the Nāpōʻopoʻo lands as shown in the Master Plan, and then to begin development of the parking lot and interpretive center as soon as funds can be obtained. DSP sees these facilities and the installation of a waterless toilet at Kaʻawaloa as high priority. The parking lot and interpretive center could be in place in 2025 (too optimistic knowing we need permits, design, and funding – I would give it 5 years). The toilet could be in place as soon as an acceptable method for handling and removing human wastes at the edge of a culturally sensitive area can be devised. Work closer to the shoreline will likely involve a longer permit process. Trails in both the Nāpōʻopoʻo and Kaʻawaloa sections will be done after review of archaeological and cultural reports, and new archaeological studies as necessary. DSP has convened a Cultural Advisory ʻOhana including lineal descendants of families living at both Kaʻawaloa and Nāpōʻoopoʻo. That group is assisting DSP with a culturally appropriate approach in planning for KBSHP. Its role will be stated clearly in the Final EIS.

   The proposed actions in the draft EIS reflect a long history of planning. As noted in the EIS, a proposal for more extensive development, including a center outside the Park boundaries, was shelved after it was challenged in court and questioned by many in the community. The current Master Plan responds to the failings of that proposal, and has down-scaled development and identified priority management needs to address the concerns of the community while protecting the resources of the Park.

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2. **Description and Analysis of Alternative Actions**. Your letter identifies two issues: consideration of actions outside the jurisdiction of DSP as alternatives and analysis of the impacts of alternative actions.

   On the first point: the EIS identifies ways in which DSP, the County and local stakeholders can collaborate to improve visitor traffic in and around Nāpōʻopoʻo. Any action on Beach Road and Nāpōʻopoʻo Road will depend on the County, and will need to follow County rules, since these are public roads belonging to the County. In the Final EIS, the proposed action will no longer suggest any closure of the Beach Road, per the regulations cited by the County Department of Public Works (see comment letter). As part of the design of the new facilities at Nāpōʻopoʻo, DSP will share with the County plans for the entry from Nāpōʻopoʻo Road and will explore with the County whether any restriping of that road for safer pedestrian traffic can be done.

   The EIS treats as an unresolved issue the problem of parking at the trailhead leading to Kaʻawaloa. This is to be discussed further with the County and owners of the residences near the trailhead. The EIS does not suggest ways to provide new parking in that area. Please keep in mind that while trailhead parking would be valuable, it mitigates existing problems, rather than problems created by the Master Plan.

   The Final EIS will provide further discussion of the impacts of the alternatives considered in the planning process, in addition to the proposed action.

3. **Environmental Impacts, including Cumulative Impacts.** The EIS considers a wide range of environmental impacts in relation to current and recent conditions, and in relation to ongoing and anticipated changes in the region. It considers cumulative and secondary impacts. It estimates impacts on visitation. These largely involve longer visits to the Nāpōʻopoʻo section, rather than a great increase in visitor numbers. The size of the proposed facilities is based on the expectation that growth in visitor counts would be slow.

   Studies for the Master Plan addressed the issue of whether increased visitation posed a threat to Park resources. No simple "carrying capacity" limit was found. Instead, education and management of visitor activities is important both for visitors' experience and for the preservation of the Park's resources.

4. **Adequacy of the Cultural Impact Assessment (CIA) and EIS.** The CIA was effectively completed in 2010. As noted at the recent meeting, there has been a renaissance of ritual practices in the area which was not described in the CIA. This omission will be addressed in the Final EIS and an account of those practices based on interviews with participants will be included in the Master Plan. In response to

comments and cultural concerns expressed during the preparation of the Draft EIS, DSP convened a Cultural Advisory 'Ohana to assist with a culturally appropriate approach in planning for KBSHP. DSP plans to work closely with this group to develop interpretive programs and ways to respect cultural practices within KBSHP.

5. DSP considers the historic and cultural significance of Kealakekua Bay to be crucial. The proposed action reflects that emphasis. DSP will continue to work closely with local elders and practitioners to maintain and interpret the Park's resources appropriately.

6. **Revision of the Draft EIS.** The Final EIS will include changes to address the concerns and issues raised in your letter and in other input received in the course of the Draft EIS review. As noted above, DSP will rely on a Cultural Advisory 'Ohana as well as its own archaeologists to insure that proposed new facilities preserve cultural and historical resources. DSP does not see need for a revised draft EIS, but for continued analysis and consultation in the years ahead.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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STATE OF HAWAII

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DTS201804131527RI

April 13, 2018

To: Suzanne Case, Chairperson
Department of Land and Natural Resources

From: Leo R. Asuncion, Director
Office of Planning

Attention: Martha Yent
Division of State Parks

Subject: Draft Environmental Impact Statement for the Kealakekua Bay State Historical Park Master Plan, South Kona District, Hawaii County

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) for the proposed Kealakekua Bay State Historical Park Master Plan. The DEIS review material was transmitted to our office via letter dated March 8, 2018.

It is our understanding that the Department of Land and Natural Resources (DLNR)'s Kealakekua Bay Historical Park Master Plan (Master Plan) proposes the development of park facilities to support preservation efforts, prioritizes the management of resources within the State Park, and promotes sustainable recreational uses of this area. The Master Plan divides planning, design, and development efforts of the State Park into three areas: Kealakekua Bay, Kaawaloa, and Napoopoo Landing.

Park improvements proposed by the Master Plan include: restoration activities within the marine area (repair of ocean navigational aids), renewal of archaeological sites, development of new parking areas, the refurbishment of the Napoopoo pier area, protective actions for sensitive environmental and cultural areas, and improved pedestrian and vehicular access within the State Park.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. Previous Comments. Our Environmental Impact Statement Preparation Notice (EISPN) response letter dated May 5, 2017 (Reference No. P-15594), recommended that:

1. the DEIS evaluate the project's consistency with all parts of the Hawaii State Planning Act, Hawaii Revised Statutes (HRS) Chapter 226;
2. the DEIS assess the project's ability to meet the objectives and policies of the Hawaii Coastal Zone Management (CZM) program, as listed in HRS § 205A-2;
3. DLNR consult with the Department of Planning, County of Hawaii on regulatory requirements for special management area use and shoreline setbacks;
4. DLNR contact our office on the need for a Coastal Zone Management Area (CZMA) federal consistency review. The DEIS acknowledges the need for a CZMA federal consistency review due to the necessity of a federal permit. U.S. Army Corps of Engineers approval is required for work at the Napoopoo historic area, as well as the proposed alteration of wharf facilities at Napoopoo Landing; and
5. the DEIS analyze the impact of stormwater inundation; develop mitigation strategies to offset the effects of polluted runoff to surface and marine water resources; and consider the use of low-impact development (LID) design elements in the planning and design access roads, parking areas, pedestrian paths, and related areas that require the installation of impervious surfaces.

OP acknowledges that our comments cited above in our EISPN letter have been addressed in the DEIS.

2. Climate Change. Section 3.1.3, page 3-2 of the DEIS does not provide sufficient detail on mitigation measures considered to safeguard existing archaeological, cultural, environmental resources located within vulnerable areas of the Park, nor propose steps that could be taken to preserve them (e.g., the Captain Cook monument located near the shoreline of Kealakekua Bay). The Final Environmental Impact Statement (FEIS) should expand the analysis on climate change and develop recommendations on mitigation measures, adaptation strategies, and preservation options to safeguard nearshore resources.

   OP recommends using the following resources to inform this analysis: the "Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017," and the Hawaii Sea Level Rise Viewer. These resources can be accessed via the Hawaii Climate Change Adaptation Portal at https://climateadaptation.hawaii.gov.

   Furthermore, the analysis on climate change in Section 3.1.2 of the DEIS is relevant to the analysis on the Hawaii State Planning Act - priority guidelines on climate change adaptation, HRS § 226-109 found in Table 4-1, page 4-11 of the DEIS. Please cite this analysis in the corresponding table in the FEIS.

We have no further comments at this time. If you have any questions regarding this comment letter, please contact Joshua Hekekia of our office at (808) 587-2845.

c: John Kirkpatrick, Belt Collins Hawaii, LLC

December 3, 2019
19P-070

Ms. Mary Alice Evans, Director
Office of Planning, State of Hawai'i
P.O. Box 2359
Honolulu, HI 96804

Dear Ms. Evans:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments you provided in your letter of April 13, 2018.

As you note, your earlier comments in a letter concerning the EIS Preparation Notice were addressed in the Draft EIS. Those comments dealt with the project's consistency with the Hawai'i State Planning Act, assessment of the project's fit with Coastal Zone Management (CZM) policies, regulatory requirements for the special management area and shoreline setbacks, and impacts of stormwater inundation. The Division of State Parks (DSP) will submit information for a CZM consistency review along with its submittal for federal and state permits.

The account of climate change in the Draft EIS did not provide a detailed account of mitigation strategies to deal with sea level rise. The Final EIS will revise the account in section 3.1.3 as follows:

The ongoing effects of climate change have been recognized in planning for Kealakekua Bay. Sea level rise and increased storm surge will affect shoreline and near-shore sites in the Park in the coming decades. As a consequence, new structures are proposed only for sites shown as "D" or "X" in the State's Flood Hazard Assessment Tool. DSP recognizes that Nāpō'opo'o Beach has already been changed by storm events, and could well change further in the coming years. Again, while DSP hopes to restore the pond just inland from the beach, this site is exposed to storm surge, and any restoration work much take sea level rise into account.

Given DSP's objective, to restore the cultural landscape, few mitigation or adaptation measures in response to sea level rise appear promising. Any new wall or berm would detract from the integrity of the cultural landscape. While repairs to Nāpō'opo'o Landing can take sea level rise into account, no structural changes at the beach or at the Ka'awaloa landing site ('Awili) are in keeping with DSP's objectives. The 'Awili landing site is expected to remain navigable for several decades.

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In planning for KBSHP, DSP has been concerned to respect both Hawaii's history and the surrounding community, where many residents are native Hawaiians of families that have long been in the area. Engagement with that community has consistently been part of the planning process. In response to comments and cultural concerns expressed during the preparation of the Draft EIS, DSP has convened a Cultural Advisory 'Ohana to assist with a culturally appropriate approach in planning for KBSHP will be stated clearly in the Final EIS. Any structure or facility developed to mitigate climate change will be reviewed by the panel before it is built.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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82-6026 Manini Beach Road • Captain Cook, HI 96704
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'O Muku i kēia pō mahina, a 'o Nana i ka malama
The moon is Muku, and Nānā is the month
'Apelila 14, 2018

DLNR – Division of State Parks (DSP)
Belt Collins Hawaii

Re: Public Comment on the Draft EIS for Kealakekua Bay State Historical Park

He ali'i ka 'āina, he kauwā ke kānaka
The land is the chief, and mankind is its servant
Mankind depends on land to survive. A reference to respect, protect, and manage appropriately and accordingly to the cycles of nature, all resources that sustains life within the sky, land, and sea. A reflection on the "circle of life" relationship between man, earth, and the omnipresence. This is the basis of the Kānaka Worldview. (#531, 'Ōlelo No'eau, Pukui)

As a generational resident growing up in Nāpo'opo'o Village, I heard numerous conversations about the Park's plans. They ranged from elaborate plans that included the threat of condemnation of private property to the down-sizing of the plans to accommodate the State's budget. All to serve tourism and recreation that will secure revenue at the cost of compromising my kulā'iwi (homeland), sustenance, and spiritual and genealogical connections and practices. On several occasions, villagers organized to accomplish tasks such as the construction of the new pavilion, neighborhood watches, work days, Makahiki celebrations, and numerous holiday celebrations that brought the community together to mālama 'āina and to celebrate the unique lifestyle of Nāpo'opo'o Village. Some gatherings were just a few people or families that took on the responsibility to pick up trash along the roadside, maintain foliage, and restore access to the beach after a winter storm, or privately check on kupuna sites and graves in ceremony or solitude. These practices continue to this day. Village life was purposeful and self-sustaining. Villagers worked hard, and celebrated hard together.

Nāpo'opo'o Village life was, and still is, interdependent among the many families residing in the village, from the seasonal catch of akule, halalū, 'ōpelu, 'oama, wana, lobster and limu pahe'e just to name a few, to helping each household in gathering reef fish, 'opihi, 'a'ama and many intricacies from the ocean and the farmlands up mauka for sustenance. "Dry fish boxes" were part of villager's landscape at each home. Despite the Marine Life Conservation District (MLCD) rules, villagers "then and now" continue to practice long standing generational practices in what is today identified as Zone A and B. Within the past two decades, Kealakekua Bay is being promoted on the Worldwide Web, and the imposing factors caused by recreation/visitor users now address villagers/practitioners as "doing illegal activity" and condescendingly ridicule and dismiss these traditions and customs, to which the credit of maintaining the mana and resources that drew visitors to Kealakekua Bay, is due. Many of them speak about our genealogies, gods, 'aumakua – familial gods, and philosophies as if they have the privilege and custody to do so. Others tell stories of the area and do not appropriately recognize the ancestors, and villagers who continue to thrive and practice in Kealakekua Bay. It's offensive and disrespectful to those of us who continue to reside and perpetuate the cultural lifestyle of Kealakekua Bay, as taught to us by our kupuna, for hundreds of years, and long before the State assumed these lands. Village life is inclusive, why does the State disenfranchise itself from the Village?

I am here today to ensure that a thorough EIS/CIA is completed, and to mandate the State's obligation to provide due diligence in addressing the impacts on village life, as it relates to Traditional and Customary rights and practices, are stipulated with proper collaboration, and that the imposing plans to secure Kealakekua Bay as just a recreation hub provide appropriate mitigations and create avenues for continued support and existence of the customs that are long standing. Village life in Hawaii is just as rare as the historic sites archaeologist try to preserve, and contrary to a state park who wants to interpret them only for recreation venues. I want to make clear, I am not against recreation. I feel that the research, studies, and surveys of this DEIS are inadequately sufficient and incomplete which does very little justice to our community and its lifestyle.

Cultural Impact Assessments (CIA):
The current CIA mentions only a few types of cultural practices and sites, and mentions that more archaeological study is needed. Although the OEQC GUIDEBOOK[1] (2004) establishes a recommended protocol, and because of the historic significance of Kealakekua Bay, the approach should be "above and beyond" the legal recommended action towards mitigation. In reviewing the recommendations, numbers five (5) and six (6) lack good faith in due diligence.

As mentioned in the CIA, "The Ethnographic Survey (oral history interview) is an essential part of the Cultural Impact Assessment (CIA) because they help in the process of determining if an undertaking or development project will have an adverse impact on cultural properties/practices or access to cultural properties/practices." I do not entirely debate the current oral histories. If Kealakekua is so significant, and based on the State's legal obligation to traditional and customary practices, and the purpose and

[1] According the OEQC GUIDEBOOK published in 2004, there are specific guidelines for assessing cultural impacts. For example, a CIA should survey a geographical area greater than the area of proposed development, reference historical data dating back to the initial presence of the group whose cultural practices are being assessed. The recommended protocol spelled out are:

1. Identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices, and beliefs found within the broad geographical area, e.g., district or ahupua'a.
2. Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
5. Identify and describe the cultural resources, practices and beliefs located within the potentially affect area; and
6. Assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

function of a CIA; then ten (10) individuals, who mainly speak on commercial fishing and post-war era practices, is not sufficient enough to make such determination.

In the Ka Pa'akai O Ka 'Āina v. State Land Use Hawai'i State Supreme Court ruling, the "analytical framework for State Agency Actions" is to assist government agencies in balancing their obligations to protect traditional and customary practices by requiring specific findings and conclusions. One of them is "# (3) the feasible action, if any, to be taken by the agency to reasonably protect native Hawaiian rights if they are found to exist." This means that agencies must actively research and consider the cultural, historical and natural resources of a subject property as they relate to Native Hawaiian rights. The DEIS/CIA lacks to support this ruling.

There are inaccuracies in the CIA, to which is reflective on the efforts spent on developing this CIA. For example,

1. Moku 'āweoweo is not atop Mauna Kea summit but graciously resides on Mauna Loa. Mauna Kea is not within sight from Kealakekua Bay even on clear days.
2. Nāpo'opo'o School was closed in the 1960's and not early 1900's[2]. It was in 1912 that the residents, under the leadership of State Representative and villager Manase K. Makekau, who acquired funding from legislation to construct a new Nāpo'opo'o School in upper Kahauloa to accommodate the students who walked far. The funding to construct the school was attached to the funding for the Nāpo'opo'o Wharf roof. It was approved unanimously. The first school was below Kahikolu Church, and it served the overflow for Ke'ei School that was short lived.
3. Kealakehe School did not accommodate the overflow from Nāpo'opo'o School. My father and his siblings attended Kailua School near Saint Michael's church, nowhere near Kealakekua Bay, and Kealakehe did not exists until much later. The overflow from Nāpo'opo'o school was mainly Konawaena, and trickled to Hōnaunau.
4. Also, to capture ethnographic statements that mention "kupuna stories were from books" is not reflective to all family oral histories within the village.

To mention that Kealakekua Bay is a wahi pana, one must understand what that really means from a Maoli worldview. A native speaker will mention that it is the pana that makes it a celebrated/legendary place. And recreation does not know how to measure or define pana, only a spiritual practitioner would know how. Wahi pana requires continued active participation of cultural practices aligned to the unique pulse of the area, which makes it "celebrated" and deemed "legendary". To dismiss and place ludicrous regulations on wahi pana practitioners is to dismiss Kealakekua as wahi pana.

The recommendations provided at the end of the CIA are:

1. Form a Cultural Advisory Group
2. Identify Stakeholders and Meet with them
3. Develop a Cultural Plan
4. Update Inventory Surveys and Mapping
5. Develop Master Plan after Cultural Plan
6. Help organize a 'Friends of KBSHP'

[2] Family oral history mention my paternal and maternal great-grandmothers along with others such as Alice Kaolulo Ackerman and her siblings Mrs. Rebecca K. Gaspar and Mrs. Daisy K. Kapule attended Nāpo'opo'o School when it was located below Kahikolu Church between the years of 1899 and 1911. Their children and grandchildren attended Nāpo'opo'o School at its new campus across from the Gaspar homestead in the region known as kula.

I agree with these recommendations, however recommend and strongly urge the following amendments:

1. To form and organize a Cultural Advisory Group immediately, separate and detached from a "Friends of KBSHP" group, to ensure the deserving integrity of Traditional and Customary practices within Kealakekua Bay.
2. What and who are the Stakeholders for? If it's for a Cultural Advisory Group, then preference should be given to those native Hawaiian families who reside in Nāpo'opo'o Village (based on the boundaries described in the EIS), and those who are actively practicing traditions from mauka to makai within and surrounding the project area.
3. The Cultural Advisory Group shall be tasked but not limited to the development of a Cultural Plan that would include interpretation, function, and continued practices, and subject to the HRS Chapter 91 public consultation meetings.
4. In collaboration between State Parks, SHPD, the Cultural Advisory Group, and the "Friends of KBSHP" group shall update Inventory Surveys and Mapping
5. To fulfill #5 of the recommendations currently spelled out in the CIA, immediate action on a Cultural Advisory Group prior to completing the Final EIS is essential and imperative.
6. I believe such a group already exists and identified in the EIS as Ho'ala Kealakekua.

One last thing regarding the CIA, when it comes to Native Hawaiian Traditional and Customary practices to include for subsistence and religious purposes, the Hawaii Supreme Court ruled regarding the exercise of traditional and customary rights on developed and undeveloped lands. They chose not to analyze various degrees of property use however suggested that "once land has reached the point of 'full development' it may be inconsistent to allow or enforce the practice of traditional Hawaiian gathering rights on such property." Later Hawaii State Legislation determined the factors characterizing "fully developed" as:

1. All necessary discretionary permits have been issued;
2. There is "substantial investment in infrastructure on or improvements to the property"; and
3. The property owner's expectations of excluding practitioners of traditional customary rights are high, while the Native Hawaiian practitioner's expectations of exercising those rights on the property are low. ("PASH/KOHANAIKI")

Therefore, because the EIS describes the project as "largely undeveloped", now is the critical time to address these cultural privileges appropriately, and not skim the surface or check off your "to do" list by doing the bare minimum.

Although the DEIS mentions that the State recognizes there is a conflict between recreation and culture, to what extent or attempt did Department of State Parks (DSP) provide to mitigate the conflict it mentions? What is the purpose of imposing a permit on traditional cultural practices? These practices have existed hundreds of years prior to the State assuming these lands. Your failure to work with this community will only amount to unnecessary law suits to which the government is obligated to do to avoid such occasion. What do the impacts of Traditional and Customary practices have on Recreation? Why is the DEIS dismissive to include other familial practices?

Village Impact:
Very little effort is considered while addressing the impacts to the area outside of the project scope, especially within the Nāpo'opo'o Village region as described in the EIS:

- road conditions
- current and future resident impact on the traffic
- emergency vehicle access
- pedestrian and bike users
- shoreline impact to other parts of Kealakekua Bay
- crime
- drug abuse users
- vacation rental impacts
- worldwide web that promotes Kealakekua Bay as a place for kayaking and swimming with dolphins and snorkel

These are the conditions that need attention if the state is going to be a part of Nāpo'opo'o Village yet they are all excluded or discussed a lot with little logical reasonings.

Despite several deaths within the Bay, there are little or no "Hazard Condition" postings and there are little or no attempts to work with Hawaii Tourism Authority and Native Hawaiian Hospitality Association in developing ways to educate tourist on respecting the villagers/residents, the ocean, the forest, and to possible liabilities that force residents to become the "Emergency Response Team". The State demands from its residents to assist their "park" endeavors by being extremely absent. It seems the only focus is to bring visitors here, collect their money and do it without any respect to residents, and then demand our "Aloha Spirit".

Traffic is an issue within the entire State of Hawaii. The fact is we are islands, let alone Nāpo'opo'o is a rural Hawaiian Village, which is rare to say nowadays. The EIS should offer more studies than normal, and would agree to more consultation among villagers, and agree that the EIS should go beyond reach since the area is deemed "significant".

The EIS has an obligation to address impacts thoroughly, and there are many concerns that this village has risen of for many years, yet proposed mitigations are absent (EIS Guidebook,2004).

Revenue Analysis:

The EIS fails to provide a revenue analysis that outlines the project's fiduciary obligations to maintain staff, support staff, benefits, infrastructure, and maintenance. The purpose of the EIS is to provide means for "recreation and visitors," yet it places limits to revenue streams that should support it. The EIS proposes a limit to the number of kayaks to seventy-two (72) per day. Was the projected revenue of the limited number of kayaks tested to support the cost of operations and upkeep of roads, facilities, and daily operational demands? With permit fees, and possible revenues due to OHA because the MLCD falls within the scope of "submerged lands," the ability to make a living and provide rent to the State so it can maintain personnel, infrastructure, and other liabilities that may incur. What are the determining factors for the numbers provided in the EIS with regards to revenue? The EIS should provide a projected revenue/cost analysis for support staff, infrastructure, and maintenance in the EIS, because if the State fails to provide for funding for these programs, then the plans will be fiscally untenable which causes more distress for residents and surrounding community, and taxpayers end up footing the bill. How realistic is this plan?

HRS 6E Reviews:

The EIS states, "[DLNR] is submitting this DEIS for review by the SHPD to satisfy State requirements of HRS §6E-8" (pg. 4-4, DEIS). It further states on page 3-20 under 3.7.2, "additional archaeological investigations will be needed before designating any trails or constructing any facilities, to ensure that archaeological sites and culturally sensitive areas are identified and protected." The DEIS is incomplete, and is nowhere ready for commenting and review by agencies or individuals. It lacks a mitigation plan therefore leaves no avenue for input. These things and other sections of the DEIS need to include mitigation measures with public comment prior to being approved.

Special Management Area:

State/County as it relates to the federal Coastal Zone Management Act.

In the case of LESLIE v. COUNTY OF HAWAII BOARD OF APPEALS, stipulates several steps required within the SMA permit[3]. If the KBSHP Master Plan is within the confines of acquired State lands, then why is the Keōpuka ahupua'a being tied into the plans and not the southern half of Nāpo'opo'o Village? To what extent is the Kealakekua Bay State Historical Park Master Plans providing for in regard to neighboring ahupua'a and its role in the South Kona District?

HRS §205A-26 (2)(A):

(2) No development shall be approved unless the authority has first found:

(A) That the development will not have any substantial adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or (Revised 1/31/06) compelling public interests. Such adverse effects shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planning options;

What are the cumulative impacts surrounding this project, and how does other development around Kealakekua Bay impact the Bay?

Other unresolved and/or pending issues:

Department of State Parks (DPS) and the County of Hawai'i have yet to discuss the beach road access (pg. 1-22). Unless there is understanding of the impacts to the county roads and users of those roads, how is it possible to draft plans in the area?

Reading the letters from government agencies, collectively most of them mention the DEIS is not complete. I am appalled that for many years, almost my entire lifetime, Belt Collins has been working on this plan, in the meantime, our lifestyle, culture and community is impacted daily.

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[3] 13. The third step is to determine whether, even if an activity is excluded, the activity "is or may become part of a larger project, the cumulative impact of which may have a significant adverse environmental or ecological effect on the Special Management Area, that activity shall be defined as 'development'" and an SMA permit will be required. County of Hawai'i Planning Common Rules of Practice and Procedure, Rule 9-4(10)D. (January 2006)

Page 4-5: EO 12898 Environmental Justice: This federal provision is to avoid federally funded activities from negatively effecting local minority and low-income residents. The DEIS barely addresses this. The DEIS claims to say that the residents living near the park are not low income nor minority. A survey need to be taken to determine income level and racial composition of the affected area. Again, the scope of impact shall include the surrounding project area within the Nāpoʻopoʻo Village, Keʻei Village, and Mauka to Makai, not just areas nearest to the park. To say there are no negative impacts on the area means more work is needed to complete this EIS.

Summary:
This Draft EIS/CIA is incomplete and proposes minimum mitigations, to which gives little credence to truly carry out its function to mitigate issues as spelled out in the OEQC Guidelines, State Supreme Court rulings, Hawaiʻi Revised Statutes and Administrative Rules. It makes statements like "when the project gets funded" we will address the federal requirements and "presumably the new construction would need such a permit (SMA)." It's difficult and almost moot to have public comment because so much is uncertain and it lacks due diligence to assess effects on key areas such as historic, conservation districts, and the special management area to name a few. As I mentioned in previous meetings, proper consultation with all villagers, users, and cultural practitioners is imperative to make for a decent EIS.

The EIS is intended to mitigate visitors and recreation users, yet it purposely dismisses Traditional and Customary rights and practices that continue and are sometimes deemed illegal.

I would like to end with an ʻōlelo noʻeau that was frequently said amongst Villagers in Nāpoʻopoʻo. It speaks of the kolea (Pacifc golden-plover) bird, the "true" snow-bird. One can look at this noʻeau in different ways:

1) The appearance of kolea is an indicator that the resources are plentiful.
2) In its absence during a normal migration period, it could mean
    a. climate change components affected the migration.
    b. or the natural resources it depends on, are gone.
3) The kolea feeds foolishly and leaves behind nothing. In the Hawaiian worldview, manu (birds) are symbolic to represent a person or the populace.
4) Kolea also shows insight on environmental adaptation.

ʻai no ke kolea a momona hoʻi i Kahiki

The kolea eats until it is fat, then returns to the lands where it came from…

Through the traditional practices of kilokilo (observation), I have not seen kolea on the shores of Kealakekua Bay or within the confines of Wailokoaliʻi as it used to be. One, maybe two sightings is not substantive enough to say a kolea population exists. This is one of many traditional practices and patterns this DEIS dismisses, and these practices and patterns have been observed for centuries and should not be thoughtlessly dismissed.

BELT COLLINS

December 3, 2019
19P-070

Mr. Shane Akoni Palacat-Nelsen
82-6026 Manini Beach Road
Captain Cook, HI 96704

Dear Mr. Palacat-Nelsen:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments you provided at the community meeting on April 14, 2018 and in your letter of April 14, 2018.

Your summary of historic and continuing social networks and practices of people in Nāpōʻopoʻo village is impressive. It fits with the account of cultural practices in the Cultural Impact Assessment (CIA).

Your comments regarding the EIS and the CIA have been carefully considered. The EIS assesses the *impacts of the proposed action*. It treats the *many changes that have occurred in recent years* that affect Nāpōʻopoʻo as part of the context in which the proposed action is considered. The aim is to identify how the proposed action would create new impacts or is designed to address or mitigate impacts of such changes. An EIS is not a comprehensive account of the relationships among all the activities at a project site, but of those activities that may be affected by a proposed action.

For example, internet sites have tended to attract visitors who are willing to hike or kayak. Some encourage swimming with dolphins. The Division of State Parks (DSP) is not responsible for the many claims made on those sites, or for the behavior of those who seek to swim with dolphins. It does issue permits for vessels in the bay. It holds permittees to conditions concerning landing at Kaʻawaloa, contact with coral, and speed (for motorized vessels).

The CIA is based on research conducted in 2009 to 2010. Work was suspended while the State Department of Land and Natural Resources reviewed its divisions' responsibilities in Kealakekua Bay, and transferred these to DSP. Belt Collins Hawaii LLC did not seek a new CIA. Several recent comments indicate that there is ongoing ceremonial practice at locations in KBSHP. Such practices are only mentioned briefly in the CIA. The Final EIS will expand the account of cultural activities.

With regard to the text of the CIA:

- Thank you for pointing out that Moku āweoweo is on Mauna Loa, not Mauna Kea.

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- Thank you for pointing out that Nāpōʻopoʻo school continued to operate into the 1960s.
- There does not seem to be any reference to Kealakehe in the CIA text; informants note that they attended Konawaena or Kailua schools.
- The phrase "kūpuna stories were from books" does not appear in the text of the CIA. As you know, the CIA includes interviews with members of Nāpōʻopoʻo families. No slight to family records was intended.

DSP recognizes and supports the rights of traditional cultural practitioners within KBSHP. The PASH decision is important, but beside the point in this case, since there is no attempt being made to bar traditional practices and rights. DSP does ask persons landing at Kaʻawaloa for cultural purposes to register for a Special Use Permit; it does not bar such persons and practices. The purpose of the permit registration is record-keeping.

DSP has agreed with the proposal for a Cultural Advisory panel. DLNR's ʻAhā Moku Advisory Committee assisted in identifying appropriate members and form a Cultural Advisory ʻOhana. DSP will look to that panel for advice on cultural issues, and will share information about archaeology, planning and interpretation in the coming years. DSP hopes to learn about ways to protect cultural resources and practices from discussions with the Cultural Advisory ʻOhana.

There can be conflicts between recreational activities and respect for cultural resources. The EIS describes different approaches to Park management and development, in order to protect such resources and minimize any impacts on them, while allowing some recreational activity and increasing interpretation of the Park's history and culture.

You fault the State for failing to post "Hazard Conditions" signage. In the past, the danger of rockfalls near the Pali was signaled by buoys. The proposed action includes replacement of those buoys and creation of a swim zone near Kaʻawaloa, to reduce the risk of accidents involving swimmers and boats. The proposed action also calls for reopening the Nāpōʻopoʻo wharf for supervised launching of kayaks and similar vessels. DSP will consider adding signage at that location concerning hazardous conditions in the Bay.

The proposed action was designed in part to alleviate the current effects of visitors on Nāpōʻopoʻo Village. It includes proposals for some road work, but the roads in question are County roads, and DSP can only request County cooperation in this regard. The proposed action calls for increased staffing and enforcement at KBSHP. While you find that "very little effort" has gone into considering impacts on Nāpōʻopoʻo Village, that is simply not true.

Costs of the proposed action are estimated in Table 2-4 of the EIS. No revenue analysis is provided because no proposals to raise revenues significantly are included in the proposed action. DSP plans to contract with a concessionaire for operations at Nāpōʻopoʻo Landing and Kaʻawaloa. That contract could well result in more revenue than is now received from permittees in the Bay, but the amounts will depend on both a negotiated contract and the number of visitors to the Bay, including residents, who choose to use services at the Landing.

The costs listed in Table 2-4 reflect DSP's aims of improving resource management and interpretation. They are not based on a revenue/cost analysis.

HRS 6E review is part of the process of developing the Master Plan. At KBSHP, such review can be accomplished on the basis of the extensive archaeological and cultural record, but the specific location of paths and facilities will need to be determined after further site-specific studies.

As noted in the EIS, Special Management Area regulations will be followed, and permits for new activities in the Special Management Area requested as appropriate.

Secondary and cumulative impacts of the proposed action are discussed in EIS section 3.14.

Environmental Justice is mentioned in the EIS as a concern. As you request, survey data (from the American Community Survey) are reported in Tables 3-2 through 3-6. These describe the population of the Hōnaunau-Nāpōʻopoʻo Census Defined Place, and show the population to be somewhat older than elsewhere in Hawaiʻi County, and to include a larger share of Native Hawaiians and Other Pacific Islanders than in the County as a whole. Income and poverty data show the nearby population not to be low-income, on average. As a result, there's no basis for concern that the proposed action could have a disproportionate negative impact on a low-income or minority community. Moreover, the impacts on the surrounding area are on balance positive.

The EIS does not "purposely dismiss" traditional rights and practices. Nor does it deem these illegal. Instead, it includes an effort to recognize and accommodate such practices. With the formation of the Cultural Advisory ʻOhana, DSP's effort to integrate Park management with cultural sensitivity and knowledge will be strengthened by a continuing venue for discussion and input.

Thank you for your commitment to Kealakekua Bay State Historical Park. A CD of the Final EIS will be sent to you when it is published.

Very truly yours,

Belt Collins Hawaii LLC



Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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‘O Mauli ka pō mahina, a ‘o Welo i ka mālama
13 April 2018

DLNR – Division of State Parks
Re: Public Comment on the Draft EIS for Kealakekua Bay State Historical Park

Though I dwell in the lands of Onouli-uka, north of what is known as “Kealakekua Bay”, my ties to that area – called Kapukapu by my ancestors – are deep and lasting. My given name is not telling of my mookuauhau, but I come from the bloodline of Kamokumaia (Nahuewai), Hewahewa-nui, Pailiili, Puou, and Holoae – kahuna of the Order of Kanalu – who dwelt along the banks of the sacred pool Wailokoalii at the beach of Napoopoo.

In more recent times, my great-grandfather Henry Mahi was hanai by the Makekau family of Napoopoo village, after his own father and mother who had lived in Keei, chose to leave for Kalawao, Molokai to serve those with Hansen’s disease forced into exile there. He remained with the Makekau family until 1919 when he left for Oahu, shortly before a small-pox outbreak claimed many in the village. While my grandfather Miguel Mahi was born and raised in Kalihi, Oahu, as was my mother Kuuleialoha Mahi, she returned to South Kona in 1979 with her husband; and ten years later they brought me into this world, raising me in the ahupuaa of Onouli.

Today, I work to preserve and perpetuate traditional heiau practices, associated specifically to that area of Kapukapu – that being from Keawekaheka in Kaawaloa, along the entirety of Pali-poko o Manuahi, through Napoopoo, Kai-a-keakua, to Kapahukapu in Kahauloa, and south to Kulou, Maiko, and finally Palemano in Keei – and further still into the greater area of Kapalilua, of which lands include Mokuohai, Honaunau, Keokea, Alahaka, and Kiilae. That being said, these cultural practices we perpetuate, and the histories we keep, connect the heiau of Hikiau, Helehelekalani, and Kapahukapu with those of Alealea (a.k.a. Hale o Keawe or Puuhonua o Honaunau) in the Honaunau ahupuaa. Both the traditions of the heiau, that is ceremony and ritual, as well as those of the Hale Poki, or the care of human remains and burials, are among the kuleana carried out in our work.

The spirit of place is intertwined with the health of its people and environment; and likewise the practices of the heiau are crucial in understanding our role as stewards of the environment and the resources on which so many depend.

And those lives impacted by the place go beyond the immediate area. In only a few years’ time, connections liking peoples near and far have been made and sustained from Hikiau to Alealea. To share knowledge and custom at such places with wisdom keepers and leaders of the Maohi people of Rapanui and with the Maori of Aotearoa, or with the indigenous tribes of northwestern America, adds to the mana of such a place. For its story is not finished; Hikiau is not a dusty book in the basement of a library, it is a place – a living place – where we observe the setting of the sun in Kanaloa, on the winter’s solstice, and where the Lonomakua presides over the rites of the Makahiki; year by year – past, present, and future.

While those who share in perpetuating these traditions do not explicitly live in the immediate area defined by the draft Environmental Impact Statement, we all share in many unique ways, mookuauhau that bridge back to Kapukapu.

Our ties to that area are deep and lasting, yet ours is not the only story that needs to be told. It is wahi pana and wahi kapu for many. For wisdom keepers who preserve ancient knowledge, for fishermen and farmers who practice subsistence-living and malama aina, for those who come from afar with a true desire to learn of the histories and traditions, or simply to take in the beauty and serenity of so sacred a landscape. It is all these stories, all these connections that make this place a wahi pana – a place with a pulse – and yet the State of Hawaii Department of Land and Natural Resources – Division of State Parks fails to acknowledge the very existence of such stories and ways of life, as if to say that we don’t exist at all.

We exist.

In a very contradictory fashion the Cultural Impact Assessment states that “The Ethnographic Survey (oral history interview) is an essential part of the Cultural Impact Assessment (CIA) because they help in the process of determining if an undertaking or development project will have an adverse impact on cultural properties/practices or access to cultural properties/practices”, and yet it completely fails to address and adhere itself to its own standard. Of the ten (10) interviews conducted – the majority appear to be non-residents. And the cultural practices represented in the Cultural Impact Assessment are limited to commercial fishing – not a native Hawaiian cultural tradition in the slightest.

And again, failing to follow its own standards, the CIA mentions that more archeological study is needed, due to the great historic significance of the site, and yet all efforts behind the DEIS/CIA appear to be completely lacking in good faith and due diligence to the cultural practitioners and residence of the area.

Furthermore, the CIA contains several inaccuracies – including incorrect geographical references and discrepancies in historic dates as much as sixty (60) years in error. An impact statement that cannot even inform as to what mountains are visible from the area in question correctly is entirely unacceptable.

Let it be clearly stated that it is not intended herein to challenge or debate the information gathered in the DEIS/CIA in full, rather it is intended that the DEIS/CIA represent the site with the highest integrity due to its significance, both in the historic lens and in the crucial role it holds in the lifestyle and cultural practices of those living today.

It is important that the DEIS/CIA not antagonize one group from another, rather it should convey a sense of pono – balance – that is balance between tourism and villagers, contemporary lifestyles, traditional lifestyles, environmental stewardship and resource management, spiritual practices, &ct. It must be all-encompassing as fitting a place so important as Kapukapu whose very name means “the most sacred of sacred”.

It is the advice of this testimony – an advice consistent with others who have come forward this day – that a Cultural Advisory Group be implemented immediately to develop a cultural plan, before any permits are issued or even considered, and with the expectation that this cultural plan be a foundational component of the overall Master Plan. Furthermore, this group should be formed independently from any existing “Friends of Kealakekua Bay State Historical Park” groups, as to ensure that the integrity of cultural sites and practices is not downplayed or overshadowed by the agendas of commercial operators, agencies, and individuals that would benefit solely from the censoring of those omitted from the current DEIS/CIA. The Cultural Advisory should consist primarily of but not be limited to villagers, cultural practitioners, and residents of the larger Kapalilua region who’s spiritual and customary practices

associate to the areas aforementioned in this testimony. To expand the scope of oral histories to include those of people living and practicing their culture today would bridge the divide between contemporary and traditional lifestyles and advocates a sense of pono – again, balance – from which all may benefit – residents, fishermen, visitors, and cultural practitioners alike.

As we meet and share testimony, we do so in the season of Ku – perhaps one of the most misrepresented and misunderstood of our ancient ancestors – Ku teaches us and drives us to take action; and our actions today are born of thought and intention, and the endeavor to convey understanding and cultivate coexistence.

Aloha.

BELT COLLINS

December 3, 2019
19P-070

Mr. Conall Kahakaioikamalie Ravenscraft
P.O. Box 1495
Kealakekua, HI 96750

Dear Mr. Ravenscraft:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to your spoken comments of April 14, 2014 and your letter of April 23, 2018.

You find that the Cultural Impact Assessment and the draft EIS fail to describe your cultural practices. The key problem is that the Cultural Impact Assessment was substantially completed in 2010 and failed to recognize the cultural practices occurring since this time and the Native Hawaiian ceremonies being conducted at the sites in KBSHP. Your testimony and that of others at the April 14 meeting correct this omission. The Final EIS will include additional text recognizing Hawaiian practitioners and ongoing cultural practices, and the Master Plan will include an account of interviews with active cultural practitioners.

You request that a Cultural Advisory Committee be formed for KBSHP. The Department of Land and Natural Resources' 'Ahā Moku Advisory Committee (AMAC) assisted the Division of State Parks (DSP) in identifying appropriate members and the Cultural Advisory 'Ohana is assisting DSP with a culturally appropriate approach in planning for KBSHP. Its role will be stated clearly in the Final EIS.

The input from the Cultural Advisory 'Ohana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional rights, and the history and resources of Kealakekua Bay are preserved and protected.

Thank you for your commitment to Kealakekua Bay State Historical Park. A CD of the Final EIS will be sent to you when it is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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Joellen Salisbury
75-233 Nani Kailua, Kailua Kona, HI
feddahfluff@gmail.com
(208)206-0749

He Hilo i kēia pō mahina, a ʻo Welo i ka malama
Tonight's moon is Hilo, and Welo is the month
April 14, 2018

DLNR/State Parks Division
Belt Collins

Re: Public Comment on the Draft EIS for Kealakekua Bay State Historical Park

Ua mau ke ea o ka aina i ka pono.
The life of the land is perpetuated in righteousness.

Our cultural and spiritual practices, how we care for the land, no matter our genealogical roots, serves as a foundation of life itself. Righteousness is found in the proper balance, balance within realms and balance between realms; the life in the ocean, the land, the people on the land, the physical and spiritual realms, relationships within ourselves, our community, and the world around us. True balance cannot be attained by seeing only part of the equation. Balance, righteousness, pono is a process that considers the entire picture, seen and unseen.

Neither the EIS nor the CIA properly identify, acknowledge, or address the true impact, currently and with proposed plans, on traditional and customary practices of Kealakekua Bay.

Thank you for this opportunity to provide testimony on this very important matter.

I moved to Hawaii approximately six years ago. I have Irish, English, German, Scottish, and French branches with roots going back to the tribes of Israel, the Vanir of the Norse people, and the Gaelic people. I do not know of having any Hawaiian blood. As such, I have already been questioned about my right to comment on this matter.

Let me begin with a simple clarification: there is no special blood type nor blood quantum required to speak up for what is right.

We teach our children in school to stand up to bullies in the school. Do not perpetuate bullying and report bullying to the teachers or the administration. As adults, we learn that bullying can happen in many ways. Sometimes it is a subtle way that we put down another person or people, how we discount their contributions and try to strongarm them into a lower place. Sometimes the very systems and government that is supposed to protect us are the ones we need protecting against. So we stand together.

From the highest levels of government and the very roots of our nation, we have held religious freedom and protection against discrimination of religion in high significance. Many of the original migrants and founding fathers left their motherland to seek religious freedoms, so they maintained this fundamental right and responsibility within the founding documents. They did not specify what religions to protect.

Starting from this foundational level and this basic human right from the very foundation of government, I see misrepresentations, omissions, and general lack of due diligence that, if this EIS is approved as is, seek to violate the basic civil rights of the Hawaiian people. This is not to even mention all of the other laws, rules, and regulations (one of which is the reason for the EIS and subsequently this opportunity for public testimony) that have since been established.

I would never dream of walking into someone else's church, interviewing a few people, most who do not even attend the church, and then presume to file a report stating that the critical part of the religion and the church is to make visitors feel welcome. Yet, that is what I have read within the CIA. A few people who have had ties to the area but most who did not even identify themselves as cultural practitioners of the area are the basis for limiting the scope of a process and report that was implemented to protect cultural and religious rights of the native Hawaiian people. It recognizes the area as wahipana, sacred space. The entire area is recognized in words as being sacred, sacred like any church sanctuary, yet it is similarly discounted and ignored. It is like saying that a church and its congregation will feel no impacts from having visitors walk through their innermost sanctuaries of the church, in the middle of a religious service, but there would be no impact because they also believe in the "aloha spirit."

Does my comparison shock you? Yet, think about it. Land itself, not land ownership, is considered sacred. Even the basic, unmistakable cultural practices are tied to the gods. Why, when, and how do you gather for medicine? Why and when do you fish

for a certain animal? Why, when, how, and what do you plant? And this is only the beginning of a basic understanding from an outsider.

Even as is, the EIS recognizes that Hikiau and the entire Kealakekua area have ties back to worship of the gods, yet it does not acknowledge that this worship continues today. Some things change, sometimes by a general consensus and sometimes by necessity. Change in appearance does not equate to change in substance.

And this is just those things that have distinct religious ties. Other practices that are distinctly cultural but may not be obviously religious, at least not to a non-native, still occur as well. I do not see acknowledgement of these nor the impacts of the project proposals on these practices.

It is not my place to school anyone on what cultural practices occur in an area. But, I have personally been witness to so many. I have only been here six years, so it cannot be discounted as practices that are no longer current or valid. I cannot be blind and pretend that they are not occurring or are simply limited to fishing (legally or illegally...which is a whole other issue) as indicated in the EIS.

With so much in the news and legislative hearings regarding Mauna Kea, I am rather shocked that the State would choose to start a project now without completing their due diligence. Are you seeking future lawsuits? Do you want Hawaii represented as the place that, despite the long battle to regain their rights and identity, will sell-out its own history, culture, land and religion? Do you understand that no matter how long a report, if the content is still incomplete, the report is incomplete? That an incomplete report means the State's obligations are not yet met?

Let it be clearly noted, for the record, that the CIA and EIS are considered incomplete. They do NOT properly identify, acknowledge, or address the true impact on traditional, customary, and cultural practices of Kealakekua Bay currently being felt nor anticipated with the proposed project.

Additionally, I would challenge the impacts noted to the infrastructure of the area. I believe this also is incomplete, to the point that I question whether the writer even visited the area and drove on the roads, through the community that was referenced. Already, the impacts are disrupting the area. In six years I have been her, with no significant changes or marketing that I know of that would cause it, I

have noticed significantly increased traffic to the area. I do not think that the infrastructure should be overlooked so easily, simply because it is outside the immediate area of the proposed project.

I have loved learning about and experiencing what I have of this Kealakekua area. It is truly a rich place, significant, wahipana. While I would like to see some improvements and development that would facilitate sharing this gem, I am not willing to see anything happen at the detriment of the history and culture and people who make it what it is.

I have been taught that it is important to respect the host culture of an area. While some allowances are often made to the uninformed, respect should be foundational. Sometimes I remember the grave errors I made when I moved here. I trusted the tour books and guides to provide the information I needed to ensure that I was being respectful both in my attitude but also in my actions. Instead of proper direction, I found an attitude of entitlement with encouragement to explore places I shouldn't have been because it was "public land." I know many people who want to be respectful, to do the right thing, but who have been given bad information. How can the state park provide the right information to visitors when it hasn't yet spent the time to seek it out itself?

What would Hawaii be without Hawaiians?

We need Hawaiians and the Hawaiian voice. This report needs the voice of those, especially from the area (including surrounding areas and the entire ahupua'a impacted, mauka and makai), who still live in the area and those who are still practicing traditional cultural and religious practices. Until the report is completed with all the information, it should not be accepted as such.

'Eli'eli kau mai

Deepen the revelation. May a profound reverence alight. *[A solemn supplication at the end of prayers.]*

From the depths of our own beginnings from within the womb connected to the depths of the origins without, and connecting the two, bringing them back to this time and place. It's digging out the roots of elephant grass and breaking through and softening the hard earth to create the right conditions to plant new.

Connect to the beginning and apply to the now to make the changes for tomorrow.

Without a proper foundation, the house will fall. Without acknowledging the origin, the future is lost. Without connecting to the Source, we die. The EIS needs to be completed, acknowledging all of the potential impacts and appropriate mitigation, especially concerning traditional and cultural practices of which the current draft is significantly lacking. Comprehensive, complete EIS and CIA are needed before progressing with any plans.

Additional thoughts:
Cultural Impact Assessments (CIA):
The current CIA limits the types of cultural practices and sites that are significant within the project area, not even identifying all of the cultural practices and sites. The CIA itself stated that more archaeological study is needed. According the OEQC GUIDEBOOK published in 2004, there are specific guidelines for assessing cultural impacts that may be associated with proposed projects or actions. The recommended protocol spelled out are:

1. Identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices, and beliefs found within the broad geographical area, e.g., district or ahupua'a.
2. Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
5. Identify and describe the cultural resources, practices and beliefs located within the potentially affect area; and
6. Assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

The ethnographic (oral history) survey lists to only ten (10) individuals to determine this critical function that a CIA is supposed to carry out. While these individuals may have had direct links to land ownership of the immediate areas in question, it did not establish awareness, understanding, or personal experience/practice with traditional and customary practices nor did it extend to a broader geographical area. The history mainly focuses on commercial fishing and post-war era practices and dismisses other practices that are rooted to pre-1778, even those that are on-going to this day. If this project/action area has significant historical value, then this CIA lacks due diligence when it comes to fulfilling this criterion.

It is important to note that the EIS describes the project as "Largely Undeveloped." Based on Hawaii Supreme Court ruling regarding Native Hawaiian Traditional and Customary practices to include for subsistence and religious purposes, now would be the critical time to address thee cultural privileges appropriately to avoid future conflict and lawsuits. The draft EIS already recognizes conflict between recreation and culture but has no mention of plans to mitigate these conflicts. Past court rulings have already determined the importance of mitigating these conflicts and addressing impacts to traditional and cultural practices. The cost of mitigating conflicts is much less before implementing plans that will result in preventable and therefore unnecessary lawsuits.

Village Impact:
Very little effort is considered while addressing the impacts to the area outside of the project scope, especially within the Nāpo'opo'o Village region as described in the EIS. Road conditions, current and future resident impact on the traffic, emergency vehicle access, pedestrian and bike users, shoreline impact to other parts of Kealakekua Bay, crime, drug abuse users, vacation rentals impact, and websites that promote Kealakekua Bay as a place for kayaking and swimming with dolphins all need to be considered. Relying on the idea that having a designated parking area will alleviate these impacts is being negligent in the purpose of the EIS.

The EIS has an obligation to address impacts thoroughly, and there are many concerns that this village has risen of for many years, yet they are absent. (EIS Guidebook)

There are no "Hazard Condition" postings. There was no mention of attempts to work with Hawaii Tourism Authority and Native Hawaiian Hospitality Association in developing ways to educate tourist on respect to villagers, ocean, forest, and sacred spaces as well as possible liabilities. Education could help mitigate some of the impacts. Education should be extended to authors and publishers of tour books who promote disrespectful behavior through lack of understanding of the sacred and to tour guides who can further educate the tourists.

The State has recognized the area as a wahi pana. As such, more care and research should be done regarding potential impacts, more done to mitigate these impacts. Even without the other history and cultural significance, Nāpo'opo'o is a rural Hawaiian Village, which is a rare find in and of itself.

Revenue Analysis:
The EIS fails to provide a revenue analysis that outlines the projects fiduciary obligations to maintain staff, support staff, benefits, infrastructure, and maintenance. It seems that the

Page 4-5: EO 12898 Environmental Justice: This federal provision is to avoid federally funded activities from negatively affecting local minority and low-income residents. The DEIS claims to say that there is no impact to minority or low-income residents. If only considering the park area itself, I must assume that this statement was made based on no legal permanent dwellings within the park itself. Asian and Pacific Islanders are federally identifies as a minority group. The scope of the impact area should include all those impacted, which will be outside of the park area itself, including mauka to makai areas in the Nāpoʻopoʻo Village, Keʻei Village, along the beach road, and throughout the impacted and neighboring ahupuaʻa. To say that there will be no negative impacts and that there are no minority residents who may be impacted, especially without showing any support for these statements, only shows that this EIS is incomplete.

Summary:

This Draft EIS is not complete. It is difficult if not impossible to make accurate comments when it is obviously missing information, which is acknowledged. It makes statements like "when the project gets funded" we will address the federal requirements, and "presumably the new construction would need such a permit (SMA)". When will a project be funded that hasn't even considered the full financial undertaking of completing and sustaining the project? This EIS lacks due diligence to assess effects on key areas such as historic, conservation districts, and the special management area, to name a few.

As stated in the DEIS, this is intended to mitigate visitors and recreation users. As such, it has purposely dismissed traditional and customary rights and practices. These practices continue to this day. Some have even been deemed illegal. How can a CIA be complete when it ignores or dismisses traditional and customary rights and practices?

These documents are incomplete, falling far short of the responsibility required in their completion. They should not, cannot be accepted as complete. No actions toward the plan can be completed until these first steps are taken and completed, acceptably, meeting all standards.

Thank you for this opportunity to provide comment.

BELT COLLINS

December 3, 2019
19P-070

Ms. Joellen Salisbury
75-233 Nani Kailua
Kailua-Kona HI 96740

Dear Ms. Salisbury:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to the comments in your presentation and letter of April 14, 2014.

You request that more oral histories be collected, and current cultural practitioners be part of the discussion. Additional interviews were collected for the Master Plan and the results are in the Appendix of the Master Plan report.

The Department of Land and Natural Resources' 'Ahā Moku Advisory Committee (AMAC) assisted the Division f State Parks (DSP) in identifying appropriate members and the Cultural Advisory 'Ohana is assisting DSP with a culturally appropriate approach to the planning for KBSHP. Its role will be stated clearly in the Final EIS. The input from the Cultural Advisory 'Ohana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional rights, and the history and resources of Kealakekua Bay are preserved and protected.

DSP is committed to continuing involvement with the community, including cultural practitioners, and looks to ongoing discussions with the Cultural Advisory 'Ohana to guide planning and management strategies.

You note that the Cultural Impact Assessment (CIA) and draft EIS do not recognize the re-establishment of makahiki practices since 2011. The final EIS will address that omission. The following will be added to section 3.7.1;

Hikiau Heiau and its environs continue to be a focus of cultural activities. Since 2011, cultural practitioners have convened at and near Hikiau Heiau for ceremonies related to the makahiki. They have also conducted astronomical observations, drawing on traditional knowledge.

You are concerned that traffic has increased in the area near the Park in recent years, and affects the lives of the community. The issue is examined in section 3.10 of the EIS and in a traffic study conducted for the EIS.

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The EIS discusses impacts of current visitation on Nāpōʻopoʻo Village, and the proposed action was developed after considering how Park operations have affected residents in the past decade. The proposed action is intended to mitigate those impacts through provision of a new parking lot and re-opening Nāpōʻopoʻo Landing for supervised launching of kayaks and other vessels. Improvements in maintenance, historical interpretation, and enforcement are proposed. Emergency vehicle access is addressed in part through the proposed creation of a helicopter landing site at Kaʻawaloa. Buoys are to be placed or replaced to reduce the risks of accidents for swimmers and boaters.

Costs of the proposed action are estimated in Table 2-4 of the EIS. No revenue analysis is provided because no proposals to raise revenues significantly are included in the proposed action. DSP plans to contract with a concessionaire for operations at Nāpōʻopoʻo Landing and Kaʻawaloa. That contract could well result in more revenue than is now received from permittees in the Bay, but the amounts will depend on both a negotiated contract and the number of visitors to the Bay, including residents, who choose to use services at the Landing.

The costs listed in Table 2-4 reflect DSP's aims of improving resource management and interpretation. They are not based on a revenue/cost analysis.

HRS, Chapter 6E review is part of the process of developing the Master Plan. At KBSHP, such review can be accomplished on the basis of the extensive archaeological and cultural record, but the specific location of paths and facilities will need to be determined after further site-specific studies.

As noted in the EIS, Special Management Area regulations will be followed and permits for new activities in the Special Management Area requested as appropriate.

Environmental Justice is mentioned in the EIS as a concern. As you request, survey data (from the American Community Survey) are reported in Tables 3-2 through 3-6. These describe the population of the Hōnaunau-Nāpōʻopoʻo Census Defined Place and show the population to be somewhat older than elsewhere in Hawaiʻi County, and to include a larger share of Native Hawaiians and Other Pacific Islanders than in the County as a whole. Income and poverty data show the nearby population not to be low-income, on average. As a result, there's no basis for concern that the proposed action could have a disproportionate negative impact on a low-income or minority community. Moreover, the impacts on the surrounding area are on balance positive.

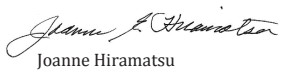
DSP and the County of Hawaiʻi have discussed road issues over the years, and will continue to do so. The draft EIS sketches out ways in which they can collaborate with regard to the Beach Road, but any design of improvements for lower Nāpōʻopoʻo Road and the Beach Road will have to be accepted by the County. DSP looks forward to collaboration with the County and owners of property surrounding the Park to reach a consensus on this issue.

As noted above, the draft EIS omitted mention of recent cultural activities. This occurred because the CIA was substantially completed by 2010, not because DSP and its consultants dismiss traditional and customary rights. An account of current cultural practices has been compiled from more recent interviews with people with deep roots in the area. It will be included in the Master Plan as a source of interpretive insight.

Thank you for your commitment to Kealakekua Bay State Historical Park. A CD of the Final EIS will be sent to you when it is published.

Very truly yours,

Belt Collins Hawaii LLC



Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

April 13, 2018

SUBJECT: Draft Environmental Impact Statement Response Letter for Kealakekua Bay State Historical Park Master Plan, South Kona, HI; Department of the Army File Number POH-2018-00073

Mr. John Kirkpatrick
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Kirkpatrick:

The Honolulu District, U.S. Army Corps of Engineers (Corps), has received your letter dated March 8, 2016 for the proposed activities associated with the Kealakekua Bay State Historical Park Master Plan, in the South Kona District, Island of Hawaii. Your project has been assigned Department of the Army (DA) file number POH-2018-00073. Please reference this number in all future correspondence with this office concerning your proposed activity.

We have completed review of your submittal pursuant to Section 404 of the Clean Water Act (Section 404) and Section 10 of the Rivers and Harbors Act of 1899 (Section 10). Section 404 requires authorization prior to the discharge and/or placement of dredged or fill material into waters of the U.S., including adjacent wetlands. Section 10 requires authorization prior to conducting work in, over, under, and affecting navigable waters. Based on our review of your submittal, we have determined the Kealakekua Bay is a tidal reach of the Pacific Ocean and is as such a navigable water of the U.S. under the regulatory jurisdiction of the Corps.

It appears your proposed restoration of navigational aids and installation of buoys in Kealakekua Bay and the proposed restoration of the pier at the Landing in Napoopoo will require work in Kealakekua Bay and may result in the discharge of fill material into Kealakekua Bay. Therefore, in accordance with Section 10 and Section 404 you must obtain a DA permit from this office prior to commencing your proposed work.

The Draft Environmental Impact Statement does not include sufficient detail about the proposed restoration of the pier at the Landing in Napoopoo to determine the permitting mechanism that would be most appropriate for the proposed work. Additional detail regarding the exact nature of the pier restoration project, e.g. the area and volume of fill to be placed in waters of the U.S., could be included in the FEIS or provided in pre-applicant consultation to assist us in providing a more detailed permit

determination and permitting requirements. Please submit any additional documentation to this office via email at: CEPOH-RO@usace.army.mil.

Section 40l(a)(l) of the Clean Water Act requires that you obtain a Water Quality Certification or waiver from the State of Hawaii, Department of Health, Clean Water Branch. For additional information, please contact the Clean Water Branch at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. A final DA permit will not be issued until this office has received a copy of the approved 401 WQC or waiver.

Before authorizing work under our statutory authorities, the Corps must ensure a project complies with applicable Federal laws and regulations, such as the Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act, Section 401 of the Clean Water Act, Coastal Zone Management Act, and the National Historic Preservation Act. In most instances, the Corps will coordinate directly with the appropriate agencies, but we may require additional information from you to complete the coordination and consultation.

Thank you for your cooperation with the Honolulu District Regulatory Program. Please contact this office if you have any questions. Should you have any questions related to this determination, please contact me at 808-835-4310 or via e-mail at Vera.B.Koskelo@usace.army.mil. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

Vera B. Koskelo
Project Manager, Regulatory Branch

Enclosures

cc:
State of Hawaii DBEDT Office of Planning (John Nakagawa)
State of Hawaii DOH-CWB (Darryl Lum)
USCG (John Bannon)

BELT COLLINS

December 3, 2019
19P-070

Ms. Vera B. Koskelo
Project Manager, Regulatory Branch
United States Army Corps of Engineers, Honolulu District
Fort Shafter, HI 96858-5440

Dear Ms. Koskelo:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan
Department of the Army (DA) file number POH-2018-00073

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments you provided in your letter of April 13, 2018.

As you note, installation of buoys or navigational aids in Kealakekua Bay will require work in the waters of the United States, and will require a Department of the Army (DA) permit. Any buoys will meet current U.S. Coast Guard standards for visibility and markings. Again, restoration of the pier at Nāpō'opo'o Landing would require a Department of the Army permit. Plans for that action have not reached design stage; additional documentation will be submitted to the Army and Coast Guard before any construction.

The Division of State Parks or its contractor will apply for water quality certification from the State Department of Health in advance of work in the waters of Kealakekua Bay.

The EIS provides information about planned compliance with Federal laws and regulations, This information applies to all actions for which a DA permit may be requested.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Pacific Islands Water Science Center
1845 Wasp Boulevard, Building 176
Honolulu, Hawaii 96818
Phone: (808) 690-9600/Fax: (808) 690-9599

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BELT COLLINS HAWAII

April 13, 2018

Mr. John Kirkpatrick
Senior Socio-Economic Analyst
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Kirkpatrick:

Subject: Environmental Impact Statement Preparation Notice (EISPN)
Kealakekua Bay State Historical Park Master Plan
South Kona, Hawai'i

Thank you for forwarding the subject EISPN for review and comment by staff of the U.S. Geological Survey Pacific Islands Water Science Center. We regret however, that due to prior commitments and lack of available staff, we are unable to review this document.

We appreciate the opportunity to participate in the review process.

Sincerely,

Stephen S. Anthony
Center Director

BELT COLLINS

December 3, 2019
19P-070

Mr. Stephen S. Anthony, Director
Pacific Islands Water Science Center
United States Geological Survey
1845 Wasp Boulevard, Building 176
Honolulu, HI 96818

Dear Mr. Anthony,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments you provided in your letter of April 13, 2018.

You note that your agency is not able to review the EIS at this time. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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April 14, 2018

John Kirkpatrick
Belt Collins Hawaii LLC
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jkirkpatrick@bchdesign.com

RE: Public Comment on Draft EIS for Kealakekua Bay State Historical Park

Pule no ka ʻĀina Pray for the Land

After personally witnessing so many unavoidable and heart breaking outcomes regarding our sacred lands over my 63 years, the only thing I can do today is to *"Pule no ka ʻĀina"*, to pray to my ancestors for the goodness of the land. To show me my *kuleana* to be responsible for this honor and privilege to care for this living and pulsing *wahi pana.*

As a lineal descendant and a retired park ranger, I've gotten a much broader perspective of the scope of the actual Royal Grounds serving the Puʻuhonua o Hōnaunau. Imagine the boundary extending from the park to the highway, then some 60 plus acres to the north (NPS 1999 Interpretive Plan for West Hawaiʻi National Parks). This connects Kealakekua to Hōnaunau. We know that Hikiau Heiau served as the timekeeper, the arrival of time, past, present and future. We continue traditional kilokilo observations for Piko o Wākea (spring equinox) and the Polohiwa (solstices) there. In ancient time, Hikiau served as the luakini sacrificial heiau while the Hale o Keawe is the Hale Poki royal mausoleum where the *iwi kūpuna* ancestral bones were used to protect the puʻuhonua. Lonoikamakahiki was born at Hikiau Heiau, and all heiau at Hōnaunau are *mapele* peaceful heiau to honor akua Lono, the God of Life. The traditional Makahiki island circle *waiwai maloko* offering ceremony began and ended at Hikiau. This shows a much larger and more connected landscape than we think of the area today and shows us the huge role that Hikiau Heiau and the surrounding Kealakekua Bay area had, has and will continue to have through vital traditional and customary practices.

Seven years ago, Makahiki spiritual practice was reestablished at Kealakekua Bay. For the last three years, Kapalilua (South Kona) descendants have conducted spiritual practice associated to Makahiki (opening and closing, two times annually) through the ahupuaʻa of Kealakekua, Hōnaunau, Keōkea and Kiʻilae. We are able to practice traditional welcoming protocol, reintroduce traditional *koʻihonua* genealogy ties with Maori Whānau, and continue global cultural connections from Kapalilua South Kona. In Hawaiian thinking, it is very important to create a firm foundation before building. Mahalo to everyone who has supported the Kealakekua Bay State Historical Park through its visions, plans and conception. Mahalo for caring, mahalo for participating, this ʻāina appreciates it. To help this community to create this *paʻa* solid foundation, we ask:

1. We ask that a Cultural Advisory Committee be formed as suggested in the CIA (Cultural Impact Assessment). This Advisory group must consist of members of current traditional and customary practitioners to include spiritual and sustenance provisions based on Supreme Court Law.

2. We ask that this Cultural Advisory Committee begin a Cultural Plan before the EIS is approved by the Board of Land and Natural Resources. This Cultural Plan will overlay the Master Plan (DEIS recommends this action).

3. We ask that more Oral Histories of the area be collected, that there are current traditional and customary practitioners who need to be a part of this discussion. How can we protect traditional and customary practices when culture is not included in the plan? Why would we not work together to create a Cultural Plan as an inclusive proactive strategy rather than leave our descendants to fight for their rights to traditional cultural and spiritual practice later?

4. Pule no ka ʻĀina.

Me ka mahalo nui,
Rae Fujimori Godden
81-6358 Keōpuka Place
Kealakekua, HI 96750
rae.godden@yahoo.com

BELT COLLINS

December 3, 2019
19P-070

Ms. Rae Fujimori Godden
81-6358 Keopuka Place
Kealakekua, HI 96750

Dear Ms.Godden,

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. We are writing in response to the comments in your letter of April 14, 2014.

You request that a Cultural Advisory Committee be formed for KBSHP. That group should begin work on a Cultural Plan before the EIS is approved by the Board of Land and Natural Resources. You further request that more oral histories be collected, and current cultural practitioners be part of the discussion. Interviews were conducted in late 2018 which help to provide the information you sought. A report on the interviews is incorporated in the Master Plan.

In planning for KBSHP, the Division of State Parks (DSP) has been concerned to respect both Hawaii's history and the surrounding community, where many residents are native Hawaiians of families that have long been in the area. Engagement with that community has consistently been part of the planning process. In response to comments and cultural concerns expressed during the preparation of the Draft EIS, DSP convened a Cultural Advisory ʻOhana to assist with a culturally appropriate approach in planning for KBSHP. Its role will be stated clearly in the Final EIS.

The input from the Cultural Advisory ʻOhana will provide information about Kealakekua to guide the development of cultural programs in the park, assure that facilities or improvements do not infringe on cultural and traditional rights, and the history and resources of Kealakekua Bay are preserved and protected. Rather than developing a separate Cultural Plan, DSP and the Cultural Advisory ʻOhana are collaborating the protection of cultural resources and traditions, the development of a culturally appropriate interpretive program, and park management strategies.

Thank you for your commitment to Kealakekua Bay State Historical Park. A CD of the Final EIS will be sent to you when it is published.

Very truly yours,

Belt Collins Hawaii LLC

Joanne E. Hiramatsu
Senior Associate, Director of Planning

JEH:hp

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April 23, 2018

Mr. John Kirkpatrick
Belt Collins Hawai'i LLC
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

Dear Mr. Kirkpatrick:

RE: **Kealakekua Bay State Historical Park: Draft Master Plan and EIS**

Thank you for providing the County of Hawai'i with the opportunity to comment on the Draft Environmental Impact Statement regarding the Master Plan for Kealakekua Bay State Historical Park.

The draft EIS states that: The mission of the Department of Land and Natural Resources is to "Enhance, protect, conserve and manage Hawai'i's unique and limited natural, cultural and historic resources held in public trust for current and future generations of the people of Hawai'i nei, and its visitors, in partnership with others from the public and private sectors."

The interpretation of how the above mission manifests itself within and around Kealakekua Bay has evolved considerably over the last thirty years. But the fact remains, as stated in the draft EIS, that "the park is situated within the residential community of Napo'opo'o Village..... Planning for the State Park must address the impacts of park use and proposed development on this community". In addition, the area's geography provides extremely limited physical opportunities for public access. We don't feel that the draft EIS clearly captures and reflects these enormous limitations in addressing how Kealakekua Bay can sustainably function as a visitor destination. And with the rapid explosion in the use of social media, the pressure placed upon the area by an ever increasing

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influx of visitors makes it all the more critical that management tools are implemented.

We will not attempt to respond to issues related to management of marine resources. But we believe the following multijurisdictional strategies have a high priority in order to address land-based stewardship and carrying capacity:

- Development of central area for visitor parking and restrict visitor parking elsewhere in the Napo'opo'o Village area. The identification of the most practical location needs more input from the community.

- Restoration of the pier at the Landing. We believe that after restoration of the Landing, all kayaks, both commercial and private, should be launched from the Landing. This is public park infrastructure, and alternative locations for private kayak launching are unsafe and difficult to monitor.

- Mandatory use of decals to limit the total number of both commercial as well as private kayaks. The goal is to limit the total number of vessels that can access Kealakekua Bay per day, whether they are commercial or private. This will require appropriate staff (or community based) support in order to monitor.

- Limit access to Beach Road to pedestrians and local vehicles. This needs further discussion with the community. The County will participate with the community and DSP in seeking the best means to accomplish this over the county road.

- Ka'awaloa Trail Head. Establish "No Parking" zone on Napo'opo'o Road shoulders in vicinity of Trail Head. Create "Loading Zone" so that hikers can be dropped off and picked up. The County can move toward implementation of this goal, but it also needs more discussion in the community. If supported, this will increase safety along Napo'opo'o Road while allowing the public trail to remain accessible to hikers.

All potential strategies suggested in this draft need further vetting through discussions with a wide range of residents, stakeholders, and agencies in a timely manner. The goal is to reach a consensus upon strategies to manage access to and improve protection of the sites and resources in the Napo'opo'o and

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Ka'awaloa Sections that have the support of the local community partners. The County would like to offer to assist in moving this process forward at the invitation of the stakeholders.

But, as was made clear during the recent public meeting in Kealakekua, the first priority should be for the Division of State Parks to establish the Cultural Advisory Committee as requested by the practitioners from the community. Decisions impacting the restoration of the cultural landscape; construction of interpretive sites; restoration and protection of Hikiau Heiau and other historically significant sites and trails should be a product of this process. But we would also stress our hope that a goal for a time frame can be agreed upon by all participants for the completion of such a Cultural Resource Management Plan.

Taking all these issues into account, together with the appreciation of Kealakekua Bay as a tremendously significant historical, cultural, and environmental resource on Hawai'i Island, we believe that the primary goal of Kealakekua Bay State Historical Park is to protect the resources. Visitor access must be accommodated as a secondary goal. As was pointed out in the draft EIS, "initial recommendations for the development, management, and operation of the park was prepared in 1985". Many years have passed since those initial recommendations were prepared and still a Plan has not been implemented. In the meantime, cultural, historic, and environmental resources remain vulnerable until we can move into the implementation phase. And it is the responsibility of all current government, commercial, and community partners to work together to agree upon final implementation strategies that will be part of the functional Master Plan for Kealakekua Bay State Historical Park. In our final recommendation, we believe that until appropriate implementation plans have been agreed upon, adopted, and infrastructure improvements have been completed, that interim limits may be necessary. Again, this needs to be the subject of discussion between stakeholders.

Sincerely,

Nancy Pisicchio
Executive Assistant to the Mayor

County of Hawai'i is an Equal Opportunity Provider and Employer.

BELT COLLINS

December 6, 2019
19P-070

Ms. Nancy Pisicchio
Executive Assistant to the Mayor
County of Hawai'i
25 Aupuni Street, Suite 2603
Hilo, HI 96720

Dear Ms. Pisicchio:

Response to Comments on
Draft Environmental Impact Statement (EIS)
Kealakekua Bay State Historical Park (KBSHP) Master Plan

Thank you for participating in the Hawaii Revised Statutes, Chapter 343, public and agency review process. I am writing in response to your letter of April 23, 2018.

Your letter emphasizes "multijurisdictional strategies." This is very welcome, since the Master Plan and EIS have repeatedly recognized the importance of cooperation among the Department of State Parks (DSP), the County of Hawai'i, and residents of the areas surrounding the Park. This letter addresses the issues in the order of the bullets in your letter:

- **Parking in Nāpō'opo'o:** The Master Plan proposes a new parking lot on State land. The site of the proposed parking lot has been discussed repeatedly with the local community, and has been generally accepted. The Master Plan proposes opening Nāpō'opo'o Landing for supervised launching of kayaks and similar vessels; vehicles bringing those kayaks would then park in the new lot. Restrictions on circulation and parking in other areas can be addressed in several ways:
  - DSP will direct visitors to the new parking lot. At the Park and on its webpages, DSP will emphasize to visitors that the local roadways are very narrow, so visitors should use Nāpō'opo'o Road between the Park and the highway, and not the other local roadways. The Master Plan suggests that the County may post signs on Pu'uhonua Road, advising that it is for local use only (and not to be used as a through route to reach the National Park at Hōnaunau).
  - In the Draft EIS, DSP proposed cooperating with the County on reductions in parking at the end of the Beach Road overlooking the Bay. The Department of Public Works has emphasized that no barrier or gate can be placed on the County roadway. DSP would hope to see the area at the end of the Beach Road used mainly for handicapped access, and will work with the County to consider restriping or signage to mark stalls, both on DSP land and on the County's land, to expand such access. Alternatively, DSP could propose acquisition of the area at the end of the road by DSP from the County.

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- **Restoration of the wharf:** Restoration will take time, since Federal, State and County agencies will be involved in permitting. The Master Plan proposes opening this site for general public access and supervised launching of vessels, in line with your view. Your letter indicates that other launch sites are unsafe and should not be used. The shoreline and waters in question are outside the Park, and outside the jurisdiction of DSP. DSP would welcome steps to reduce access to the Bay from private lands and County land in Nāpōʻopoʻo, but has neither legal nor operational means to do this. Please keep in mind that many of the kayaks launched from the Nāpōʻopoʻo Village area belong to residents, who might still find Village access more convenient than using the wharf at the Landing.
- **Use of decals for vessels.** DSP continues to consider this proposal. As you note, monitoring, by staff and community volunteers, will be desirable. You ask for a limit on the number of vessels in the Bay at any time. DSP has considered imposing such a limit, but cannot currently justify such a limit in terms of preserving and protecting Park resources. Please keep in mind that the Bay as a whole is recognized by the U.S. Coast Guard as a safe harbor. Any limit on the number or types of vessels will need to be cleared with the federal authority.
- **Limit access to Beach Road.** As noted above, DSP will direct visitors to the new parking lot, rather than the end of Beach Road, and seeks to work with the County to make the parking on Beach Road mainly for handicapped access.
- **Kaʻawaloa Trailhead.** You suggest the use of No Parking signs and the creation of a Loading Zone. As you note, the latter idea should be discussed with the local community. A problem remains: The Loading Zone would be distant from any permitted parking area, unless a new parking area is created on private or County land within a half-mile of that zone.

A common thread in many of the issues raised and the responses above is that KBSHP is interdependent with both the surrounding community and the County of Hawaiʻi. The County has taken steps to improve circulation by posting No Parking signs on narrow roads of Nāpōʻopoʻo Village, and by posting a warning sign at the Kaʻawaloa trailhead. DSP has explored problems of access with members of the community and with County staff. DSP seeks to continue discussions with the County as the Master Plan is finalized and design begins.

Thank you for your comments. A copy of the Final EIS will be sent to you for review.

Very truly yours,

Belt Collins Hawaii LLC



Joanne Hiramatsu
Senior Associate, Director of Planning

JEH:hp

Appendix J

Community Interviews

COMMUNITY INTERVIEWS

Kealakekua Bay State Historical Park
Master Plan and
Environmental Impact Statement

Ka‘awaloa and Kealakekua Ahupua‘a, Kona Moku,
Hawai‘i Mokupuni



Prepared for:

Prepared by:

Momi Wheeler, B.S., Jesse Kaho‘onei, B.A.,
And Kelley L. Uyeoka, M.A.

August 2019

Table of Contents

COMMUNITY ETHNOGRAPHY 4
HE LEO MAHALO 4
INTRODUCTION AND METHODS 4
Project Background 4
Community Consultation Methods 4
COMMUNITY ETHNOGRAPHY SUMMARY 8
MO‘OKŪ‘AUHAU AND LOINA KŪPUNA (CULTURAL PRACTICES) 8
Loina Kūpuna: Cultural Practices, Spiritual Practices, Interpretation and Utilization of Hikiau Heiau 10
FISHING PRACTICES 14
Marine Life Conservation District (MLCD) 18
With the Resources Disappearing, It Was Asked, ‘What’s the Urgency?’ 19
‘ĀINA MAULI OLA (NATURAL RESOURCES MAUKA TO MAKAI) 19
Maintaining the Integrity of Water Sources 19
Flora, Fauna, and Maintaining the Integrity of the ‘Āina 20
Huliau – Solutions 20
RECOMMENDATIONS 22
Interpretation 22
Balancing Cultural Practices with Public Visitation 24
How Would This Translate to the State? 25
Managing Tourists During Seasonal Cultural Practices 26
Traffic, Kayaks, Parking and Continued Interpretation 26
Stewardship, Management, and Preservation of Cultural Sites 26
Incorporating Traditional Management Practices Into Park Management 27
The Future of Kealakekua Bay 27
Recommendations of What the Community Would Like to See Preserved and Practiced 27
REFERENCES 30
APPENDIX A: COMMUNITY PARTICIPATION LETTER 31
APPENDIX B: COMMUNITY INTERVIEW QUESTIONS 32
APPENDIX C: INFORMED CONSENT FORM 35
APPENDIX D: ‘ŌPELU FISHING PRACTICES BY UNCLE CHUCKY LESLIE 36
APPENDIX E: TYPES OF FISHING PRACTICES BY UNCLE CHUCKY LESLIE 39

List of Figures

Figure 1. Map of project area (from the *Kealakekua Bay State Historical Park Master Plan Improvements Draft Environmental Impact Statement*, Belt Collins Hawai'i LLC, 2018:1-1).....5
Figure 2. Aerial map showing sections within the Kealakekua Bay State Historical Park (from the *Kealakekua Bay State Historical Park Master Plan Improvements Draft Environmental Impact Statement*, Belt Collins Hawai'i LLC, 2018:1-5).....6

List of Tables

Table 1. Community Interview Participants 7

COMMUNITY ETHNOGRAPHY

He Leo Mahalo

Mahalo to all the individuals who shared their precious time, memories, and recommendations for this study. Without their willingness to share personal recollections and mana'o, this work would not be complete. This valuable mana'o that was shared will help inform the State of Hawai'i, Department of Land and Natural Resources (DLNR), Division of State Park (DSP) on the cultural landscape, resources, and customary practices in this region in hopes that DLNR, DSP will use this information to make pono and informed decisions on land use and community support.

Introduction and Methods

Project Background

On behalf of the State of Hawai'i, Department of Land and Natural Resources (DLNR), Division of State Park (DSP) and Belt Collins Hawai'i, LLC, Nohopapa Hawai'i, LLC conducted ethnographic work for the Kealakekua Bay State Historical Park Master Plan and Environmental Impact Assessment (EIS). The Kealakekua Bay State Historical Park is located in the ahupua'a of Ka'awaloa and Kealakekua, Kona Moku, Hawai'i Moku Puni (Figure 1 and Figure 2).

Community ethnography efforts involved conducting ethnographic interviews with community members to record and acknowledge their historical connections to the region of Kapukapu (Ka'awaloa to Ki'ilae) and document the visions they have for their wahi pana. Ethnographic work provides a "voice" for a community's history, traditions, and concerns and is used to capture and understand the indigenous viewpoint (past and present) associated with cultural places. Hawaiians have always maintained intimate relationships with their environments, and by generating detailed stories about places, this knowledge can be documented and passed on to future generations.

Community Consultation Methods

Ethnographic work was conducted on December 1 and 2, 2018. Project personnel included: Kelley L. Uyeoka, M.A. and Kekuewa Kikiloi, Ph.D., principals; Jesse Kaho'onei, B.A, and Momi Wheeler, B.S. The ethnographic process consisted of identifying appropriate and knowledgeable individuals, reaching out to them to participate (Appendix A: Community Participation Letter), conducting ethnographic interviews (Appendix B: Community Interview Questions), summarizing the interviews, analyzing the data, and preparing this report. The data gathering methodology utilized included scoping via semi-structured community interviews and personal observations.

Scoping for this project began by contacting interested and knowledgeable individuals recognized as having genealogical, cultural, and/or historical connections to the region of Kapukapu – Ka'awaloa to Ki'ilae. Initial scoping methods included emailing and mailing letters (see Appendix A) to inform individuals of the project, contacting individuals by telephone, and/or meeting with individual in person to discuss the project. Participants were selected because of their familiarity with or knowledge of the project area. Seven individuals were contacted via email and telephone in early November 2018. In December 2018, four individuals participated in interviews (Table 1).



Figure 1. Map of project area (from the *Kealakekua Bay State Historical Park Master Plan Improvements Draft Environmental Impact Statement*, Belt Collins Hawai'i LLC, 2018:1-1)

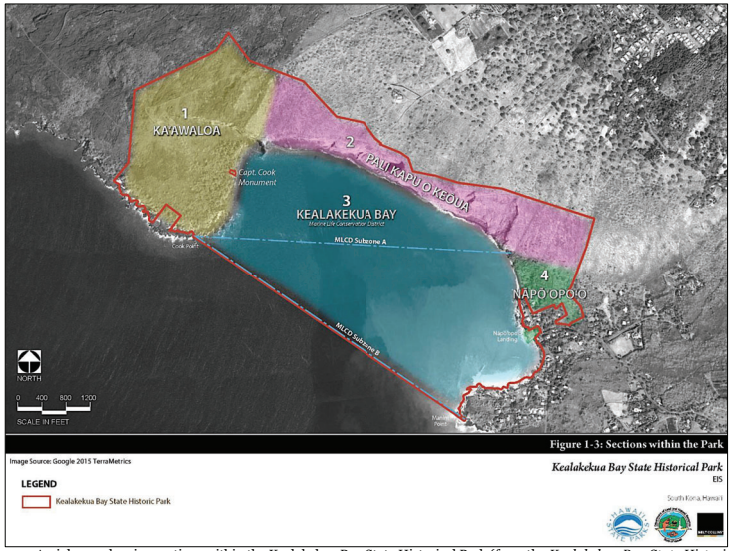

Figure 2. Aerial map showing sections within the Kealakekua Bay State Historical Park (from the *Kealakekua Bay State Historical Park Master Plan Improvements Draft Environmental Impact Statement*, Belt Collins Hawai'i LLC, 2018:1-5)

Table 1. Community Interview Participants

Participant	Background	Notes
Chucky (Charles) Leslie	» Kupuna » Lineal Descendant » Generational Hawaiian Lawai'a (fisherman)	Completed group interview on 12/01/18. Mana'o is included below.
Rae Fuimori Godden	» Lineal Descendant	Completed group interview on 12/01/18. Mana'o is included below.
Connell Kahaka'ioikamālie Ravenscraft	» Lineal Descendant	Completed group interview on 12/01/18. Mana'o is included below.
Shane Akoni Nelsen	» Lineal Descendant	Completed group interview on 12/01/18. Mana'o is included below.

The kama'āina that participated in the interviews acquired their knowledge about the region of Kapukapu through growing up in the area, personal experience and observations, and/or knowledge from written sources. Additionally, they acquired their knowledge from older family members who passed on personal, historical, and/or genealogical information about Ka'awaloa, Kapukapu, Kealakekua and/or from other individuals outside their family.

This ethnographic work utilized semi-structured interviews because they are open ended yet follow a general script covering a pre-determined list of topics. The interviews were conducted in a "talk story" format to allow for a more informal dialogue and free-flowing conversation. This interview style is typically more comfortable for participants as it flows more naturally and does not follow a rigid structure. Most of the interview questions were open-ended allowing for more response freedom while still maintaining the desired interview focus. The interview questions were derived from primary themes identified to obtain an understanding of Ka'awaloa and Kealakekua historical and contemporary significance and to document stewardship and preservation recommendations (see Appendix B). The five themes included:

1. Mo'okū'auhau and Loina Kūpuna (Cultural Practices)
2. Fishing Practices
3. 'Āina Mauli Ola (Natural Resources Mauka To Makai)
4. Preservation Issues (Community/Individual Concerns)
5. Community/Individual Recommendations

All the interviews were recorded by hand-written notes and audio, and portions were then transcribed and summarized. The summaries were then sent to the participants for review, an accuracy check, and to confirm they were comfortable with the thoughts, information, and comments being shared. Nohopapa Hawai'i worked hard to ensure that the voices of the community were honored, respected, correctly heard, and properly conveyed.

Throughout the study, and particularly before any meetings or interviews, it was carefully explained to all participants that their involvement in the study was voluntary. An informed consent process was initiated and completed, including providing ample project background information. The informed consent form (Appendix C: Informed Consent form) included the participant's rights including notification that participants could choose to remain anonymous. Project background information included explaining the study focus and the purpose and importance of the study. After proper notification and discussion, the interview participants voluntarily provided verbal consent for Nohopapa Hawai'i to use their mana'o for the project as well as signed the informed consent forms. All of the interviews were scheduled and arranged for the participant's convenience, and none of the interviews was initiated until participants felt completely satisfied with the process.

COMMUNITY ETHNOGRAPHY SUMMARY

On December 1, 2018, Nohopapa Hawai'i, was honored to conduct a group interview with lineal descendants, Uncle Chucky Leslie, Rae Fujimori Godden, Shane Akoni Nelsen, and Kahaka'io Ravenscraft. Uncle Chucky's ipo, Krista Johnson, was also a part of this group interview. Their valued mana'o and 'ike is expressed fully in the proceeding summary.

Mo'okū'auhau and Loina Kūpuna (Cultural Practices)

Uncle Chucky Leslie was born and raised in Nāpō'opo'o in 1941. He is a generational Hawaiian lawai'a who has been fishing for 72 years in Nāpō'opo'o. Nine siblings: Sonny [hiapo, 87 years old], Joanna, Butchy [82 years old; live O'ahu and fishes there], Mary [has since passed], Alfred [has since passed], Chucky, Nani, Earl [youngest; passed way in 1954], and hānai, Gordon [who's Kiwaha family], when he was a baby. "My brother died at 10. My mother was grieving and wanted another child."

Rae Godden shares her mo'okū'auhau, "I live in Keōpuka. My mom, Rose Akana Fujimori, was born and raised in Hōnaunau. My father, Taro Fujimori, was born and raised in Ho'okena." Rae shares, "We came down here [Kealakekua] a lot as kids, it is our closest kahakai. My dad would fish and we were intensely eager swimmers. My ancestral connect to Kealakakua Bay is through my ancestor, Ka'iana Kū'ahu'ula. His half-brother, Nāmākēhā, is my direct maternal line, ali'i protectors and caretakers within the Pu'uhonua o Hōnaunau [Hōnaunau ahupua'a, Kēōkea ahupua'a, Ki'ilae ahupua'a complex]. My great-grandmother, Mālie Nāmākēhā, is buried in the heiau next to our ancestral house site in the Chief's House Complex in the Kēōkea ahupua'a [an archaeological site where the first park administration building was located from 1961 to 2006] of the national park. The 'iwi of Nāmākēhā were among ~46 interred in Hale o Keawe. I relate to Hōnaunau, my big thing today is that we have to promote the whole region, from Ka'awaloa to Ki'ilae. That's all the Royal Grounds. We also have to function from mauka to makai. I feel every area is connected so we must continue to do what we can to help preserve things and to help create this Cultural Plan for Kapukapu, beginning now, beginning here." Rae's mom was a part of the first advisory group for Kealakekua Bay State Historical Park, "I remember I went with her and the first time we all sat around, it wasn't anything cultural. It was more 'Where are we going to put the pavilion?' 'Where are we going to put the bathrooms?' Somehow it went dormant [no funds, I'm sure] for 20 years, they came back together, and we were there too. 'What are we going to do now?' So they had to re-do things. I am also a current practitioner of Hikiau, our Pu'uhonua 'ohana, who has been doing ceremony from Hikiau Heiau to Ki'ilae since 2015."

Kahaka'io Ravenscraft was born and raised in the Kealakekua area, "I live in Onouli. The Mahi side of my family, my mom's side, we're from Ke'ei. They lived in Nāpō'opo'o village as well. My second great grandfather was named Henry Mahi. Born in Ke'ei. He married Eukenia Nāhue(i)wai, she was raised in Waimea but was also from Nāpō'opo'o. Henry and Eukenia went to Kalawao on Molokai, he was a carpenter and went as an act of charity to help those with the Hansen's disease. There is a church there that he is said to have built. Their children were born there, my great grandfather, also a Henry, and his siblings Jon and Ester. Jon and Ester were twins; Jon was also Albino. Being that the children never contracted Hansen's disease they were sent back to Kapukapu; Henry was hānai by Makekau 'ohana, Jon and Ester where hānai by Kahawai 'ohana. A story about Jon, the albino, is that he was a good fisherman who would fish the southern area off Kapahukapu. He was known to leave fish at the front door of the houses of all the 'ohana on that side of the bay. He always went out at night but one day did not return. After a time however, a white niuhi would be spotted from time to time patrolling that area off Kapahukapu. Perhaps it was him. My grandparents' generation left so there was a disconnect and my parents' generation didn't grow up here. But they came back after my mom got married. So I was born and raised in the area here." Kahaka'io continues to share about the two sides of his 'ohana, "The Mahi side and the Nāhue(i)wai side that was from the Nāpō'opo'o village, Kekua village area. Those are the descendants from Hewahewa and Pa'ao line. An old family line that is from the area."

Akoni Nelsen was born and raised on the ahupua'a of Kalamawai'awa'awa, the wahi is called Waiamau, after the name of the brackish water well and pond that is in the vicinity. Today, that entire side of the bay it called Manini Beach. Akoni shares a portion of his mo'okū'auhau, "My maternal great-great grandfather, Ka'alekahi Kupa, a Kahuna kālai, was documented by Hawaiian Historical Society's Edgar Henriques in 1912 as 'Kealakahi.' Ka'alekahi was born near the site of Hale o Keawe called Kauwalomālie, in Hōnaunau ahupua'a, and spent his childhood at Ki'ilae, South Kona, which is now part of the Pu'uhonua o Hōnaunau National Historical Park. Ka'alekahi mother is from Nāpō'opo'o whose family is tied to the Kealakekua, Kalama and Kahauloa lands. Ka'alekahi and his wife, Kaleikauea Kawa'auhau, lived in the kula region of Kalamawai'awa'awa, and they lawe hānai [adopted] their daughter, Lucy Keli'ihelewalemahuna Ka'alekahi, to his kaikunāne named 'Iwikauakaumakaowakea Kalua brother to Kualau [kāne] (Kapule/Hashimoto family), Kaneahakini [wahine] (Maertens family) and Keone [kāne] (Kailiuli/Ching/Molaka-Lee/Moku family), their mother was from Ka'awaloa and to which one of 'Iwikau's daughters lived at Ka'awaloa up until the late 1880's. Lucy Mahuna Ka'alekahi was also hānai to her aunt and uncle, Loke Alawa and Lota Kaulukou, the one-time attorney general and personal lawyer of King Kalākaua, when they retired in South Kona. At age 16, Lucy married Antone Lonoikamakahiki DeGraca (Grace) of the Kuaimoku/Paliuli lines of Ka'ohe, Alae, Kīpāhoehoe, Kolo, 'Ōlelomoana, and 'Opihihale in the Kapalilua district. They had 16 children of which my grandmother, Lillian Alepoki (Grace) Nelsen, was the ninth." This is the mo'okū'auhau/genealogy of how Akoni's 'ohana now reside on the ahupua'a of Kalamawai'awa'awa, mauka and makai, for many generations, "As early as the 1840's, the Ka'alekahi/Kalua 'ohana mainly farmed, and travelled up and down the ahupua'a of Kalamakowali and Kalamawai'awa'awa, which was at one time considered 'ili kūpono within the Kealakekua ahupua'a. The family did diversified farming from kalo, coffee, lima beans, vegetable, 'ulu, kukui, 'uala, pia, oranges, and tobacco. From about the 1880's they did small ranching to include cattle, eventually the generations later worked for McCandles and Greenwell ranches. Up until the 1960's, this family became known as the Antone Grace family, who farmed and travelled the ancient trail on Kalamawai'awa'awa mauka to makai frequently moving between houses as seasons changed for certain crops. Weekends was spent at Waiamau (beach house) for relaxation and fishing and other seafood gathering that would then be taken with them up mauka. Eventually, there were a total of nine homes the family would utilize during the course of the year."

Akoni's paternal great-great grandfather was John Grace, Jr., son of Keali'iahonui Kalalahua, and her first husband, John Grace, Sr., "The family has ties to Ke'ei-Hōnaunau area. John, Jr. married Kamakaopiopio Panui of Ke'ei and the couple resided at Kapahukapu now known as Manini Beach and the family retained ownership up until the 1970's. Their daughter, Gracie Kaleihulumamo Grace, married Antone Gaspar, son of John and Maria Gaspar who resided in Kahauloa. John being famed for constructing the first coffee mill. The couple resided on Kahauloa across the street from the reconstructed Nāpō'opo'o School that closed in the 1960's. My family, the Grace's, the Gaspar's, and some of the Leslie's, grew up in this village and has been actively connected and rooted to ancestors such as Keawenuiaumi, Lonoikamakahiki who resided at Kealakekua Bay some 500 or 600 years ago, as well as direct lineal ties to Keaweikekahiali'iokamoku, a paramount chief of Hawai'i Island."

"I was about 6 years old when my parents, who resided with my maternal grandparents at Waiamau, built a home and moved mauka at Tanaka Subdivision where Greenwell Park is currently located across of Manago Hotel, which is on the ahupua'a of Kealakekua. Although we lived mauka, my aged grandfather needed care and therefore we spent many days at his house and family gatherings and traditions continued at what we called the Manini Beach House. We lived mauka for a few years and came makai to live with my grandma Lillian in the '80's." Akoni mentions that he learned to care and pick coffee from a young age, along with his extended relatives, "They picked coffee in the Captain Cook and Hōnaunau regions. I would throw net with my father at the Manini beach kaheka. My grandmother taught me to plant vegetables and taro, and process 'ulu for poi. My maternal and paternal relatives raised cows, pigs, and chickens within the Captain Cook, Nāpō'opo'o region. They would till the soil with burned charcoal to prepare for planting vegetables and taro. Taro and green onions was planted in mounds. Life was not only dependent on ocean resources, but also land resources. My family farmed and fished according to season. During off seasons, my father and his paternal grandfather would make nets, this is when the boys learned how to repair and make fishing

nets. Throughout the year, they also harvested lauhala to make products such as hats, baskets, and ornaments. As I got older, I realized that my family lived mauka/makai and was dependent on those resources, therefore managing and caring for those resources has been long standing to me and extended for generations until this very day."

Akoni shares his mana'o regarding plans for the Kealakekua Bay State Historical Park, "Coming from Nāpō'opo'o, being raised in a culture, not just kai but also 'āina, and the spiritual culture as well. I feel there's only less than a handful of us left in our village with the knowledge of our wahi, the environment, and the way of life that allows people to continue to live within a village versus a city, and still enjoy modern technology. If we don't do something about setting a foundation, then in the next generation, we will disappear. If that's what society wants, great. BUT, as long as I'm breathing, that's not going to happen. So I'm here because I felt strongly about working with the State in developing better ways to correct some inaccuracies, and to also assert and fill some puka [holes] in the Cultural Impact Assessment." Akoni is grateful for Uncle Chucky Leslie, Uncle Lionel Gaspar, and Uncle Joseph Grace sharing their invaluable mana'o and 'ike, "Their mana'o is golden. It needs to be said, heard, and acted upon. Not just listened to but there has to be action. As long as I'm alive, I'm going to make sure that happens." Akoni shares that Kahaka'io and Rae are a part of the 'ohana who are actively engaging in spiritual practices here in Kealakekua Bay.

Loina Kūpuna: Cultural Practices, Spiritual Practices, Interpretation and Utilization of Hikiau Heiau

According to Kahaka'io, "Nāhue(i)wai was the last resident kahuna behind Hikiau. The actual kahuna. They lived by where the penal house was." Akoni continues this mo'olelo, "The kahuna complex closed down after Cook. That was actually a pu'uhonua. The priests owned it. It closed down around the 1700's. By the time Kalani'ōpu'u passed away, Kekua Village closed down. The priestly families were already moving out. 'Ōpūkahaia already left. When he left, it [the Village] was already disbanding. The families moved outside the complex, behind the ponds."

Kahaka'io continues, "Similar to how we work with the Feds, having a foundation document which drives the rest of the Cultural Plan. Expressing that Hikiau is an active cultural site. No permits to practice. These are the seasonal practices associated with this particular wahi pana."

The lineal descendants all agree that the State needs to learn when is Makahiki Opening, Ala Polohiwa a Kāne, Kanaloa. "So they know when we're [the cultural practitioners] practicing on Hikiau."

According to Akoni, "Historically (post-contact) and while growing up, my family practiced Catholicism, Kalawina (Congregational), Mormonism, Buddhism, and Pentecostal, but have never abandoned their 'aumākua traditions completely. Many of the 'aumākua practices were infused as family traditions. Today, relatives gather at Kealakekua Bay and Hōnaunau/Ki'ilae to continue traditional spiritual practices to include Makahiki and others such as celestial and seasonal ceremonies, 'aumākua practices, 'iwi kūpuna traditions to include repatriation, and wahi pana practices that were handed down generationally, as well as working with other practitioners from other parts of islands in restoring and perpetuating traditional/spiritual practices. These spiritual practices are tied to the Hawaiians who lived in the area long before the arrival of Captain Cook, and has transcended through the generations making it relevant and living to this day."

Akoni continues, "The 'ohana from the area have revived and restored Makahiki ceremonies at the Hikiau complex for over eight years and collaborate with other practitioners Statewide and other indigenous cultures that practice similar ceremonies within the Pacific to include the Maori and Native American Indians. The restored practices of Wailokoalii pond continues to play a significant role in ceremony as it relates to traditions and philosophies pre-Cook contact throughout the year. Celestial ceremonies continue year-round at Hikiau and currently the 'ohana has been working in our community to apply the concepts and philosophies that come from these traditions."

Akoni mentions, “The traditional spiritual practices do not impact cultural sites, but bring them alive and practical for today. Myself and others believe that these practices are relevant and are the basis of community foundational planning because they hold the foundational philosophies that make up the character of Kealakekua Bay, and these philosophies, if practiced with integrity based on traditional worldviews, are considered valuable to many from around the world. I feel this is one of the many reasons people want to visit Kealakekua Bay. It’s a place where the Gods are still alive and flourishing because they [‘ohana] keep them alive.”

Kahaka‘io shares about the cultural practices of Hikiau Heiau as an important time-keeper:

> Its functions are how we kept time and it also represents why we kept time. What that temple holds is quite possibly one of our most ancient cultural practices. The ancient people looked to the stars for advice in numerous manners; navigation, agriculture, fishing, politics and war, love, there is no issue for which man will not inquire in heaven. In this ancient custom of looking to the stars, the heiau were our calculators. At the heiau the kahuna observed and deciphered those signs from the heavens – a deity in itself, called Lonoikaouali‘i.
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> The methods people of different cultures use to keep time is a reflection of their worldview and their understanding of the environment on which they subsist. We as humans exist by the will of time. All our decisions, all of our habits, everything we do is because of this thing called time. We are ruled by time. Look at history, the nations of men have always been governed by those who perceive and track time. When you control someone’s schedule you control their lives. It is no coincidence that this unyielding force of western colonization that has suppressed the world for many human generations now, in its effort to seize control, almost immediately upon making contact with an indigenous nation initiates the implementation of their Gregorian calendar as a meter of time.
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> This heiau, and the numerous heiau across the islands, in some form or another, served, as just one of its responsibilities, this function of time-keeping. The significance of these cultural practices at Hikiau is a keystone in the understanding of our ancestors and how we interpret our history and traditions to the world. And the world is here, this state has not failed in its effort to bring people far and wide to this island home, however it has continually failed to interpret the culture with integrity, it has failed to preserve our sacred sites, it has failed to honor and uphold the tradition and philosophy of its indigenous people, it has failed to preserve our ecosystems, and it has failed to make these islands the best place it could be for the global community. To move forward the state must begin to place serious stock in supporting the protection of cultural sites and the ongoing practices associated to those wahi pana.
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> The heiau is our place of assembly to maintain traditions and reconnect to parts of our culture that were almost lost for a time. Through our practices the heiau continues to serve its function. We gather for ceremony at a time called Ke Ala Polohiwa a Kāne – the summer’s solstice. While in ritual we observe the clouds and the winds, we notate the position of the sun’s elliptical course, we track the movement of the stars, we see these things and attempt to decipher the effect of those subtle energies upon the honua and upon ke kanaka. The heiau is a powerful tool. The ‘ike the heiau keeps is the very knowledge our kūpuna use to determine when to farm and when to fish; when to build and when to rest. The heiau served this function for the kanaka maoli, and it was such an important function that our ancestors in turn served the heiau to ensure that its functions continued. This is what we do today. We are part of this mo‘okū‘auhau.
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> So we gather for Ke Ala Polohiwa a Kāne in the summer. We gather for Ke Ala Ma‘awe‘ula a Kanaloa in the winter. Time to observe the different stars and different signs and we notate the changes just within that one half of a year to another. The equinoxes of the sun we gather for as well, that time is called Piko o Wākea. These four ceremonies are focused around Kānehoalani – the sun.

The Kaulana Mahina integrates time-keeping based on the silver-haired moon. The passage of the moon shows us a thirty-day cycle by which to note each month, this cycle is called Kaulana Mahina. Within the Kaulana Mahina are placed the seasons of the sea, the sky, and the land, and all the living things. Other places in the world call it an almanac. It contains both practical and esoteric knowledge of our honua. In the heiau practices at Hikiau and ‘Āle‘ale‘a (at Pu‘uhonua o Hōnaunau), there are four major cycles throughout the malama [month] during which the heiau were taboo for ritual and observations. These kapu are the Kapu o Kū, Kapu o Hua, Kapu o Kanaloa, and Kapu o Kāne. These are nights for prayer, meditation, and astrological or meteorological observation. These practices are observed in a number of places from Ka‘awaloa to Ki‘ilae; places such as Hikiau, Wailokoali‘i, Waiamau, Kapahukapu, Kulou, Palemano, ‘Āle‘ale‘a, Hale o Keawe, Alahaka, and Niukūkahi, to name a few.

Hikiau heiau is the piko of our Makahiki practice. It is where the custom originated generations ago, and where the practice continues today. The mo‘okū‘auhau of Hikiau heiau itself is incomplete without Makahiki. Makahiki is both a celebration of the year and a recalibration of the calendar. What that means is that it is the time period during which the old year transitions into the new year. And as our ancestors viewed this event on a planetary scale, this transition does not occur over a single night, but occurs over a period of three malama. Makahiki progresses in intervals, beginning after the autumnal Piko o Wākea.

Being governed by the Kaulana Mahina, the dates during which observances are made are lunar dates. On the night of Hua in the malama of ‘Ikuwā and Welehu the kapu kuapola is observed at Hikiau. This is a significant night for astrological observations and the location of the lananu‘u mamao or anu‘u tower atop Hikiau serves as a key marker for astronomical alignments marked on the heiau. Before the heiau became largely ruins, the location and alignment of ki‘i, houses, fences, and pathways also met astronomical alignments. A number of stars are significant to the observations made on this night, stars for which the months of the Kaulana Mahina are named; Kā‘elo, Kaulua, Nana, Hinaia‘ele‘ele, Hilina‘ehu, Hilinamā, ‘Ikuwā, Makali‘i, as well as the stars of Uliuli and Melemele. The kapu Makahiki we observe begins in Welehu as well. On the Lā‘au nights a ceremony called Waiwai Maloko takes place. Offerings are placed on Hikiau heiau as well as on heiau at Pu‘uhonua o Hōnaunau.

An icon for the practice of Makahiki is the Lonomakua. The Lonomakua is an image constructed of two finely carved and polished shafts of wood, meant to represent a primitive fire starter. Of course this image is sixteen feet tall and eight feet wide. The two pieces form a crosspiece over which drapes a white tapa cloth called ‘oloa. Our Lonomakua is decorated with albatross pelts, the feathers from red roosters, and these ferns called pala; its image represents a venerated ancestor-deity called Lonoikamakahiki. There are many legends of Lonoikamakahiki; I will say this about the matter here: Lonoikamakahiki is both a deity and an ancestor and ruling-chief of the island of Hawai‘i. The reverence of this deity began at Hikiau heiau over a thousand years ago, and several ruling-chiefs have been called Lonoikamakahiki; most famously a son of Keawenui-a-Umi and most recently the son of Keawe‘īkekahiali‘iokamoku by his wife of the powerful ‘Ī family, Lonomaikanaka. This Lonoikamakahiki is perhaps better known as Kalaninuikaiamamao the father of Kalani‘ōpu‘u.

Following the solstice, Ke Ala Ma‘awe‘ula a Kanaloa in the month of Makali‘i, the corresponding stars begin to set earlier each night. This prepares us for the closing of Makahiki. Two ceremonies take place at this time. Ke Koko Mao‘oloha i ka Lani and ka Wa‘a‘auhau. Ke Koko Mao‘oloha i ka Lani comes from the legend of Makali‘i. It is a large net filled with ho‘okupu, the net is shaken until its contents spill out. This tool of divination is intended to reveal the expected abundance – or lack thereof – for the upcoming year. The Wa‘a‘auhau is the sending away of the deity of the Makahiki. A Wa‘a, carved in secrecy, is prepared and laden with ho‘okupu. At the seasons close the wa‘a is taken out to sea and set off, returning the deity to the ancient ancestral lands of Kahiki.

> With the setting of Makali'i comes the rising of Manaiakalani and the 'Aha season. This is the time of the year when heiau are built, or restored, and then consecrated. These are the malama of Kaulua, Nana, and Welo. The 'Aha is a tradition brought to Hawai'i by Haho. It is a custom of our ali'i and kahuna and today binds us to their ancient kuleana. In truth the 'Aha refers to numerous rites and rituals performed at the heiau and it is one of the most important heiau practices to be preserved today. Through the words and movements of ritual, the heiau are activated for the year – I say 'for the year' because each year during Makahiki the heiau shut down and each year through the 'Aha, the heiau is re-activated. Ritual is a necessary function for the heiau to serve the 'āina, and as pa'a akua who serve the heiau, it is a necessary function for us to complete these rituals. The work of caring for the heiau is the work of caring for mana, and mana is in the lives of all things of this earth. In the trees and the dirt, in the salt waters and coral reefs, in the dogs, pigs, and rats, in the feathers of the hawk, in the mist and rain and wind, it is a universal energy. These things I speak of are subtle energies, often completely unrecognized and unnoticed by a large majority of people, however even our modern sciences are finally beginning to understand the complexity and energy of atoms and molecules – a thing we call kini akua – and the life of the heiau is directly connected to the life of its 'āina.

Regarding interpretation of Hikiau, Akoni shares, "One of the many functions of the heiau validated the transitions from one season to another based on a myriad of observations that was experienced in a suspended period of time, which dictated the ancient society. It took many functions and forms that included the celestial, atmospheric, earth, and ocean beings including how their character would change based on these changes. Its function continues to be relevant and evolve alongside environmental cyclical changes we face today. One of the functions of the Mo'olono (Lono priests) was to maintain the accuracy of Kaulana Mahina (the Hawaiian Calendar) and to re-calibrate the calendar during the opening of Makahiki and during the Lonomakua processions within its own district. Today, as we address climate changes, and human interaction with nature, it has changed and is governed by a new system to which Hikiau has much to offer the future. Hikiau has many definitions and hearing them from kūpuna who practiced on Hikiau, one can gather that it was such an important and significant luakini – state temple."

Akoni mentions, "There are several types and ways on how Kealakekua Bay, as a whole, not just the park, can be interpreted. Despite the State Park's jurisdiction and boarders, the State would not be doing justice for the Native Hawaiian culture and lifestyle if they only focus within their Park boundaries. If they [the State] chooses to limit their abilities to reach out and participate with the community at large, to which they once did, they will find that cultural landscape is inclusive and is impacted by their plans to encourage or assist in addressing visitor/recreation only communities. The bay was called Kapukapu, but there is a region that was and still is Kapukapu – Ka'awaloa to Ki'ilae."

Akoni asks, "If the Park develops interpretation for only visitors, then how can the local communities learn the depths of this wahi pana? Therefore, I've created two categories of interpretation:

1. Visitor interpretation to include only signs:
   Visitors are only here for ten to fifteen minutes before they move on. The visitors are not here to engage in the area. They are just visitors. To provide a longer platform would only do injustice to the integrity of the historic and modern traditional practices that continue in the area. The State does not need to provide massive infrastructure that will change the dynamics and culture of the village into a tourist trap. However, feasible infrastructure to address visitors should be considered that the visitors' presence is only temporary.

2. Local (statewide) community:
   These visitors would come from the local or other native communities, to where familial oral histories would be shared. Schools, Universities, cultural groups, etc. A kahua (common area) should be developed to allow for residential kūpuna or mākua to deliver this information. This information will probably inspire and allow for proper engagement of this area from mauka to makai and well into the ocean and skies. This knowledge can be housed or delivered by Native

> Hawaiian groups and families who have lineal ties to the area. Should the State ask for this information, discussions should be made as to who the State will curate these oral histories and for what purpose."

Akoni continues, "Cultural interpretation of any wahi is 'far and wide.' A collaborative effort between the State Parks and a good representation of lineal descendants from Kealakekua Bay area should assist with future interpretations. This statement should be defined within a Cultural Plan should further understanding be needed."

Fishing Practices

Uncle Chucky Leslie shares his lawai'a practices he learned from his papa who fished akule, 'ōpelu, 'ahi. Uncle mentioned he's able to do all types of fishing in Hawai'i and his papa taught him how to fish in a diversified way. His favorite style of fishing by net is 'ōpelu (see Appendix D: 'Ōpelu Fishing practices By Uncle chucky Leslie). At the age of 5, he began fishing with his 'ohana and his father, Henry Andrew Leslie, Jr., who chose him as the one to learn the family fishing techniques. "At the age of 5, I would help my papa make net because they would make their own nets. So one time, he picked me, 'I need you to help me today.' I said, 'Ok.' I felt big because there was three other brothers who are older but he picked me. We made net on the lānai and tied it to the posts, and he put a chair over there and he told me, 'You hold this line.' I was wondering why he told me that when the thing is tied to the posts. 'Papa, why I gotta hold here and its tied to the post?' He said, 'If I no tell you to hold this, you not going to sit over there. You helping me by sitting there.' And he was right, I would be running all over." At age 7, his father put him on the boat to help fish on weekends, school vacations. "At first, I was sick. Three weeks, only throw up. They tell you, 'If you like be a fisherman, you gotta keep going.' All you do is eat crackers so you have something to throw up. You come home at night, and you feel like you still on the boat, everything is moving. I just kept going and that's how I got out of the seasickness."

After that, they started to teach Uncle how to make net, "The first time, they had a practice net for me. And it was good thing because even though I made so much mistakes, they never did discourage me. They would say, 'Next time you going do it better.' I took a liking to that. Every day when I'd come home from school, they first tell you, 'You come home, one hour you make net.' That's it, only one time they tell you. And even if you come home and you no like make, but you don't have to. But, I had it in my head that I wanted to learn so I'd come home and everyday I'd make net for one hour and then I'd go play. After that, they brought a box of net and was told, 'You start your own net.' At the age of 14 years old, I completed my first 'ōpelu net (42 ft. deep x 21 ft. wide), and caught 97 pieces on my own with this net at 'ōpelu house with Alfred. That was the biggest thing for us." He continues to share how these nets were made, "My grandpa would make eye-for-eye. A small net would take him about three years to make. When my papa them started to make net, they order the material and build the net up. It's faster that way. It's the same way I make my nets today. I order all the material from the mainland, and then I build it up." There was no olonā (*Touchardia latifolia*), so Uncle Chucky's grandfather used cotton to make 'ōpelu nets. Today, monofilament is used to make akule nets. "The kuku we'd make out of 'ūlei (*Osteomeles anthyllidifolia*). In the 40's/50's, we used to go up mauka to Manukā, get a permit from the State, and then they'd we go pick 'ūlei. We'd bring plenty home, then tie them up into a bundle, and store the 'ūlei sticks in the pond [*by Cameron's house*]. Because when 'ūlei stick comes real dry, it starts to break. You have to pick them young to bend. We used to use guava, too. But hard to find straight guava stick. Then we went into the steel rod but too heavy. Now, we use fiberglass rods." It was mentioned by Krista, uncle's ipo, "When the Japanese came here in the 1920's, his grandfather and father paid attention to how they made net. So, their nets are hybridized. Instead of the funnel nets the Hawaiians made, its real big." Uncle Chucky continues, "My father said there was a Japanese husband and wife who lived down here and they only fished with nets. 'It was unreal to watch that guy make nets. The guy looking at you while he cutting the net. All by feel.'"

Uncle Chucky's grandfather, Henry Andrew Leslie, Sr., was the wharf agent at the old Nāpō'opo'o pier who ran five commercial fishing sampans out of Nāpō'opo'o. "He laid the family mooring down in 1911, which we still use today. Our family had been selling fish to Suisan Market in Hilo since 1911. Grandpa

Leslie passed the business on to my father, Henry Andrew Jr., in 1955. My father ran the business until his passing in 1996. We fished akule, ʻōpelu, ʻahi, and bottom fish." Uncle Chucky's mother's father, Henry Laʻanui Kaneao, was from Kaʻawaloa, who was also a fisherman. "He mostly bottom fished. He taught my mother fishing who helped my father run our family business." Uncle Chucky continues to share about his papa, "My tūtū man, my mom's dad (Henry Laʻanui Kaneao) is actually from Kaʻawaloa. They were the last family to live in Kaʻawaloa and they got kicked out in the 1940's. Their family name is Kaneao and Kaʻaihue. They were born and raised in Kaʻawaloa. My mom told me when they'd go school, they walk up the pali to go Konawaena School. Every day, walk up and walk down." His aunty Martha Lerma is one of seven children who was born and raised in Kaʻawaloa. She currently lives in Hilo. Uncle Chucky continues, "When they moved to Nāpōʻopoʻo, my grandparents were old so they could no longer go Kaʻawaloa. So when they passed away we continued to fish there."

Akoni asks uncle Chucky when did his family move away from Kaʻawaloa? "They were forced to leave in 1941 because of the war. Then they moved over here [Nāpōʻopoʻo]. Military was all over the beach over here. They had fox holes in front of the beaches. My mom would wash their clothes." Krista continues, "In the 1950's when it was turned into a State, there was another hit against it. When they made it into an MLCD, they wouldn't let the family go over to Kaʻawaloa anymore. And it became outlawed in 1972, they couldn't go there anymore. Except the monument because Sonny them care take the monument for the British." Uncle Chucky mentions, "Governor Gill came to my father and said, 'You want gathering rights there, we can write it up now just for you.' My father said, 'If you give me gathering rights, what about the rest of the people who live here? You give me, then you give to everybody.'" Jesse inquires, "because of that, how did that affect the fishing in the 40's?" [This part was shut down because of WWII] Uncle replied, "They shut everything down, even my dad. No one was allowed to go because of the Japanese. They shut them down for like six months. My dad said they were working for the County for $.65 a day instead of fishing. Their boats were moored down here. They could only go fishing a certain time of the day, go check the boat, and come back up. Because it was Marshall Law." "Families would come down to Kaʻawaloa from the mauka side but not many. You'd see a Filipino, Japanese pole fishing. Greenwell had cattle there at Kaʻawaloa. We used to chase the cattle into the corral, push them all in the water, they go swim, and then they come out. The next time we come, the cattle are in the corral all waiting. They like go swim so we push them in the water." [*Laughter*] "It was good, when they had the cattle there, the underbrush was all gone. And never have the overhang on the beach like today. It was all open, the trees were all back but now all fall down. Underneath was clean because of the cattle. The ponds were still there. The fish heiau but now that's all broken."

Uncle Chucky shares about the surround story, "The first two fish that come up, we throw back in the water. [20's or 30's] But way before, there used to be one special guy would put the first two fish and put behind the heiau someplace. My dad said there's a kūʻula in there [Hikiau Heiau] but they went huli the kūʻula. One time they were watching a school of akule for three months and school stayed out in the deep water, on the coral, so they couldn't catch the akule because they have to come way inside the bay. Somebody told my grandfather about this kahuna from Kaʻū, Henele was the kahuna name. My grandfather told my father about that, and asked, 'What you think?' 'Well, been sitting there for three months, might as well try.' So, they went and got Henele and he came over. The first thing he tell, 'Go and get one black pig. You kālua the black pig.' Everyone ate the kālua pig. The balance was to make the hoʻokupu, they took it out and he prayed, then put the hoʻokupu in the water. The kahuna told my father, 'Tomorrow morning, you get your crew, 7 o'clock the fish going be right in the bay.' My father didn't believe and he went home and told my mom, 'You think that going happen?' My mom said, 'Well, you guys got him over here so why not believe.' 7 o'clock the fish was right in there. The kahuna told my father, 'From this school, you're going to surround one school after another. You're going to pull net until you cannot even feed yourself [because the skin on his hands all broken]. Your wife is going to have to feed you.' My mom said everything was right. They surrounded seven schools. My father said they surround this one, the last fish they took out of the net, one more school comes. That's not natural, that. This man brought the fish. Then the kahuna told my father, 'You like be the caretaker of this kūʻula, I can teach you and bring it back upright. That fish kūʻula can bring <u>any kind</u> of fish into this bay.' So my father went to talk to my mother's father, 'Boy, you don't even touch that. 'Cause if you don't even know how to take care of that, that going start eat you and the family down.

Best you continue what you do now.' That's why my father never follow through. The kūʻula is still there, but they when huli it/put it to rest." In the 30's Hikiau Heiau was already dwindling, per Akoni.

Krista mentions, "Tūtū man from Kaʻawaloa, like Chuck's mom, would always be the ones to warn people, 'Don't Go Mess with that, it's not your business.'" The kūʻula at Kaʻawaloa, in the old days, had but when Uncle Chucky was growing up, "They never did tell us." Krista mentioned in the 1920's surveys, "They came through and talked to tūtū man and he was caretaking the wai. By the time Chucky was born, the fish heiau was pretty much in ruins. It was just tūtū man, tūtū lady and the kids still living at Kaʻawaloa. They were the only family left."

Uncle Chucky shared, "There's seasons in all the different kinds of fishing. You catch ʻahi a certain time, ʻōpelu certain time, akule certain time, and bottom fish a certain time. That's a way you could make a living as fishermen. Because, if you only know how to catch only one kind of fish, and that season is pau, then you have to go find a job on land. As fisherman, we know all that type of fishing, you'll never starve. You'll always have work because the seasons go one after the other. All my life I fish like that, with the seasons." He continued to share regarding fisherman today, "They don't do what we used to do. They have different practices. They only study one type of fish, like ʻahi fisherman, some bottom fisherman, but they never diversified like how we did. The only type of fishing I never did in Hawaiʻi was shrimp fishing. But every other type of fishing, I did in Hawaiʻi. Hook akule, hook ʻōpelu, net ʻōpelu is one of the biggest things we do. Also, surrounding akule was a big thing for our family." Uncle continues to share, "When the first boat comes out, my papa or my grandpa used to have one truck and every house down here, get 20 akule. They get the first fish before we ever sell one pound. The people in the village receives the first fish." The akule seasons would start January to March. It was a simple life in the village for everyone. Today there's a lot of different ways to work to make a living.

Uncle Chucky continues, "Even after they moved here [Nāpōʻopoʻo], we'd always go Kaʻawaloa weekends to lawaiʻa. As kids, we'd get together, paddle over. They tell us, 'No bother the naiʻa.' Somebody is watching, the canoe gotta go straight over, no can turn. If someone sees the canoe turn, you no have the canoe next weekend. Someone seen you go chase the naiʻa. We never did bother the naiʻa. Even though they come by use, we keep going straight to Kaʻawaloa. We'd go Kaʻawaloa, clean the property, take care of the house. That time, the people used to come down with the jeep on the old jeep road, they'd use the place but when they go home, they throw all their ʻōpala all over. So we'd go there, sometimes three canoes with four people in each canoe, and bring back all the ʻōpala back to Nāpōʻopoʻo."

Uncle Chucky mentions they also fished off the shores of Kaʻawaloa, too, small kid time. "Whatever we catch, we come back to the village and share with all the kūpuna. We did all kind of fishing at Kaʻawaloa." He continued to share about imu fishing techniques, "Kaʻawaloa, there's shallow places, you build an imu, like how we build pig imu, big stones all over. You leave them, the next week you come back, the first thing you do is kāpeku all around, chase all the fish in the imu. Then you put the net around it, throw the stones out, and as you throw, the fish coming out hitting the net. So we'd catch the fish that way." Uncle mentioned this imu fishing technique was done all along the pali, as long as it's nice and flat. "My tūtū man used to fish like maiko, manini, but they used tako ink sack. That's how they catch them. Because you use any kind bait, they no bite. But certain way they made it, and certain things they used, they catch different types of fish. They made their own hooks, they'd find small metal to make their own hook and everything. That was interesting for us to learn when we were there with them. They would find the old tire, use the small wire from the tire, and then they'd shape into a hook." For aku, "The pā (*mother of pearl shell*) was used. My father said they'd grow the pā right in Kaʻawaloa. And he said, 'every aku fisherman get his own pā, several pā growing.' What you do, after certain time, you have to break the lip so it grows thicker to make a nice pā. So dedicated, they no bother the next fisherman, everyone grew their own. That's how they got their aku pā." Families of Kaʻawaloa also gathered ʻopihi, paʻakai, limu, which they took the boats out past the point, Keawekaheka. These families really didn't need to come fish Nāpōʻopoʻo side. "Families from Kaʻawaloa gathered Kaʻawaloa. Families from Nāpōʻopoʻo side gathered Nāpōʻopoʻo. You stayed in your own area. That was the practice. Sometimes if we go into a different area, we have to get somebody from that area come with

us. Like, invite you. Even though cousins, you gotta give the respect. My dad told me, 'When you go in different areas, the first thing you do, you mālama the ʻāina, respect the ʻāina, and you respect the people who live there. That way you going get respect back. That way both sides give respect. If you go over there and be a cocky guy, you're not going anywhere.'"

According to Uncle Chucky, "Kaʻawaloa had limu kohu, pai heʻe, waewaeʻole, wana. There's plenty spring water. There used to be a lot of coral but haven't dove in that area for over 20 years now. Even in our day, we only take so much and that's it. We only take what we needed, you don't take too much. If too small, we threw them back. When my papa them would surround akule, we would all help." That was a village thing, help one another. January, February, March and November would be the next akule season. "We never did use moon or calendar. But I think my tūtū man them did in those days."

"The ʻōpelu season this year came late. Probably the water temperature. We see the temperature change and the bleaching in Hōnaunau. That's why I think our ʻōpelu season came late. We had one year, just when the water changed, the whole year we fished ʻōpelu. It was a heavy season [2015]. That was the only time in my whole life I seen that. The old timers say, 'Watch the coffee.' But this year the coffee was ready, but no ʻōpelu. Could have been the vog, too. But when the coffee is real ripe, the ʻōpelu season is unreal." Size of the ʻōpelu, "There's pilikia between fishing communities with the belief that there needs to be a size limit, which is not true. The Hawaiians used the small kine and you can't separate them out. The small ones are the best ones to eat. Hoʻokena was trying to do a seasonal size where you couldn't catch the small ones. I told them, 'I fish 72 years [ʻōpelu] and every year had small ʻōpelu, abundant ʻōpelu, we never did change. Go ask all the old people what they'd rather eat. They'd rather eat the cigar ʻōpelu…fry crispy; eat raw.' When ʻōpelu stops eating during the kapu season, there's nothing you can feed them. You throw everything in the water, they don't eat. You see 30 pounds of ʻōpelu, you throw palu, you'll see 5 ʻōpelu come up. It balances itself. That's when they're carrying the eggs. After they spawn, that's when they start eating. The kapu season is summer, March to August. We fish from August to March. March on, it's really hard to catch ʻōpelu. Get plenty, but they not eating. Can hook them but for net ʻōpelu not can. That's when we start changing fishing." Akoni mentions, "'Ōpelu season is open during Lono and closed during Kū season." Krista also states, "'Ōpelu is a sacred fish and the migration stories which seems to be missing/people don't know about."

Uncle shares about the importance of the kākū (barracuda), "We were always told don't touch the kākū because it's the ʻōpelu herder. We feed them. That's one sacred fish that I learned from my grandparents." Krista shares her experience fishing with uncle for 3 years, "'ōpelu is interesting, they make what's called a kawili which is a big wall, there may be 100,000 pounds in that wall, all the predator fish swim on the outside perimeter. They don't even eat the ʻōpelu. They'll just sit there, and all of a sudden something would shift, and then they attack." Uncle continues, "There used to be a big kākū, and every time that one came, there would be a big school of ʻōpelu. There was this young boy, and I went down to the point after a long time of not going. I don't see the kākū. I ask him, 'Eh, where the kākū?' He said nothing. Usually you go down there and the kākū comes. The boy said, 'I went throw the floater and I caught it.' I asked what he did with it? He said, 'I took it home.' I said, 'What the hell is wrong with you.' We usually feed the kākū. After that, we fish plenty ʻōpelu, *boom*, all of them scatter. Usually when the big fish come, you see what's chasing, but we don't see nothing. The whole year like that. You see plenty ʻōpelu but now you don't see nothing. I told him, 'You know what, you do all this. You killed the kākū. Look now, you see what's chasing the ʻōpelu?' He said, 'No.' I told him, 'The gods are chasing the ʻōpelu.' Now you have imbalance." Akoni mentions, "Today's kids don't sit down with their papa and learn from the net to the fish practices." Uncle continues, "They bring me to patch their nets and they no like learn. You weren't allowed to fish until you finished making a net."

In regards to the fishing koʻa of Palemano to Keawekāheka, Uncle Chuky shares, "When I was growing up, it wasn't family orientated. But maybe before it was. We had eight canoes going out of here [Kealakekua Bay] when I was growing up. Everyone had their own koʻa in the early morning and nobody stole each other's koʻa. You'd pick that koʻa early in the morning and other fisherman wouldn't bother. After 8 or 9 o'clock, we'd go check. Nowadays, no more that kind of respect. I'd fish by the limu rock. Bobby would be at ʻōpelu house. Bobby would be by Kahauloa. It changed after they died and now the young guys coming up, they don't have the respect."

Uncle Chucky and his ipo, Krista (*who interviewed uncle about 20 years ago*), shared a word document explaining 17 types of fishing methods (see Appendix D: ʻŌpelu Fishing practices By Uncle chucky Leslie and Appendix E: Types of Fishing practices By uncle Chucky Leslie)

Marine Life Conservation District (MLCD)

In regards to the impacts of the MLCD to the fishing families, Uncle Chucky replies, "We could still fish akule. They put us in the area beyond the second pile. If we surround them, we have to bring the net out…from Zone A to Zone B. We had to change and alter the course of the fish in order to gather. ʻŌpelu we could fish in both zones. No gathering shoreline such as ʻopihi, crab, limu. In the pali, you can't do anything. There used to be hundreds of dolphins in the bay before, and not so much anymore." Akoni continues, "That proves that the MLCD does not work because its set up for recreation and visitors. It's not set up for resources, flora or fauna which is a part of our oral history. Uncle Chucky shared that prior to the MLCD, things were managed appropriately. Despite Kaʻawaloa having a small amount of residents. Today, there's zero residents. Even more so the whole thing fails."

Regarding the MLCD management system working or not, the community shares their manaʻo. Uncle Chucky mentions the way they had it before, the gathering was better, "With less people Kaʻawaloa side. There was a built in respect for the families who lived in the Village. Before, they had the respect. You don't go other people's area. Today, no more that kind." Akoni continues, "I learned that the MLCD for Kealakekua Bay was in place for recreation so people could go snorkeling and underwater park. Besides the uncles being allowed to fish akule and ʻōpelu, everything else was prohibited. Even for just spear kole. Now, no more kole. Before the MLCD, always had. The population in the village today, you can count on one hand that's kānaka. How come the management system no work? The coral still dying, the fish is gone, but when we we're growing up and we'd collect, always had."

Krista mentions, "When you have families living here, the impact is less than the vacation rental. Now we're 85 to 90% vacation rentals, so you have these big turnovers and the cesspools are full with other stuff so you have that degrading the fish. Talking with you, Shane [Akoni], Chucky's dad was the caretaker for the Pali as well as the monument. In the 20's and 30's, Bishop cleared out the pali, they took everything from the 1890's to 1930's. Even when I moved here in the 90's, you could still see canoes in the pali but you don't see them anymore. There was a huli, the cultural stuff got shut down in the 20's and 30's and was taken out. So in some level, its undermining the practitioners that was living there, like his [uncle Chucky] family or other people around here [Nāpōʻopoʻo] setting up for no longer being cultural anymore. It was already shifting to this [MLCD]. Commercial stuff was being done back then but the tourist was coming in the 50's, the Waikīkī thing comes here. And then turning it into the MLCD geared for recreational instead of respecting the fishing and the people."

Akoni continues, "They had no intentions in preserving our resources when they instituted the MLCD. So when we talk to Bill Walsh guys and DAR, they say, 'The MLCD has its purpose.' But when I would have informal conversations with conservationists, I'd ask, 'There's these FMAs [Fishery Management Area] and FRAs [Fishery Replenishment Areas] that supposed to feed into the MLCD but they're not.' They would respond, 'The current is wrong in Kealakekua Bay to establish it as an MLCD.' So I ask, 'Do you agree with me that it should be changed? At least the FMA.' And they would have 'No comment.' This is the reason why I feel like we need to establish these cultural observations and plans for Kealakekua Bay. Because I believe that we have the answer. Their management process did not work. Hopefully the Park will kūlō and humble themselves and say, 'Yes, we want to figure it out.' That's the reason I came forward, the EIS was all about recreation again. It's a fight on our end."

Krista shares, "The whole thing about recreation, that's Kalaniʻōpuʻu, it's such an important place for Hawaiians. It's the most neglected, not on the Hawaiians part, because they're not allowed to be over there. When we go over there, we have to go with the State, you can only go in certain areas. He [Chucky] cannot technically go to the fishpond or on to his grandparents' place."

The group agrees with Krista and Akoni continues, "Just like us, as active practitioners. We technically cannot go on Hikiau Heiau. In fact, one year, they told me they were going to arrest me and had 200 people down there. We were doing Makahiki."

Krista continues, "What's important to us, if you can get the kids in and get them involved with the fish counts. One of the things they're looking at in Pāhala, is bringing us in to teach Marine Science but observational Hawaiian Marine Science. That's with Kawehi Ryder who is also interested in helping us to get into Kaʻawaloa. They carry liability and such. The examples of Hui Aloha Kīholo, that's the first non-profit Hawaiian group that has been given the right to watch over from the State. It's been empowering for us to watch that happen. The problem is the State and their mismanagement and from day one they were looking at making this a recreational place."

It was mentioned that Uncle Chucky left the wharf in 2007 because of the kayaks. Uncle gave back two of five moorings back to the State, which his grandfather put down these moorings when Hawaiʻi was a territory, "We had to go fight to keep them and the State back-fined us. We hired an attorney who said, 'We can win this case but what do you need more, the mooring or the money? The State could say, 'You win this case, you can have the money back but you're not getting the mooring back.' I took the mooring and paid the $2,000 fine. We were still fined by the State because we had a mooring without a permit." Per Krista, "The only legal commercial property down here is the one we live on. I found the special dispensation permit [Chucky's mom kept] from the Governor, the 1960's tidal wave."

With the Resources Disappearing, It Was Asked, 'What's the Urgency?'

The urgency is to shut down. "The State did shut down when they wanted to regulate the kayaks. Curt Cottrell is saying there needs to be stickers on the kayaks with periodic shutdowns." The community is saying, "You cannot shut down whenever. You shut down for a purpose." Per Akoni, "Is the State going to sit down with Uncle Lionel [Gaspar] and Uncle Chucky [Leslie] to figure out this purpose? No, they're going to DAR who hasn't done a fish count in the bay for too long. Am not sure how they [the State] can come up with a plan to shut down without the community, the kūpuna." Uncle Chucky mentioned that he'd give up every fishing right he has in the bay if the bay was shut down and people stopped coming [for recreation].

Akoni shares, "I advocate a shutdown for recreation or human population. But I also advocate for subsistence living. I feel there's a balance here, shut down periods are important. A total shutdown, it's because of the imbalance, that's why kūpuna are saying this. They [the State] can't even fathom the thought of restoring resources and that's sad."

Uncle Chucky has counted over 700 people in the morning at Kaʻawaloa. He also counted over 400 people on the rocks at Hōnaunau not counting people in the water and walking in. "It's turned into a playground at these wahi with no respect for the host culture. It's our food source and they [the State] prohibit us from gathering in these areas. Kaʻawaloa is such a small area and the human impacts [sunscreen, urinating] plus boat impacts over there is not right."

Krista shares, "When we go over to Kaʻawaloa we count the lua area and we usually count 12 to 17. But this last time we went over, we counted 23. And we [Chucky] showed them [the State] where all the lua were at ʻĀwili. So UH and the State came over and nixed it. He [Chucky] said, 'Really, traditionally for over 100 years, this is where we go to the bathroom and something's wrong with it?'"

ʻĀina Mauli Ola (Natural Resources Mauka To Makai)

Maintaining the Integrity of Water Sources

According to Akoni, "Prior to the County bringing waterlines down into the village, residents relied heavily on rainwater to fill water tanks and supplemented their water uses with wells, and sewage was mainly made up of "out-houses." Yet, Kealakekua Bay at one time was considered to have pristine Class

AA waters. Wells were at almost every household, and well into the 50's to early 70's, the wells were still used for household cooking and cleaning. Today, there is little effort the State has done to maintain the pristine water sources in the Kealakekua Bay region from Palemano point to Keawekaheka point. The concern is that the quality of water changes the landscape and the ability for resources to continue thrive in the area is not monitored effectively, to which resources will disappear leaving no 'impacts' and allow for foreign development to move in. I believe there is hope to restore the water quality and its resources through cultural methodologies."

Akoni continues, "Reefs housed limu such as pāheʻe, līpoa, kohu that require some fresh water source. Also, certain areas where spawning took place required fresh water sources and those areas have changed. The Park should be an advocate of the resources instead of prioritizing profits. And that some of these resources may be just outside of the Park's boundaries, but the State Parks should be pro-active in working with neighboring communities to benefit the vitality of the flora/fauna within their boundaries."

Flora, Fauna, and Maintaining the Integrity of the ʻĀina

Akoni shares, "The area of Kealakekua Bay can be extremely dry and arid. However, māla (gardening) and food cultivation traditions for households continue to this day. The ability to grow ʻuala, ʻulu, vegetables in this environment is a testament on how native knowledge has the ability to utilize environment for sustainability. ʻUala was grown in rocks without any soil. ʻUlu was grown near the beachside, groves of coconut were established at Nāpōʻopoʻo, Kahauloa, and Keʻei.

Revitalizing flora will bring back fauna that was once in the area. The birds relied on loulu seeds, pili grass was important. The invasives need to be addressed and removed so that the natives can return.

ʻŌpeʻapeʻa [Hawaiian hoary bat] is abundant. You can hear them every night no matter what part of the shoreline you are at. Hopefully, a new study will come out and this study would be done at night instead of daylight hours. When I'm at Hikiau at night, I can hear them [ʻōpeʻapeʻa] constantly throughout my night visit at Wailokoalii or when I'm on Hikiau heiau."

Huliau – Solutions

Uncle Chucky reccomends that he "would like to have it turn back but don't know how to do that. Maybe you guys have some answers. I know what it was before, it was the best thing that happened."

Akoni also shares a solution, "I would like to preserve that and bring it forward so that it's relevant, not just for us today, but for the future. To do that, I feel we need to dive into the Community-based Plan that would fall into a Cultural Plan. So that the culture, is what's everything you [Uncle Chucky] learned from your papa, is the driving force of the Community-based Plan or the foundation. The driving force is the community. Even the people who don't practice ʻāina and kai traditions like the vacation rentals. They're still a part of our community. We can't get rid of them so we're going to write them into the Cultural Plan. Guess what, when you come to the ocean, this is how you act. An example to remind the State is the Hāʻena State Park Plan. The people of that place did a lot of documentation, educational films that could be taken to the classroom so you don't need to be driving all over the place. Your ʻike is on the media."

Krista shares another example to remind the State, "Hui Aloha Kīholo managed to get that area closed for 6 or 8 weeks because the Marshallese had moved in. You have to have a core group that is willing to be there every day and work together. You have to have something in place for people to mālama. How do you close it off so the people from the village can come in, start working, and get things going?"

Akoni continues, "We agree there needs to be a shutdown period annually. We have discussed Makahiki [Lono practitioners], we know there wasn't a complete shutdown during Makahiki season. This is why I'm going to our kūpuna, Uncle Lionel and Uncle Chucky, to figure out the fish spawning seasons. I feel those are shutdown periods. When does the ʻopihi spawn in Kealakekua and how do we let it grow? Once we're able to gather that kind of information, the spawning seasons of <u>all</u> our

resources [ocean, along the shoreline, along the kahakai], the Kumulipo teaches us, that impacts the shoreline, too.

Uncle Chucky mentiones there's already climate change, "We haven't had limu pāheʻe [heʻe] for over 10 years. These are the things that fed our genealogies for centuries and those are the things that are gone."

Akoni shares, "On the heiau, we're not just praying for the thing to come back but we're also acknowledging the seasons today. The Lono is the seasons today. We're also doing observations from that point of view [on Hikiau Heiau]. But we also need the observations in the kai, on the kai, on the ʻāina. We do need participation but what do we observe? What is it that we observe? Uncle can tell us what's valuable to our village. That's what we're going to start with. Hāʻukeʻuke, I miss the taste. My grandma and I would go pick hāʻukeʻuke right here, in front our house. My grandma only liked the gravy. I miss that flavor. Everything was set for recreation and not the resources. I'm hoping we can introduce Kaulana Mahina again. That's my dream. In order to do that, we have to understand what is valuable to us and that we'll get from our kūpuna."

Akoni shares about the Friends of Kealakekua, "Rae's mom [Rose Akana Fujimori] and uncle Jerry Shimoda, who was the Superintendent of two National Parks back in the 80's, they participated in the Friends of Kealakekua the 1985 plan. Uncle Pilipo Springer, father of aunty Hannah Springer, was the president and was also the president of the Hawaiian Civic Clubs. He facilitated the discussion of the 1985 plan. They sought out Jerry Shimoda because of a recreational sight. They blatantly called us [Kaʻawaloa and Nāpōʻopoʻo villagers] illegal gatherers at in that 1985 plan. If I'm not mistaken, the National Park Service is about resources. I have sought out to make this area a national park under the Feds. I've talked to the [park service] regionals as well as the superintendent but they said, 'No more funds.' But the Feds cannot turn away something if you give them something. The State is not willing to give them this park [Kealakekua]. They look at it as a commodity. The way we huli this is we show the State that it is a commodity for the residents **not** for the visitors. How is it going to be a commodity to the residents? We get to eat, we get to conserve, we get to learn our ʻāina, we get to be connected, and the resources can be a part of our genealogy again. Right now, I'm unable to chant our genealogy because we don't even have the humuhumunukunukuāpuaʻa; how can I call my kamapuaʻa in the ocean? They're not there. Where's our limu? Where's our limu kala that the wāhine need to go out and gather?" It was also pointed out that the last time akule was rounded up in the bay was 15 years ago, 2003. Only small schools come inside the bay."

Rae expresses, "It's great to educate the younger generations but the guys fishing out there now, think they know everything, they're not asking for lessons. But they're just applying. Those who come to recreate, there seems to be such a need for this etiquette whether it's fishing etiquette or road etiquette, we're missing a whole portion of people besides keiki to educate."

Other solutions were expressed, "You have to have kid's programs, education. You have to close it [the bay] down to some degree. The State has worked with enough people such as Hāʻena and Hui Aloha Kīholo, ao they can't say they can't do the same for Kealakekua Bay." Akoni shares, "We have to be strategic in our shutdown periods. If we talk about our shutdown periods and re-opening and if we're going to do a permitting process, we need to be thorough in this permitting process. We're going to be the ones policing our own area. We cannot rely on government to police our area. If the incrimination is harsh and all we need to do is report a number, and we get documentation, like any other criminal charges. All of this can be a part of a Cultural Plan. A Cultural Plan is taking our old traditions, building upon them so we can live on them today and for the future to carry on."

Akoni highly recommends, "A Cultural Plan be developed as part of the Master Plan's functions, and that it has precedence over all other plans are rolled out. Without a Cultural Plan, the resources would disappear, and that there are no strong baselines that State of Hawaiʻi has conducted to perpetuate the natural and cultural resources in Kealakekua Bay from being threatened."

Recommendations

Interpretation

In regards to interpretation, Akoni explains, "The State is not set up for interpretation. Rae, was [retired] the Chief of Interpretation at Puʻuhonua [o Hōnaunau NHP]. We all know that interpretation styles will change based on who's in charge of interpretation and giving what types of information. The State is trying to figure out which would be the most appropriate way including what information should be appropriate. We have enough of Captain Cook, that information is pau. I feel in the Cultural Plan; interpretation should be discussed in this Plan. Interpretation does not necessarily mean you have somebody with a badge and a hat walking around telling people, 'This is Hikiau Heiau, this is uncle Chucky's koʻa.' We don't need one person. I feel interpretation is much broader for Kealakekua Bay, which should be done through media sources, community sources, DOE sources. The education of this place regarding resources, management, and history can be done through the education process such as the universities, high schools, as long as they listen to the oral histories. That is my take on how interpretations should be. They like put up some reader boards, that's maikaʻi. The new ones they just put up, I love them, but has the wrong picture. It's not of Hikiau Heiau but a photo of a heiau on Kauaʻi. The reader boards are ok as long as when we're on the heiau, holding hoʻokupu up to my gods, and I'm not looking at them [reader boards]. That's disrespectful. As long as my uncle's and cousin's go down to the kai, access to the ocean, they not looking at them [reader boards]. In other words, we can put up reader boards, but not a whole lot. Education, doesn't have to be fliers. Hawaiʻi Tourism Authority should get involved with the educational system as well. They need to listen to us and write what we say, not what anthropologists say." Rae continues, "Through the Cultural Plan, from the Cultural Plan you get the information you would like to share about the place. I'd like to share that it took 50 years that we [the ʻohana in the room] started telling a different story about Puʻuhonua o Hōnaunau. All things are possible. Just start with the Plan [Cultural] and figure out what it is, etc." Akoni mentions, "Next year [2019] will make 50 years that the MLCD was imposed and it wasn't carried out until the 70's. Maybe it takes them [the State] 50 years to realize, 'Oh my god, there's a story over here.'"

Krista tells a story she heard uncle Chucky sharing about his tūtū man teaching him about Captain Cook, "Tūtū man, who was from Kaʻawaloa whose family was probably a part of that process that got rid of Cook. Tūtū man said they got rid of Cook because Cook was raping the women [of Kaʻawaloa]." The primary documentation is oral, "The minute you write it down, it'll change. That's what's important with cultural interpretation." Krista shares an example when uncle Chucky, herself, and Tracy was at Kaʻawaloa, "Chuck[y] mentioned that one site was a fish heiau and Tracy said, 'How do you know that?' Chuck[y] just walks away [he knows because he was raised at Kaʻawaloa]. Pretty soon I notice all the tourist following but because we're being quiet, respectful, and listening to Chuck[y], what you would see that no one was asking questions, everyone was absorbing his stories. But they're absorbing the real stories. The other part is, how are you going to take care of it? Cultural interpretation is one thing but how are you going to take care of all these places. That's the big one right now. You can leave them alone but have to take care of these places and it's not going to come from the government. It's got to come from the community here, community-based. To do the work without it being, 'What's in it for me?' It's going back to the Hawaiian part of giving, mālama. Preserving it for the kids and also the community/generation now."

Krista continues, "The real moʻolelo that ties this community back to their ancestors, continuation and perpetuation of Hawaiian traditions. Interpretation on the land, ocean, and how will this be implemented and protected in a traditional Hawaiian way. It can be done, even if it's the future generations. This is the ground work being done right here or in 1985. There's more ways to be smart about this. My culture [haole] comes in and keeps coming to stop your culture [Hawaiian] because we [haole] don't give a shit. We [haole] just keep coming because it's all about us, what can we take, and we'll throw some dollars at you [Hawaiians]. Warning, if you don't stop it, you will die, and this [Kealakekua Bay] will become an amusement park. I can tell you where to look out because I know where they're coming from. I will fight for this culture and place to continue."

Rae shares, “That’s part of the education piece for the visitors. It’s not only etiquette but also all the ‘ike we have to pass on.”

Akoni expresses, “Asserting our spiritual practices. We’re not ashamed of praising our gods anymore. We’re not ashamed of calling them out, anymore. We talked about recently, no one but us are responsible to feed and keep our gods alive, it is the kānaka job, therefore, how can we feed our gods? Those resources are so minimal today. Our ‘āina isn’t producing enough to feed us or itself to share with other ‘āina. Our job as practitioners, we have to make sure those things are available. We want to feed our gods. That’s the story I tell to media/magazines. They ask, ‘What is your goal?’ I tell them, ‘You’re asking me a haole question. Ask me what is my life.’ Goals and life are two different things. I live this, this is my lifestyle. I don’t plan on achieving something at the end. My life purpose is ‘āina.”

Krista replies about cultural interpretation, “How do we step in to protect the kūpuna from the haole-Westerner questioning? I tell them, ‘I’m going to sit here because at some point you’re not going to be speaking to him as a Hawaiian. And you’re not going to get any answers.’” Akoni interjects, “That sounds like the current CIA.”

Krista continues, “It’s teaching them [haole] how to step into this culture before they start questioning the Hawaiian community.” Rae replies, “And understanding that we do have a culture. It’s like they [haole] don’t have a clue and they’re bringing their ‘culture’ and living here.”

According to Akoni, “Prior to us taking full control of Hikiau, Hikiau is a shared kuleana amongst a few of us. When I say Hikiau it’s the whole complex. I am the last of the few people and now we have new people, at least 30 more people. Currently, that’s our ‘ohana, who takes care of Hikiau. Not only Makahiki, almost every right and passage [Kū season coming up]. Important enough that we understand that there was a period in time when the shared kahu of Hikiau, a few of them were exploiting Hikiau and made money off of Hikiau. The dolphins, connecting our people to money people who rather sit down and do yoga. That went on for a long time. Today, we have allowed Hikiau speak for itself. This Opening Makahiki, after our ceremony, we were sitting there observing the rising of Makali‘i. One of the sisters came up to me and said, ‘I can hear Hikiau speaking its own language now. It’s no longer being told what to do. I feel we are stewarding this place properly now.’ When we talk about exploitation, it’s a very subtle thing. I told my uncle Gordon, ‘I know you’re working on the Parks Plan but what we have to do is work on our spirituality. In the spiritual practice is the philosophy of our ancestors.’ What our kūpuna learned, what we’re learning, what the generations to come will be learning, all come from those philosophies. Jesus Christ never teach uncle how to make his net. He may have taught uncle how to have compassion for his neighbor. The Japanese when teach uncle how to make the net. The philosophy is important and that’s what we bring back into our Village. How do we connect philosophy into interpretation? A Cultural Plan would allow us to have the discussion to come up with a process.” Akoni continues, “When we’re on Hikiau doing ceremony, people yell at us to get off, asking what are we doing. These are the things that take place so I tell the ‘ohana going up on the heiau, ‘We have to protect ourselves and things going happen.’”

Akoni continues, “Interpretation is important, who are you going to educate? Why are we going to educate?” Krista answers, “Its bringing back a process your kahuna and kūpuna would have done to choose a practitioner. Now we come up with the 15-minute, 5 bullet points for those visitors. We have the other visitors who we’ll inspire, 4th and 5th graders, in hopes when they’re older they’ll become practitioners. Those are the ones we work with at Pu‘uhonua. Then you have the ones who it’s their lifestyle. We haven’t talked with the University students. But, Huliauapa‘a program [Wahi Kūpuna Internship Program] brings students to wahi pana like this summer in Ke‘ei. We did ‘awa ceremony with them at Hikiau to introduce them to our ‘āina. That to me is interpretation that’s focused on responsible people. They’re doing work that is important. Not just documenting but creating plans for the future. The world view is ‘āina. So we’re not stuck to race. We’re stuck on the philosophy of ‘āina. Interpretation has different levels.”

Everyone agrees and Krista shares her mana‘o, “Interpretation is different levels which is the Hawaiian style like, language has three levels: what something means, the real meaning, the deepest meaning of

a word. That’s the depth you have to go to plan for something like this. Where you [Hawaiians] are going to be in charge and they [the State] are not going to find holes in that argument. Because, ‘We’ve [Hawaiians] already answered that questions, here’s how we answered it. It’s in the foundational document, the Cultural Plan.’ Transmits and perpetuates this knowledge [Hawaiian] and not a dog and pony show. That’s what needs to be defined: The visitors come, they’re looking for a package, this is the path they go on [first level]. The students come, they get another level of interpretation [second level]. The practitioners come, they get this level [third level]. And then you’re defined and it’s not an issue anymore. You may have grey areas and then you have the kūpuna or practitioners come in to help determine ‘You’re really not doing this so let’s put you back in level two and you can hang with the kids and do this.’”

Rae expresses, “Crossovers as well which also gives someone the chance to introduce all this etiquette from the community. Because they’re [visitors] not getting it from anywhere. They also need to learn etiquette also.” Akoni shares, “Our job as kahu of the ceremonies is also to inspire our community. Inspiration is key in finding out who resonates to what practices. For us in ceremony we all have different backgrounds and we share all of our backgrounds simultaneously. I’d like to see where they’re [the State] proposing the parking lot behind the heiau that would turn into a kahua, a grassy area where gathering can take place to share interpretation at those deeper levels. Introduce people who are interested in our place, our fishing places, our plant and animal people, where our bones are at, and the protocols that come with it. We don’t have a kahua, we don’t have a place for that. If the Park wants to create something, that should be first and foremost.”

Balancing Cultural Practices with Public Visitation

In regards to the question of how the community can balance cultural practices with public visitation, Krista answers, “Watching how other places are managing this and the different stages [i.e. Try Wait; Kailapa Homesteads]. Encouraging each other. You can’t stop the public from coming but the haole method is put people in a line; they’re allowed here but not here; put up ropes, get a guide to follow. But that’s really structured and not Hawaiian. A Hawaiian way is to be talking to the Hawaiian families of the area. Before, you’d be killed if you disrespected the kapu. When I moved here 30 years ago, there was no talking about stuff. How do you implement something where you allow the public access to something that is very sacred? The families know what this place is about. They’re [visitors, the State] never going to get it because they’re not Hawaiian; it isn’t in their DNA. This is the foundation for the philosophy. You deal with people mainly from the USA who do not have a culture.”

Akoni continues to share, “Kahaka‘io is the cultural demonstrator at Pu‘uhonua o Hōnaunau. The State [Kealakekua Bay] at one time was looking at physical people doing the interpretation and demonstration. Rae was the chief of interpretation at Pu‘uhonua ‘o Hōnaunau. Which is just 4 miles down the road. The difference between just having a demonstrator versus not having a demonstrator, my opinion, better to not have one. All we’re doing is (1) exploiting a kanaka who has become the token Hawaiian; (2) the depth that Kahaka‘io has is not even recognized by his employers. It’s more of an insult to have someone demonstrate how to beat tapa, superficially, like Polynesian Cultural Center. Then to have a tapa beater who acknowledges Hina and all of her goddesses. As well as the kāne who planted the wauke according to the moon cycle. It’s ridiculous to showcase these things when people don’t want to dive into the depth. Creating more animosity in the community by having a demonstrator present. I know that’s the State’s plans, they want someone with a hat and a badge go walk around Hikiau like it’s a tour. They’re not talking about the real mo‘olelo of how we went up there, had a ko‘a, observe the Makali‘i, recalibrated our calendar for the entire year, acknowledge our different seasons, and how to implement them to affect our resources. They [the State] does not get those things [our culture]. They talk about how Cook was elevated as Lono on Hikiau but that’s it. They ridicule us by having those types of interpretations. I say no to those types of interpretations. They [visitor] come over here take pictures for 15 minutes and they leave to the next area. We are not in charge of the tourism culture. The State is in charge of the tourism culture; that’s their culture. We are only in charge of our culture. We say, ‘Spend your 15 minutes and hele on.’ So, this is where they [visitors] park, this is where you view, and that’s all you know and get. That’s the interpretation Martha is looking for…the 15-minute interpretation. They’re not going to get the depth of our culture. Even if we put the depth there, they get only 15 minutes because they have to head out to the volcano. They [tourists] have a

'bucket list.' If the State is going to invest in that type of interpretation they're foolish. The interpretation we want to have happen is to inspire our keiki, our residents who want to live here and participate in our culture, that is hālau. That is learning. The government has no right defining our culture. So just stay out." Akoni continues, "They want the 15-minute bullet point. I'm ok with that because the tourist culture is not my culture. I have to exist with the tourist culture, I'm ok with 15 minutes. The people on the kayaks for 2 to 3 hours, I have issues with that. I'm ok with shutdown periods. Resource management, that's how we're going to address that issue. At Puʻuhonua, they [NPS] don't define the culture. The culture is ours. WE come up with the narratives, Kū season, Lono season, including putting our ʻiwi kūpuna back. There's a process we set-up with NPS so they know what we're doing on the ʻāina that we share with them. It's a shared responsibility. When they [NPS] needs cultural stuff, they come to us because we created value for our kūpuna now. But, legally, they can't define us. I tell them [NPS], 'You're responsible for the weeds, the plants, the animals, and the humans. Manage that.' When we manage resources, Kaulana Mahina. How is the State going to manage this without a plan? They have a master plan for recreation that doesn't even include the medicines growing down here or the food that is growing down here [in the water, above the water and on the land]. The State is not addressing that. Our Cultural Plan, which is community-based, will come up with addressing these issues, including interpretation. I am against having a demonstrator there."

Rae comments, "At Hōnaunau, we do get deep and share in our Foundation Document all these things that are important of the site for the very first time. One of them is Chief Keawe ʻĪkekahialiʻiokamoku and his philosophies such as diplomacy. I see that happening here [Kealakekua] but maybe once that is created as a foundation, that becomes the learning source for the residents or the people." Akoni continues, "At the Federal Park, also mentioned this to Curt Cottrell, they have a foundation document process. Every 20 years, they revisit these documents. We just did ours [the first foundation document since our park establishment 58 years ago], it's our generation now. Things that were missing was Keawe himself; interpreting Hale o Keawe and what its purpose was for; interpreting Puʻuhonua and what it's purpose was for. We dove deep into this. What happened with this foundation document was an educational tool that was used by the superintendent and his staff in order to understand how to plan for anything [such as maintenance]. We created a maintenance program that they could only restore Hale o Keawe from March to August. The reason for that is that's when the heiau is open. Everything else, is Makahiki and hoʻoilo season is off limits, that is not the time to do maintenance at Hale ʻo Keawe. The superintendent is now able to build from this foundation document and make his schedules, go to Congress and say, 'This is when I need my funding.'"

Akoni shares, "The 15-minute people, they get a bullet point about respecting holy places. The State doesn't use the term 'Respect Holy Places.' But that's the term humans understand. This is a Hawaiʻi Tourism question. How are they going to do this? They know our answer is to move out." All agreed that the State continues consultation with the Kealakekua Bay ʻOhana, "As long as there's at least one ʻohana, the State needs to meet with us. We're not waiting to meet with them. I told Leimana, 'the next time we meet, I want Curt Cottrell, Martha Yent, maybe Suzanne Case.' The community knows what to do. The State doesn't know what the community is doing and they're making wrong decisions."

How Would This Translate to the State?

In regards to the question of how this would translate to the State management, Akoni explains, "The State has nothing now. They don't even have a maintenance schedule down here. Tracy is taking care of maintenance and he's the archaeologist. They're so imbalanced that's why I'm pushing for a Cultural Plan. Researched on how Hāʻena got their Cultural Plan passed. It's going to require our community to come together with good facilitation [Nohopapa Hawaiʻi]. I've been telling the State for many years to come to our community and they act like this is the first time they're being asked." Krista shares, "A culturally driven plan versus a tourism driven plan. When the Cultural Plan is set, then everything runs off of this plan." Akoni continues, "It's our genealogy, our protocols. Uncle Chucky learned from his papa and then became commercial fisherman. A successful commercial fisherman."

Uncle Chucky shares his manaʻo, "I tell the fisherman, the first two fish you catch, you throw back. They say, 'Why?' I tell them if they don't throw back, they'll have hard luck." You learn a lot more by watching the practitioner than asking so many questions. Krista replies, "They were trained to sit and

wait. Wake up at 2 a.m., have tea, you're on the water by 3 a.m. You moor by 5 a.m. You get 5 ʻōpelu, that's it. The ʻohana is going to eat. But that's what you do every day, 7-days a week. They have the most incredible patience. You can see why his [Chucky] grandparents and parents picked him. That's the way it used to happen in indigenous cultures everywhere. You had the spiritual practitioners identifying the kids. Technically, Lionel is your head kupuna down here. You go to him first. Lionel and Chucky are your resources down here. That's who people need to go talk to down here. One, you have to do it correctly or they won't talk to you. You're sitting in the presence of someone who is caring for that kuleana and knowledge."

Managing Tourists During Seasonal Cultural Practices

In regards to the question of how to manage tourists during seasonal cultural practices, Akoni shares, "At NPS, there's people that work in the park that are a part of our ceremonial ʻohana. Sometimes they'll be working with a badge and they're the ones actually keeping the people away. But they're also sacrificing their time in the ceremony. Knowing the State won't do that. The signs they put up really don't work. People still yell at us. Also, when we're on Hikiau doing ceremony, the sun reflects on the sign and into our eyes which cuts us off from our concentration and focus on the ceremony. So, take down those signs as they're not needed. People aren't listening to words on them. The stone wall created a nice buffer for us to gather. People don't come up to the heiau and take pictures; they stand far away."

Traffic, Kayaks, Parking and Continued Interpretation

In regards to issues surrounding traffic, kayaks, parking, and interpretation, Akoni notes, "Community members have mentioned cultural stuff won't stop traffic. I said, 'Yes it will.' Coming back to interpretation, the kayak people, there has to be a management plan to have a resolve. The State needs to open up their boundaries which I've been challenging the State and Federal Parks on. When they manage people, the people who go to Puʻuhonua also come from here [Kealakekua]. This is a collaborative effort of all of the ahupuaʻa. The Federal parks superintendent was open to this. The State is still saying, 'I don't know what that means.' Because of their liabilities, etc. If we address interpretation, you get your 15-minute parking, and you have to leave because the information you're going to get is only 15-minutes. Opening up the wharf for parking for their people [kayaks] is important. If they cannot hold the people on the wharf, then they don't get to rent out anymore kayaks. That's called self-regulation. Whatever it is, they're [kayaks] restricted to the wharf. These guys [Kahauloa] need to be regulated by the County who don't have any process. That's why I brought aunty Maile David into the picture [County Representative]. To start that conversation, to create a management plan for Kahauloa which is a traditional landing area for canoes. To say no to launching kayaks is ridiculous but there should be some regulations. If they [kayak companies/the County] cannot accommodate parking, then they have to figure it out. The parking and the traffic issue according to the EIS, there is no traffic issue. At first I disagreed with it but now I agree with it. This is the reason why, if we don't have a traffic issue, why are they building a parking lot? We don't need a parking lot, which invites more impact [recreational]. If there's no traffic issue [Kealakekua], why are we putting more parking lots? We don't need more parking lots. The parking lot needs to be managed. The County has a few acres behind the church, create a parking lot in the lava field. I say bring in the County and talk story about that. That would be a part of our community-based plan. The State, the County has to be at the table. Emergency, lua, etc. needs to be addressed because we're in tsunami zone, traffic, we're not going to be able to leave the Village."

Stewardship, Management, and Preservation of Cultural Sites

In regards to how the cultural sites be stewarded, managed, and preserved, Kahakaʻio explains, "This is when they have to bring in the traditional knowledge of the practices and observations that take place at the heiau. And how those observations are made to help manage the site. There are certain times of the year that's good to do structural maintenance; ceremonial practices; fishing practices; gathering practices. Everything works a part of one big system." Akoni continues, "Creating a maintenance plan for them [the State] is also important which can be done through our Cultural Plan or part of the Master Plan based on the cultural practices. The more the State opens up, cleans up places, the more the responsibility. The community told them not to open up Heleheleikalani, for example, they did it anyway. So now the State has to make sure that place isn't desecrated, even though

no one going there previously. The State like clean up Wailokoali'i, people are going to want to swim there. That's our ceremonial waters. Build our kahua. We'll educate the people."

Incorporating Traditional Management Practices Into Park Management

In regards to the question of how traditional management practices could be incorporated into park management, Rae answers, "The foundation document process as well as being at the table with the State." Akoni continues, "They want to dissolve the 'Ohana [Kealakekua Bay]. Yet, that's where they're going to get the answers to this question. Ho'ala Kealakekua mission is to become a non-profit to grab monies to create a recreational-tourism facilitation process. I'm not against people trying to make money. BUT we [Kealakekua Bay 'Ohana] will not feed that entity, our knowledge so they can bastardize our culture for their profit. There's a lot of people who live on Makahiki Lane that are running Ho'ala Kealakekua. Some individuals that are a part of Ho'ala Kealakekua are trying to bridge our 'Ohana with them because they know we [Kealakekua Bay 'Ohana] have the kūpuna knowledge they need. We're not going to feed them our kūpuna knowledge."

Krista shares, "The Kealakekua Bay 'Ohana is protecting this kūpuna knowledge, which is a big responsibility. It's not even a power play, it's a whole different mission."

Rae asks the group, "If the State decides to dissolve our group [Kealakekua Bay 'Ohana], and they're paying attention to the other group [Ho'ala Kealakekua], how is that going to work?" Akoni's answer, "It'll be an upheaval in the community. It's not because we're going to gather all the Hawaiians and protest, bring cases to the Supreme Court. I made a promise to Hikiau and our gods, that we're going to spend time on Hikiau and not in a courtroom. The multitude of kānaka are not going to like the idea of Ho'ala Kealakekua mission. Especially if they know that this is a significant place and not turn into a place like Hanauma Bay or 'Anaeho'omalu."

The Future of Kealakekua Bay

In regards to how they see the future of Kealakekua Bay, all agreed as not a tourist trap. "It's a place where people can come to learn, participate and engage with our ancestral knowledge."

Rae shares about the Power of Partnerships, "Our ancestral land at Kēōkea became part of the City of Refuge NHP in 1961. At the time, the NPS (National Park Service), under the DOI (Department of Interior), had plentiful funds for parks to thrive under the national park system. Today, even this successful longstanding system isn't able to support the >420 national parks, sites and trails. What has worked successfully for us is that we (NPS, descendants and community) are all at a Lōkahi (unity) table. Politeness, respect and appreciation are the rules of order. That is the only solution possible, a cultural-based, community-driven, non-profit management group to help support the park.

Rae continues, "Meanwhile, the State has done a sad and unfortunate job caring for one of the most important sites on Hawai'i Island - Kapukapu [even the name tells us how important this site is], Kealakekua Bay, by not assuming responsibility and management for over 50 years! Now it appears that the State is still trying to pass on this kuleana to others. It is critical for the State to act, to organize descendants and community and invest important time in discussion, planning, and action. We need to create a Cultural Plan first and foremost that will guide the Master Plan, and we need to do a much better job with the incomplete and poorly written EIS. Successive discussion with the community is critical as protection and management of cultural resources are vitally more important to this 'āina than commercial revenue and visitor recreation."

Recommendations of What the Community Would Like to See Preserved and Practiced

Rae recommends "that we need to apply mauka-makai practices in our everyday lives, we need to learn our Kumulipo, expand our knowledge through the practice of kilokilo (Hawaiian observation, documentation, expansion of awareness and understanding through observational patterns), re-establish cultural resources through caring for the 'āina. Inspiring youth through our actions."

Akoni explains, "The Hawaiian moon calendar is regional. We had our own here in the Village. Tūtū Louie Pānui, uncle Bill Pānui grandfather, was the last one to record Ke'ei Hawaiian moon calendar in the Hawaiian newspaper. The genealogy of Kaulana Mahina comes from far-far away, we think from

Papua New Guinea. Those traditions came on the wa'a with our ancestors. That was the first thing that was implemented…how and where they going to grow their kalo? Our ancestors knew there wasn't enough protein and carbohydrates, so our ancestors brought kalo here. The Kāne things were growing wild here was berries and such. New Zealand talks about the same genealogy. It's the foundation of their Kapu System. Kaulana Mahina was implemented in Hawai'i and lasted for thousands of years. In the entire Pacific Ocean. And yet, we're not practicing this right here but we have a MLCD telling us what to do for the last 50 years. I like know if the State is willing to take the next 50 years and implement traditional knowledge based on observations that the uncles have done and continued observations that they do for the next 50 years. Also address climate change, human impact, and sustainability through Kaulana Mahina. Where the MLCD says, 'No to sustainability but all kinds of humans except Hawaiians are allowed here.' That's what MLCD has been saying. The maoli au honua is an individual who is normally our chief or someone who has been generationally observing a particular place that his grandparents, and their grandparents have observed. We have that, an active one [Uncle Lionel, Uncle Chucky]. We are the generation after the uncles so we pick up from them. We have a maoli au honua, we have these people in our Village. We not threatened by this plan. We want to help the State include us [the community; Kealakekua Bay 'Ohana]. The equation is imbalanced because there is no culture. Recreation can still exist but the 'Ohana will be setting the standards."

A few examples mentioned include the National Park Service with their Foundation Document; Hā'ena; Hui Aloha Kīholo. "These are examples for the State to ease the panic and show it can also happen here at Kealakekua."

Akoni shares the community needs have a huliau, "One example, we pull the weeds on Hikiau." Uncle Chucky continues, "The bonding of the people ['ohana] here is what I really miss. The village is very different now."

Kahaka'io recommends that, "We have to show that the Village isn't a theme park. It has all these different aspects, there's our temple, our gathering grounds, our planting grounds." Akoni shares, ""Our temple wasn't a family heiau, it was a luakini, a governance heiau. It determined and declared kapu systems, it determined and declared season. And it received sacrifices far beyond familial offerings. Our families had maintained this heiau and the Village for many generations. At one time, Hikiau was the only luakini for the entire South Kona District. We set the standard up and down the coast, all the way to Kahuku. Our ancestor, Lonoikamakahiki, was born there. It's a State heiau and its being treating as a tourist trap."

Akoni expresses, ""Kaulana Mahina is a marriage between the cosmos and physical, and based on historical knowledge and current experiences, the Mauliauhonua [*descendant of old chiefs of a land; established, ancient, as a family. Ua kū kēia welo ā mauliauhonua, this family is old and well established (wehewehe.org)]* summarizes the activities of the land and ocean and makes a determination to which was trusted by the community. We don't have the pua'a in the ocean anymore. We have the pua'a on the land and they're coming more makai now. Kilokilo helps marry all these elements. Kahua, we need a place to tell our story. That place is where we can see our plants and things. It used to be the Village. We need that physical kahua to be built. We have so many songs, chants that many of the families down here hold which is dying with them. We don't have a hula pā down here for people to celebrate the hula that came from here. When we start to define place names, tūtū Annie Au, had written a song that hasn't been published which names all the places down here. Just share the stories because they're all right. But the State wants one story. To say that kūpuna who've written books are the only ones that have the knowledge is wrong. Our language has different levels. The heiau people may have a different story than the fisherman about Ka'awaloa. But we're all going to agree, it's Ka'awaloa. It's all that's important, to recall those stories for these ahupua'a. Because the Park only concentrating on their areas, they only have two ahupua'a, Ka'awaloa and Kealakekua. It's funny because the EIS has Keōpuka, Ka'awaloa, and Kealakekua. Keōpuka is a part of the Hōkūli'a plan. So is the State putting Keōpuka in for their benefit? We need to challenge the State to go beyond their boundaries. The 'Aha Moku is about mauka-makai, the whole, entire ahupua'a. I've talked with Amy Greenwell board, who also do ceremony with us, that we form a connection with them because that is also the 'āina part. The story mauka also contributes to the story makai. Which the State has failed in their plans. My next recommendation is the State Parks look at the entire ahupua'a which also extends out to the ocean. This region is Kapukapu which is the royal grounds. There is a total of 5 Kalama

ahupuaʻa and two, three and four because we're family they had to maintain the freshwater resources. And they had a different kuleana in the ocean. Not every place had fishing rights. How do we reestablish those practices if we don't use our Kaulana Mahina and our observations? We never told Kaʻawaloa how to practice their fishing rights and visa-versa. The Village was called Nāpōʻopoʻo but my grandmother said, 'Inside is Nāpōʻopoʻo.' So we weren't considered the Village, we were outside the Village, we were considered Kahauloa. Place names are important. Interpretation and education, those should be a part of a Foundation Document that would be a part of a Cultural Plan. The foundation comes from everything, not just a particular period of time. That's what we call moʻokūʻauhau. The moʻo is the succession. How do we succeed? We don't wipe out, we build upon. Kaulana Mahina helps us with building because the environment teaches us how to build upon, there is successorship. Currently, our moʻokūʻauhau is broken. If the State can help us restore our genealogy, the one that beats here in the wahi pana. That's what we did at Puʻuhonua, we restored those genealogies. Uncle Chucky's genealogy is ʻōpelu, akule. My genealogy is Hikiau, the stars, the clouds, the rains. We contribute some way and somehow. The moʻokūʻauhau is when someone comes from another place, like Keʻei, to this area, different genealogy already. Although we're related by people but this water [Waiamau] here feeds me. That water feeds them. When I go to Keʻei, I feel out of place even though my family is from Keʻei. I'm respectful when I'm at Keʻei. If we cannot speak our genealogy, then we're disconnected."

REFERENCES

Belt Collins Hawaiʻi, LLC
2018 *Kealakekua Bay State Historical Park Master Plan Improvements, Draft Environmental Impact Statement, Keōpuka, Kaʻawaloa and Kealakekua, South Kona District, Hawaiʻi County*. Honolulu, Hawaiʻi.

APPENDIX A: COMMUNITY PARTICIPATION LETTER

Welina mai me ke aloha,

On behalf of the State of Hawai'i Department of Land and Natural Resources (DLNR), Division of State Parks, Nohopapa Hawai'i, LLC, is gathering community mana'o on the future stewardship and management of the Kealakekua Bay State Historical Park for inclusion in the Kealakekua Bay State Historical Master Plan. The primary purpose of this project is to summarize and utilize the communities mana'o as a source of knowledge to develop strategies, make informed decisions, and plan how to move forward to appropriately steward this special place so generations to come can experience its mana.

The project area for these interviews includes the entire ahupuaa of Kealakekua, Kona Moku, Hawai'i Mokupuni, with focus on the Kealakekua Bay State Historical Park (see attached maps).

We would like to engage with individuals, 'ohana, and organizations that have relationships to this wahi pana, and have knowledge and mana'o on how best to protect and steward the Kealakekua Bay State Historical Park, now and into the future. In particular, we would like to gather information relating to:

- The natural, cultural, and historical landscapes of the Kealakekua Bay State Historical Park and the surrounding area
- Cultural protocols and practices (both traditional and contemporary) specific to this place
- Suggestions and concerns regarding future management and stewardship of the Kealakekua Bay State Historical Park
- Preservation concerns and recommendations such as:
  - Access, security, and safety issues
  - Buffer zones and appropriate protective barriers
  - Interpretation and usage suggestions
- Referrals to other 'ohana and individuals who are connected to the project area

Our community consultation team members, Jesse Kaho'onei and Momi Wheeler, will be contacting you shortly. We look forward to collaborating with you to document your mana'o on the future stewardship and management of the Kealakekua Bay State Historical Park.

Jesse Kaho'onei	(908) 591-3420	jkkahoonei@gmail.com
Momi Wheeler	(808) 430-2557	oopu_5@yahoo.com

Me ka ha'aha'a, Nohopapa Hawai'i, LLC

APPENDIX B: COMMUNITY INTERVIEW QUESTIONS

Mo'okū'auhau; Loina Kūpuna: (*Background Information; Cultural Practices*)

- Name:
- Where did you grow up?
- Where do you live today?
- How are you pili to this place?
- Why is this place significant to you?
- What do you do and how do you mālama this place?
- Where did you get your 'ike from?
  - Who taught you?
- Is your 'ohana from the Kealakekua and/or surrounding ahupua'a?
  - If yes, how far back?
- Are older family members still living?
- Do they or you have any akua, 'aumākua, mo'olelo, legends, mele, oli about this area?
  - Any mo'olelo of place names?
- What activities or cultural practices did they practice/do?
  - Follow Kaulana Mahina? Importance?
- Do you engage in the same or other practices?
  - If so, which ones and for how long?
  - Current cultural practices, ceremonies?
  - Past or present protocols observed and practiced?
    - Such as burials (traditional or modern practices); gathering medicine and other plants that grew wild within this area?
- What are a few things of the "old" ways/days that are no longer practiced or available?
  - Why?

Fishing Practices:

- Prior to MLCD (Marine Life Conservation District), where and when did you go fish in these areas?
  - How did you go over to these areas?
  - What were some of the traditional fishing methods you used?
  - Any specific areas set aside to gather shoreline mea'ai, fish, swim, surf, launch canoes? (i.e. pick 'opihi, gather limu, pole fishing, throw net, spearfish)
- When MLCD was established, how did it impact you, your 'ohana, and the village?
  - Any thoughts of government regulations such as MLCD?
- Growing up in the Village, what did you do for recreation?
- Did you practice "giving back to the 'āina" "sharing within the village"?
  - Is this practice continued today?
  - How important is this practice?
- Do you fish seasonally?
  - Akule, 'opelu, 'oama, wana, limu, pahe'e, 'opihi, waiwai'iole, kūpe'e, 'a'ama, kona crab, lobster
  - Did your 'ohana only fish/gather on the shoreline?
  - What other means of living did your 'ohana do? (i.e. ulana lauhala, pick coffee, make lei, commercial fishing, home consumption, etc.)
- What kinds of seasonal changes to the marine landscape have you noticed since hunting/fishing in those areas? (*akule, 'opelu, 'oama, wana, limu, pahe'e, 'opihi, waiwai'iole, kūpe'e, 'a'ama, kona crab, lobster, nai'a, koholā etc.*)
  - Any other fish that used to come in the bay that no longer do?
  - Why do you think it doesn't happen anymore?
  - Any change to ocean level, temperature, clarity, pollution?
- Who are some of the old-time lawai'a?
  - Did they have their own wa'a?
  - If so, was there a specific area they launched from?

- Did families have specific area(s) to launch their waʻa?
- Did families have a designated place they would fish within Kealakekua Bay?

ʻĀina Mauli Ola (Natural Resources): (*Mauka – Makai Relationship*)

- Water resources, springs, streams
  - Wailokoaliʻi, what is its traditional use?
    - How do you feel about restoring this loko to its intended use and not for recreational?
    - How was this area utilized? (i.e. gathering plants, ceremony)
- Native plants and trees
  - Significance and uses of these resources
- Winds & rains -
- Mountains, pali, puʻu, caves
  - Kaʻawaloa, Manini, Kahauloa, Keʻei, Nāpoʻopoʻo Wharf
- Fishing & marine resources
- Native birds or animals
- What kinds of seasonal changes to the natural landscape have you noticed since farming in this area(s)? (*mango, kalo, ʻuala, ʻulu, other plant and animal food sources*)
  - What do you cultivate mauka and / or makai?
- Are they used commercially or home consumption or trade with other families?

Preservation Issues: Community / Individual Concerns:

- Tourism, when did you notice an increase in the Village?
  - How does tourism impact this area?
  - How does the community react to tourism?
- What changes in the landscape, practices and uses of natural and cultural resources have you observed in your lifetime?
  - Are there inappropriate practices/protocols/uses in the Park?
- What are your thoughts on continued public access to this area?
  - How do you feel about the impacts of current laws, regulations, and infrastructure in this area?
  - What are impacts of opening unrestricted and unregulated access to recreation (i.e. aquarium fishing) and tourists?
- Do you have any, or know of any concerns the community might have related to cultural practices in the vicinity?
- What's your definition of "preservation"? (i.e. preservation of resources requiring management of harvesting or strictly no take)
- Should there be a buffer zone around the entire Kealakekua Bay State Historical Park?
  - Or around any individual sites or features in the Park?
  - If so, what would that look like?
    - What would it be made of/constructed with?
    - How much of a buffer would you recommend and why?
- Do you have any issues that currently affect the integrity of the sites in the Park?
  - Any suggestions on how to address these issues?
- Should all the cultural information you are sharing with us be included in the study?
- Is there any information that you do not want to be public?

Community / Individual Recommendations:

- Now that DLNR, State Parks Division is the landowner, do you have any specific thoughts on how the Park should be managed?
  - Should DLNR State Parks Division work with Native Hawaiian beneficiaries and other community members to manage/maintain the Park?

    - If so, how?
    - What other individuals/hui should be involved in the management?
- DLNR, State Parks Division's Master Plan:
  - How should the cultural sites be cared for, managed, and preserved?
  - How should traditional management practices be incorporated into park management?
  - How should cultural information be woven into the park programs, esp. interpretation?
  - How should one respect ongoing cultural practices in balance with public visitation?
- How do you see the future of Kealakekua Bay?
  - Recommendations of what types of things you'd like to see preserved, practiced?
- Any recommendations on mitigation impacts in this area which includes traffic, parking that accommodate those that negatively impact natural and cultural resources?
  - Traditional lifestyle versus continent/capitalistic mentality
- What types of interpretive uses would you like to see at the Park? (i.e. cultural practices, protocols, education, events/gatherings, tourism/tours, research, commercial activities)

APPENDIX C: INFORMED CONSENT FORM

Aloha mai, Nohopapa Hawai'i appreciates the generosity of individuals who are willing to share their knowledge of the wahi pana of Kealakekua and its surrounding areas. This mana'o will be used to guide and inform the State of Hawai'i Department of Land and Natural Resources (DLNR), Division of State Parks on the future stewardship and management of the Kealakekua Bay State Historic Park. The primary purpose of this project is to summarize and utilize the communities mana'o as a source of knowledge to develop strategies, make informed decisions, and plan how to move forward to appropriately steward this special place so generations to come can experience its mana.

Nohopapa Hawai'i understands our responsibility in respecting the wishes and concerns of the interviewees participating in this study. Here are the procedures we promise to follow:

1. The interview will not be recorded without your knowledge and explicit permission.
2. You will have the opportunity to review the written transcript and summary of your interview. At that time, you may make any additions, deletions or corrections you wish.
3. You will be given a copy of the interview transcript and/or summary for your records.
4. You will be given a copy of this release form for your records.
5. You will be given a copy of any photographs taken of you during the interview.

For your protection, we need your written confirmation that (circle yes or no):

1. You consent to the use of the complete transcript and/or interview quotes for the purposes of this study. Yes No
2. If a photograph is taken during the interview, you consent to the photograph being included in this study. Yes No

I, _____, agree to the procedures outlined above and,
(Please print your name here)
by my signature, give my consent and release of this interview and/or photograph to be used as specified.

_____
(Signature)

_____
(Date)

APPENDIX D: 'ŌPELU FISHING PRACTICES BY UNCLE CHUCKY LESLIE

My name is Charles Kealoha Leslie. I am a generational Hawaiian fisherman in Nāpo'opo'o on the Kona coast of Hawai'i. I began fishing with my family at the age of 5, when my father, Henry Andres Leslie Jr., chose me as the one to learn the family fishing techniques. At the age of 14, I completed my first 'ōpelu net and caught 97 pieces on my own with it at 'Ōpelu House. I have now been fishing for 72 years of my life.

My grandfather, Henry Andrew Leslie Sr., was the wharf agent at the old Nāpo'opo'o Pier. He also ran five commercial fishing sampans out of Nāpo'opo'o. He laid the family mooring down in 1911, which is still used by us today. Our family has been selling fish to Suisan Market in Hilo since that year.

Grandpa Leslie passed the business on to my father in 1955 and my father ran it until his passing in 1996. We fish 'akule, 'ōpelu, 'ahi, and bottom fish.

My mother's father, Henry Lanui Kaneao from Ka'awaloa, was also a fisherman. He fished mostly bottom fish. My mother learned to fish from him and helped my father run our family business.

'Ōpelu is technically known as scan mackerel. At their biggest they are about 12 inches, but the ones I net are usually 8 – 10 inches in length (hook 'ōpelu at night is generally of the larger size). I fish for daytime 'ōpelu with a net and in no more than 20 fathoms of water. There are people who fish at night with hooks and are usually in 40 – 50 fathoms of water.

Some 'ōpelu stay on ko'a (fishing grounds) during the day, and some can be found in different types of formations off the ko'a such as ho'olili, kawili and holopapa. We have also seen large schools of 'ōpelu 200+ miles off shore near the weather buoys where we longline 'ahi.

I generally start fishing on the ko'a early in the morning and then mostly look for ho'olili later. When fishing the ko'a, the fish can be found by determining which direction the current (au) is running: Kohala (north) or Ka'ū (south). When there is a Kohala current the school will be on the Ka'ū side of the ko'a, and when the au is Ka'ū, the fish are on the Kohala sid of the ko'a.

'Ōpelu palu (chum) that I make and use consists of oats, pumpkin, and ground marlin or 'ahi. I usually start by throwing down oats in small amounts and then add in the mixture of the marlin and pumpkin as the school increases in size. I watch the school through a handheld glass box in order to see how they are feeding. Usually I have a ka'ai man who handles the ka'ai (palu bag) by pulling it up as I direct him to. The ka'ai man will open the rag. I'll fill it with chum, he folds it and then I throw it. The rag contains a lead weight of about two pounds, connected to a nylon line (called bloodline from Japan) which is about 12 fathoms long.

When I think the fish are eating well and balled in a tight school, I throw a ka'ai away from the boat and then we undo the net, set it, and sink it. I use a round 4 – 5 pound rock inside the net to sink it. The net is approximately 35 feet deep and 22 feet in diameter and is round at the top (it looks like a funnel). There are eight bridles (hanai) attached to the rim of the net in order to hold it upright underwater. When the top of the net is about 10 fathoms down, I then feed the fish ball back over the net and down to the kuku (the rods that keep the net round at the top). Then I pull the net up around the fish and quickly up to the boat so that they cannot run over the net. Some fish who escape and keep escaping are called 'au'a and can teach the other 'ōpelu how to get out.

When the kuku is at the water line, the ka'ai man helps to undo the stick/rings and then pull the net full of fish up onto the boat. We then untie the very bottom of the net, which has been tied together and is called the 'eke (bag). I remove the sinker rock (mole) and then we pour the fish from the bag down into the hold on the boat.

In the fish hold, there are two large 80-pound bags of ice. I add several buckets of water with the 'ōpelu in the hold in order to make the proper brine. This in important to keep the fish in good condition for

shipping to the market. We ʻōpelu sit too long without ice/brine, their stomach will burst, they will be too soft, and the buyers won't buy them.

I usually catch on average 500 – 700 pounds per day. Really good days are 900 – 1,200 pounds, but there are a lot of 50 pound days, too. It usually sells to the buyer for $2/pound. I have recently been selling most of my ʻōpelu to be dried and sold to supermarkets. My brother also dries some on his own and his sons sell to co-workers on job sites.

I keep some for myself to eat and if the weather is good, I dry it. Other times I either pan fry or make a soup with it.

ʻŌpelu season here starts in September, about the time ʻahi season is finishing, and runs through February. Unfortunately for ʻōpelu fisherman, the last part of our season also coincides with large north and northwest swells. This limits visibility so we can't see the schools underwater to fish for them. You can catch ʻōpelu year round but not in large schools. Most nighttime ʻōpelu fisherman catch under the 200-pound mark as they are using hook and line to catch versus the large nets.

Out of my family, there are still a few of us who fish full-time. Myself, my brother Butch, who's on Oʻahu, my cousin Robert and Dexter Leslie. There are no more in our family's younger generation continuing on the tradition.

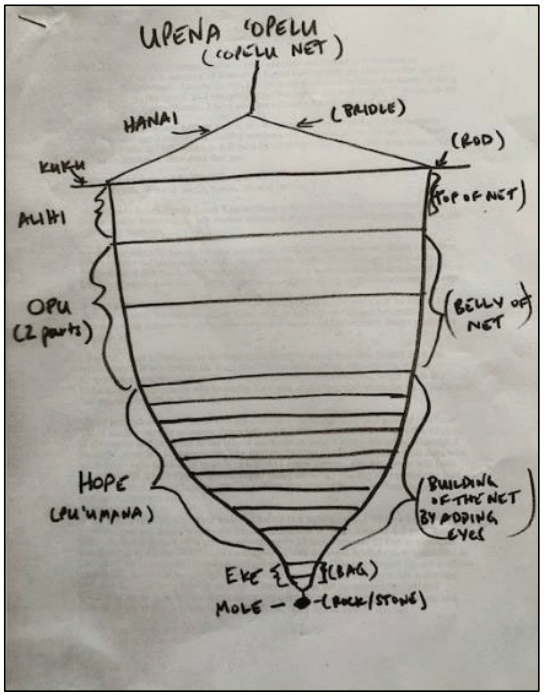
Papa ʻŌlelo

Parts of the ʻUpena ʻŌpelu (see drawing below)

- ʻAlihi – The top two to five feet of the net
- ʻEke – The bag attached to the bottom of the hope; approx. 3 feet deep
- Hanai – The bridle
- Hope – The bottom of the net above the ʻeke; it forms the shape of the net
- Kuku – The sticks that form the top of the net; traditionally made from ʻulei in Manukā
- Mole – A 4 – 5 pound round, smooth rock used to sink the net
- Opu – The main body of the net

Fish

- ʻAuʻa – Larger, smarter ʻōpelu skilled at escaping over the net
- Hoʻolili – ʻŌpelu running on the water, breaking through the surface
- Holopapa – ʻŌpelu running under the water spread out like a reef
- Kaʻau – 40 pieces of ʻōpelu
- Kawili – ʻŌpelu form a tall wall from the surface to about 5 fathoms
- Lau – 10 kaʻau
- Manu – Two lau or 20 kaʻau
- ʻŌpelu – Scan mackerel
- Poa – Predator fish that hang around the school and make pilikia



APPENDIX E: TYPES OF FISHING PRACTICES BY UNCLE CHUCKY LESLIE

TYPES OF FISHING METHODS:

I. IMU

A stack/pile of rocks 2-3 feet high. There are holes where fish can hide. Leave for one week then return. The tide must be higher than the rocks. Walk and slap water to chase fish to imus then use upena ku'u (crossnet) to circle the imus, overlapping with no joints. Enter the netted area, remove the rocks and gather the fish including the ones in the net. Clean the nets, then rebuild the imus in the same place.
Used to build 5-6 at at time at the monument area at Ka'awaloa. Did this three times a month for sustenance for the 'ohana. Built them in small, shallow areas where you could walk. Lead was placed in the bottom of then and floaters on top. These floaters were made of hau and around 3" in length.
Usually the children did this type of fishing. It was taught to Chuck by his Tutukane Laanui (Mary Kaneao's father).
Types of fish caught included: Manini, maiko, weke, Akaka, yellow tangs, small uhu, mali.

II. HUKILAU

Chuck never did this himself but watched the Mormon church members do this at Manini Beach (Kapahukapu). They would lay the long lay made from yellow, dried ti leaves (now used is poly rope, and before that omilo/cotton rope). The rope is a 3-strand rope, which would be opened and then a ti leaf inserted by its stem. Usually lay the lau from the wharf to Manini Beach. Done in 2 to 20 feet of water. You never see the fish because they are too scared of the lau. See them at bag time when they capture them. The fish do not jump the lau. (See diagram.)

III. THROW NET

We called it the upena kiloi. Has a 1.5" eye, the smallest permitted. The diameter is 12 feet and is handmade of linen netting. We use ohia and a flatstick to make the eye size. The hia (needle) is made of bamboo. We make the net 10 feet deep and 12 feet in diameter with lead on the bottom in 2" two ounce pieces. Total weight should be 10-12 pounds and leads should be spaced one inch apart.
Certain good spots for moi and uoua, aholehole and other reef fish. Very similar to the fish caught in the imu tradition.
Standing on the shore at the edge of the water crouch down and hide so the fish don't see you. Watch the sun to assure you are not casting a shadow onto the water, too. The best time is when it is ½ tide as that is when the fish come in to feed on the rocks. For uauao as they go down to eat as soon as you see their shiney sides, then you throw. Net is held in your hands and thrown over your shoulder, using right hand to throw if you are right handed.
For moi and aholehole, they are in the water foam from the waves, so you throw over them, and in cases where you can't see them (most of the time they are in the blind) you throw the net over the area that has this sea foam on it.

The net will sink and you start with the lead line and gather to pick up net. Fish are removed back on the shore. To take fish out, you hold and pull up the piko of the net (top center) and then shake. I tie a rope line at the piko so I can quickly find it.

IV. SPEAR FISH

I learned this from watching my older brothers do it (Sonny, Butchie and Alfred). We called it an Hawaiian sling made from a hollowed-put piece of wood. We used hao, then drilled through it. It measured 4-5 feet long. We then took two pieces of surgical tubing measuring 1.5 feet long each and bound them to the sides of the hao. This was done with cotton line, tied really tightly with hitches on the ends. The smaller line made of cotton would have the knotted end inserted into thubing then tied around the outer tube to fix the knot inside (on both sides). Take steel rods with barbs on the end and fish tail end to hooks into the line.
We usually did this on the weekends for 3-4 hours, wearing masks. The reef fish and fish caught in the imu tradition were the usual catch. We would paddle the koa canoe and then throw the fish caught into it.

V. HUKI HUKI

Traditional method used to catch u'u and aweoweo. We used monofilament handline 20 fathoms (120 feet) in length with 15-20 Mustad long shank hook #7. We used custom made flies, The actual rig of 10-12 feet was attached to the end of the handline. The rig was made of monofilament joined with swivel hooks that are placed 7-8 feet apart. We troll at night with canoes (paddling)or a motorized skiff moving at 2 knots along the coast starting at the Pali then to Manini then out to Ke'ei. When there is moonlight (not near the New Moon), we go. Usually during the waxing and waning moons, and not ever at the Full Moon. We go at dusk through to dawn. 2 people work 2 lines pulled by hand, using 20# test. Chuck's father, Paidy, taught him to fish this way.

VI. UP & DOWN

Used to catch u'u. Taking similar rigs as used in the huki huki tradition, with 7 hooks and usually fishing at 25 fathoms (150 feet). Stop the canoe/skiff and let the lines down to touch the bottom. Then jig the line until a bite is felt. Then pull up and remove fish from the hooks/line. Same times of the month and at the same time period (dusk to dawn) as in huki huki. Use 15-20# test.

VII. KAWELE'A

Used to catch the California barracuda. Done at night on dark nights. Anchoring in 30 fathoms (180 feet) of water, put a light out over the side, attached to the boat but not in the water. We used gas lanterns (using white gas). Usually have two crew with one line each. There should be one hook on each line using longshank Mustad 20. Chum the water with chopped 'opelu about 18 fathoms (108 feet) under the

boat. Hooks are made with a 3-4 oz lead with three feet of metal wire attached through the hook to the line (made of cotton) because sharp teeth can cut the cotton but not the metal. The fish is usually about 3-4# and 3 feet long (very skinny) and silver with dark coloring on the back. I was taught by my father, Paidy. This can be done year-round.

VIII. KAILI

Make a rig with 2 hooks (longshanked, straight Mustad 20) spaced 1.5" apart on 30# mono line with lead sinker of 8-10 oz on bottom in about 20 fathoms (120 feet) of water up to 50 fathoms (300 feet). Types of fish caught incluse weke, moano, po'o, table boss (a'awa), trigger fish.
Sink the lead to the bottom and then lift up 1-1.5 feet off bottom and wait until they bite. If no bite, then pull the line up and recheck, trying this two times, then move to a new spot about 20 feet away to retry. Chuck's father, Paidy, taught him this tradition.

IX. WEKE 'ULA

Using the same rig as in the kaili tradition with three hooks (Menoto Japanese type #20 circle hooks) on 50-60# test mono with a 16 oz lead on the bottom. There are special grounds usually about 45 fathoms (270 feet) off of Pu'u Ohau (Red Hill), Keauhou, outer Ke'ei, the lighthouse. Need a sandy bottom. Types of fish caught with this method include weke, papio and uku.
Drop the lead down onto the sand and occasionally jerk it and let it back down.
Done during the daytime in malie water on certain grounds according to the prevailing current.
At Red Hill and Keauhou, on a Kohala current; at Ke'ei on a Ka'u current; at the lighthouse on a westerly or outside current.
Chuck's father, Paidy, taught him this tradition.

X. KAKA

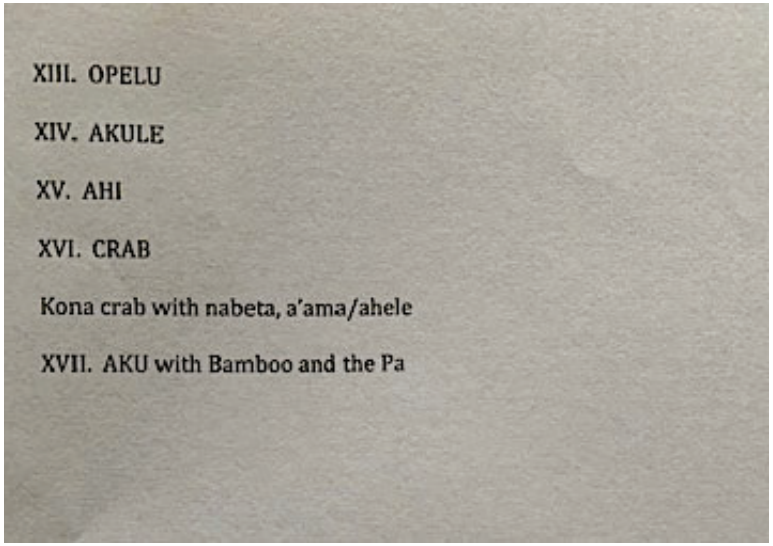
Done in 100-130 fathoms (600 feet plus) of water. Used to catch ula ula and ehu; kalikali; opakapaka; gendai; hapupu (black sea bass); gold fish kalikali.
The rig is made up of ten hooks (using circle Muroto #20) on a 3-way swivel used to attach hooks to the rig, with a 3# lead on the bottom, using 80# test mono.
Main line is 250# test Dacron (cotton in the old days).
Done up to 250 fathoms (1500 feet) by his father using an old whiskey bottle filled with sand as a lead weight replacement. The top was plugged with dried coconut husk which allows the pressure to release at the increased depths (bottle will implode if capped with regular lid). Sometimes harnessed rocks would also be used as weights. Drift on boat and wait for bite during the daytime, all day.
Grounds are rocky or coral, but it's traditionally learned grounds as you can't see the rocks/coral at these depths.
Taught by his father.

XI. OPAKAPAKA with PAKA

Paka (long a at the end) is now called make dog rag (from the 1970's on). Rags are 10"by10" square and use round, flat 3# leads with coiled mono (called ka'a in the old days a type of linen line). There are 15 strands wound with thread (need to video this) and using 80-100# test attached to the lead.
The leader is 8 feet with 2 circle hooks #28 spaced 1 foot apart. Chopped 'opelu is used as the bait.
First step is the rag is to place the rag down, then coil the leaders and set on the rag with the lead on top of it, then put the chum on the lead and then the hooks on top of the chum. Then fold the rag similar to folding the ka'ai rag in 'opelu fishing. Spin the 250# test Dacron line coiled in the box and drop to 250 fathoms.
5 fathoms of line will be spun around the make dog rig, tying a slip knot knot.
Throw this and slack to 80 fathoms, then jerk to release and open the make dog, releasing the chum and hooks and lead. Then pull up 10 feet to spring the leader.
Used to catch opakapaka, ahi. Done in the daytime on specific grounds or koa, in the porpoise schools, palu ahi grounds, and places like Ume koa to catch the smaller ahi.

XII. PAHOE

(Paddling fence)
Never seen this done, but was told by father of the traditional technique. This was a special occasion fishing and called pahoe day. In the early morning, an old Hawaiian would go out on a canoe and yell pahoe pahoe and then all would come out to go. His parents and generations before did this to catch ballyhoo (iheihe).
They would start at Napoopoo with some canoes with a few people on each canoe and begin paddling to the South. On the way, people would join in from other villages like Honaunau and Ho'okena.
They would pick a depth usually around 15-20 fathoms (90-120 feet) and form a half moon with the canoes very close together. No deep nets were used, instead the boats were the "lau" similar in concept to the lau in hukilau fishing. No nets were needed because ballyhoo stay on the surface and run on the surface, they do not dive down.
The spotter canoe would be ahead and tell the rest of the canoes when to put net?? 2 spotter canoes would then set a net/bag ahead like a corral and then the canoes would move in unison to push the fish to the net. As the half moon circle tightened one at a time the canoes would pull out and peel away. Some men would then dive off the canoes to make noise to scare the fish into the net.
On the way home, each village's canoes would turn off and take their portion of the catch home with them. It was a community effort/catch.


XIII. OPELU
XIV. AKULE
XV. AHI
XVI. CRAB
Kona crab with nabeta, a'ama/ahele
XVII. AKU with Bamboo and the Pa