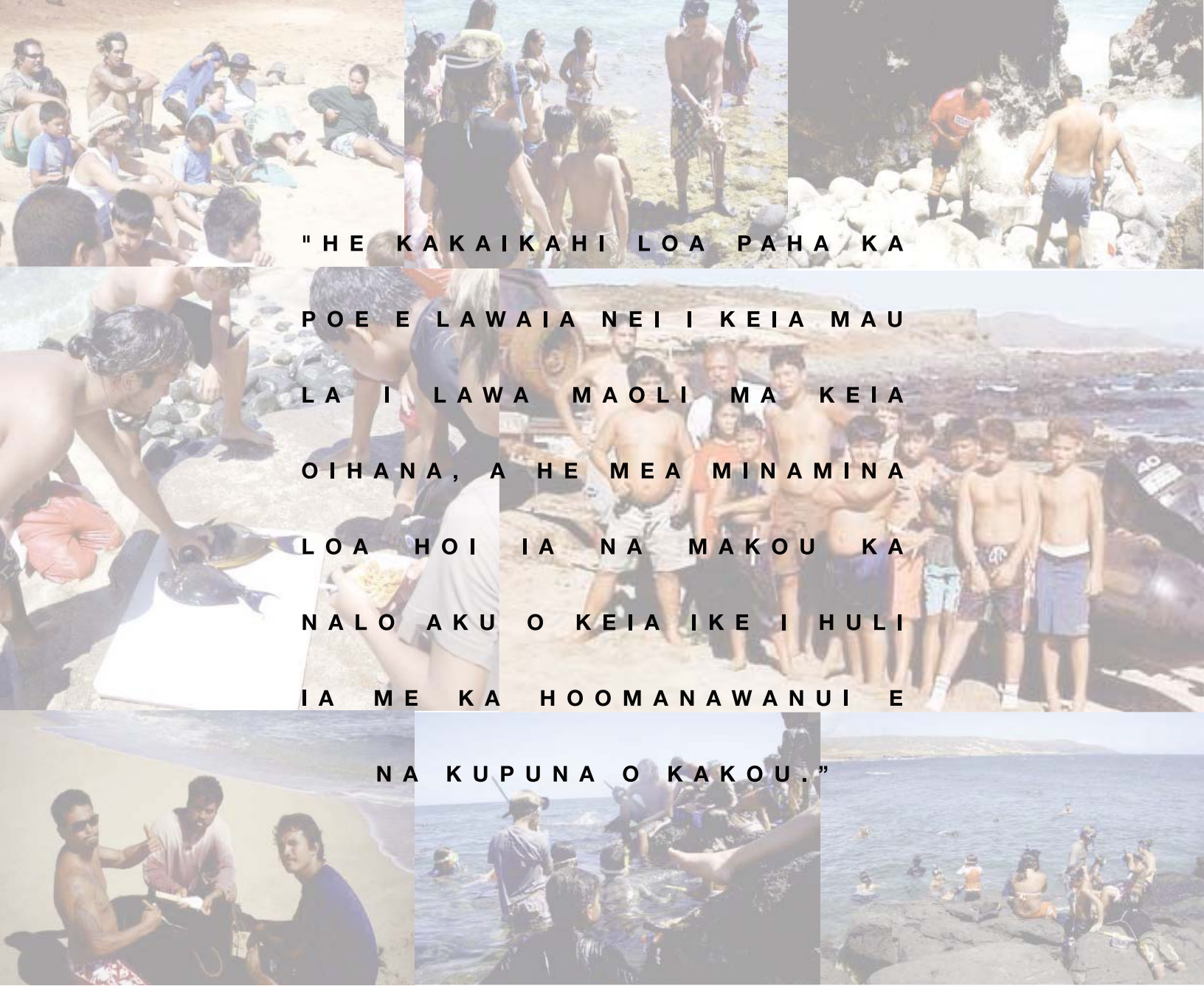

"HE KAKAIKAHI LOA PAHA KA POE E LAWAIA NEI I KEIA MAU LA I LAWA MAOLI MA KEIA OIHANA, A HE MEA MINAMINA LOA HOI IA NA MAKOU KA NALO AKU O KEIA IKE I HULI IA ME KA HOOMANAWANUI E NA KUPUNA O KAKOU."

MO'OMOMI

NORTH COAST OF MOLOKA'I

COMMUNITY-BASED
SUBSISTENCE FISHING AREA
PROPOSAL AND MANAGEMENT PLAN

JANUARY 2017

Submitted by Hui Mālama O Mo'omomi
on Behalf of the Ho'olehua Hawaiian Homesteaders
to the State of Hawai'i Department of Land and Natural Resources, Divison of Aquatic Resources

MOʻOMOMI NORTH COAST OF MOLOKAʻI COMMUNITY-BASED SUBSISTENCE FISHING AREA PROPOSAL AND MANAGEMENT PLAN

●◖○

"He kakaikahi loa paha ka poe e lawaia nei i keia mau la i lawa maoli ma keia oihana,
a he mea minamina loa hoi ia na makou ka nalo aku o keia ike i huli ia
me ka hoomanawanui e na kupuna o kakou."
– D. Kanewanui, Introduction, *Ka ʻOihana Lawaiʻa* (Kahaulelio, 2005)

Rare indeed today are those people that are fishing who are truly expert in this field,
and it would [be] very regrettable to us if this knowledge,
so patiently acquired by our ancestors, should be lost.

○◗●

Submitted by Hui Mālama O Moʻomomi,
on Behalf of the Hoʻolehua Hawaiian Homesteaders
To the State of Hawaiʻi Department of Land and Natural Resources, Division of Aquatic Resources

January 2017

Photos provided by the Hui Mālama O Moʻomomi. Cover design by Kūhaʻo Zane.

ACKNOWLEDGEMENTS

This proposal and management plan represents over two decades of hard work, dedication, commitment and perseverance of numerous kūpuna, fishers, gatherers, Hoʻolehua homesteaders, Molokaʻi community members, marine scientists, land stewards, teachers, students, scholars, community organizations, elected and appointed officials, and agencies. Above all, we honor and acknowledge our community of subsistence fishers and gatherers who live and perpetuate the customs, beliefs and practices of our kūpuna that have sustained the fisheries and marine resources of the Moʻomomi North Coast of Molokaʻi for our generation and those to come.

Mahalo Piha iā Kākou!

ABBREVIATIONS

AMAC	Aha Moku Advisory Council
BLNR	Board of Land and Natural Resources
CBSFA	Community-Based Subsistence Fishing Area
DAR	Division of Aquatic Resources
DHHL	Department of Hawaiian Home Lands
DLNR	Department of Land and Natural Resources
DOBOR	Division of Boating and Ocean Recreation
DOCARE	Division of Conservation and Resources Enforcement
FL	Fork Length
HCSN	Hawai‘i Community Stewardship Network
HRS	Hawai‘i Revised Statute
HMM	Hui Mālama O Mo‘omomi
KUA	Kua‘āina Ulu ‘Auamo
Moloka‘i Ranch	Moloka‘i Properties Limited
MHI	Main Hawaiian Islands
MLCD	Marine Life Conservation District
MLT	Moloka‘i Land Trust
NAGPRA	Native American Graves Protection and Repatriation Act
NHLC	Natie Hawaiian Legal Corporation
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
PBS	Public Broadcasting Service
QLCC	Queen Lili‘uokalani Children’s Center
TNC	The Nature Conservancy
UHM	University of Hawai‘i at Mānoa
USFWS	U.S. Fish and Wildlife Service
WSRSL	William S. Richardson School of Law

SUGGESTED CITATION

Hui Mālama O Mo‘omomi (2017). *Mo‘omomi North Coast of Moloka‘i Community-Based Subsistence Fishing Area Proposal and Management Plan*. Ho‘olehua, Moloka‘i.

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PART 1: PROPOSAL

Introduction

The Hui Mālama O Moʻomomi (HMM), on behalf of the Hoʻolehua Hawaiian Homesteaders and in coordination with the land owners and stewards along the north coast of Molokaʻi, including the Department of Land and Natural Resources (DLNR), Molokaʻi Land Trust (MLT), The Nature Conservancy (TNC), Molokaʻi Properties Limited (Molokaʻi Ranch), Department of Hawaiian Home Lands (DHHL), Kalaupapa National Historic Park, National Park Service (NPS), and the Joyce Kainoa ʻOhana, submit this proposal and management plan to DLNR, Division of Aquatic Resources (DAR) to designate the marine waters and submerged lands off of the north coast of Molokaʻi, Kalaeokaʻīlio in the west to Kaholaiki in the east, and extending seaward one nautical mile from the high water shoreline, as a Community-Based Subsistence Fishing Area (CBSFA).

This submittal is comprised of two parts—Part 1: Proposal; and Part 2: Management Plan. Both sections follow the Community-Based Subsistence Fishing Area Designation Procedures Guide, 2014 that was developed by the DLNR and DAR after HMM had submitted their original proposal for a CBSFA, implemented a pilot demonstration project, and worked with the DLNR on proposed regulatory solutions for a CBSFA.

Combined, the Governor's Molokaʻi Subsistence Task Force Final Report (June, 1994); the June 30, 1995 - July 1, 1997 Moʻomomi Pilot Demonstration Project Hearing Record; and the April 1995 Proposal to Designate Moʻomomi Community-Based Subsistence Fishing Area, Northwest Coast of Molokaʻi (see Moʻomomi North Coast of Molokaʻi CBSFA Administrative Record) provide the original justification and documentation for the current Moʻomomi CBSFA North Coast of Molokaʻi Proposal. These documents constitute what the 2014 Procedures Guide refers to as a "Pre-Proposal." See Table 1.1 below for a timeline.

Educating ʻōpio at Moʻomomi Bay. Photo: HMM

Table 1.1. Moʻomomi Pilot Demonstration Project and the 1995 CBSFA Proposal Timeline

DATE	Action
1993	The Governor's Molokaʻi Subsistence Task Force Final Report is published. Its findings provide the foundation to recommend the passage of a legislative measure to establish CBSFAs throughout the Hawaiian Islands and, in particular from Kalaeokaʻīlio to Nihoa flats.
1994 Legislative Session Pt. 1	DLNR submits an Administrative Proposal to designate a CBSFA for the North West coast of Molokaʻi from Kalaeokaʻīlio to Nihoa flats.
1994 Legislative Session Pt. 2	Act 271 is passed and signed into law. Sec. 1 – Authorizes DLNR to designate CBSFAs in the Hawaiian Islands through the adoption of Hawaiʻi Administrative Rules. Proposals would be prepared by community groups and submitted to DLNR with a description, justification, management plan, and other information. DLNR would review and promulgate rules for approved proposals. Sec. 2 – Mandates DLNR to establish a community-based subsistence fishing pilot demonstration project from ʻĪlio point to Nihoa Flats for Native Hawaiian fishing, non-native recreational fishing, and continued existing commercial fishing. Rules are adopted and made effective from June 30, 1995 to July 1, 1997.
Sept. 8, 1994	Public Meeting #1 in Kaunakakai on draft Administrative Rules Ch. 13-59 to establish a pilot demonstration project area at Kawaʻaloa and Moʻomomi Bays.
Sept. 22, 1994	Public Meeting #2 in Kaunakakai on draft Administrative Rules Ch. 13-59 to establish a pilot demonstration project area at Kawaʻaloa and Moʻomomi Bays.
Sept. 23, 1994	Public Meeting on Oʻahu on draft Administrative Rules Ch. 13-59 to establish a pilot demonstration project area at Kawaʻaloa and Moʻomomi Bays.
Oct. 21, 1994	Public Meeting #3 in Kaunakakai on draft Administrative Rules Ch. 13-59 to establish a pilot demonstration project area at Kawaʻaloa and Moʻomomi Bays.
March 23, 1995	Public Hearing in Kaunakakai on revised draft Administrative Rules Ch. 13-59 to establish a pilot demonstration project area at Kawaʻaloa and Moʻomomi Bays.
April 1995	HMM submits proposal to designate Moʻomomi Community-Based Subsistence Fishing Area for the North West Coast of Molokaʻi, from Kalaeokaʻīlio to Nihoa flats.
May 26, 1995	Rules for the pilot demonstration project at Kawaʻaloa and Moʻomomi Bays were adopted by the Board of Land and Natural Resources (BLNR), to take effect on June 30, 1995, and sunset on July 1, 1997.

Given the abundance of information already provided by HMM throughout eight different DLNR administrations over the past 21 years, Part 1 of this submittal includes updated supplementary organizational information, description of the boundaries, information about

stewardship partners along the north coast of Molokaʻi, and information regarding the continuing importance and necessity for the designation of the Moʻomomi North Coast of Molokaʻi CBSFA.

Part 2 includes the updated management plan with a description of the area's marine resources, other marine resource uses, management goals and objectives, management activities including proposed regulatory solutions and their justification, projected CBSFA designation impacts, a work plan, and funding and resources.

1. Organization Information

1.a. Organization/Group Name

Hui Mālama O Moʻomomi

1.b. Date Group Established

1993

1.c. Organization/Group Charter

1.c.i. Mission Statement

The mission of HMM is to perpetuate local resources essential for the subsistence of present and future generations of Hoʻolehua Homesteaders; to maintain subsistence as a viable option in Molokaʻi's fluctuating economy; and to encourage young Hawaiians to perpetuate traditional Hawaiian fishing practices.

1.c.ii. Governance Protocols/By-Laws

See Appendix I for HMM Bylaws.

1.d. Organization/Group Membership

HMM is an organization comprised of a volunteer board of directors including the following five community members:

- President: Kanohowailuku Helm, Hoʻolehua resident, subsistence fisherman, resource trainee
- Vice-president: Anela Florendo Coelho, Hoʻolehua resident and member of an ʻohana (family) of subsistence fishers
- Secretary: Kilia Purdy-Avelino, Hoʻolehua resident, Hawaiian Language/Hawaiian Studies instructor at University of Hawaiʻi Maui College, Molokai and member of an ʻohana of subsistence fishers
- Treasurer: David Bush, Hoʻolehua resident and subsistence fisherman
- Director and Resource Manager: Kelson "Mac" Poepoe, subsistence fisherman

The constituency of HMM includes the ʻohana of the Pālāʻau Hoʻolehua Hawaiian Homestead community and the Pālāʻau Moku residents who are traditional subsistence fishing practitioners and families with connections to the proposed area spanning multiple generations. Since HMM was founded in 1993, its constituents have been regularly consulted and they play an integral role in the stewardship of the proposed Moʻomomi North Coast of Molokaʻi area. HMM provides a voice for the Hoʻolehua Homesteaders and Pālāʻau Moku residents on fisheries management issues at the state, national, and international levels.

1.e. Partnership and Network Affiliations

All of the land owners and stewards of properties along the coast of the proposed CBSFA have partnered with HMM in support of this designation for the Moʻomomi North Coast of Molokaʻi.

Landowner and Stewardship Partners from Kalaeokaʻīlio to Kaholaiki
The land owner and stewardship partners listed in Table 1.2 have worked with HMM to establish the Moʻomomi CBSFA in meetings held from 2009-2016. "Land areas and adjacent marine waters are managed as interconnected and inseparable units known as ahupuaʻa . . . subdivisions of larger districts (moku) . . . providing the Hawaiian occupants with access to various natural resources for their subsistence." (Poepoe et al., 2003). With the traditional method of ahupuaʻa land tenure and resource management in mind, it is extremely valuable to the management of Moʻomomi's fisheries to have this broad-based collaboration and support from neighboring land owners and stewards. See Figure 1.1 below for a map of coastal land owners and stewards. Each entity reserves the right to set policies associated with their respective access system.

Figure 1.1. Map: Land Owner and Stewardship Partners Along the Moʻomomi North Coast of Molokaʻi CBSFA

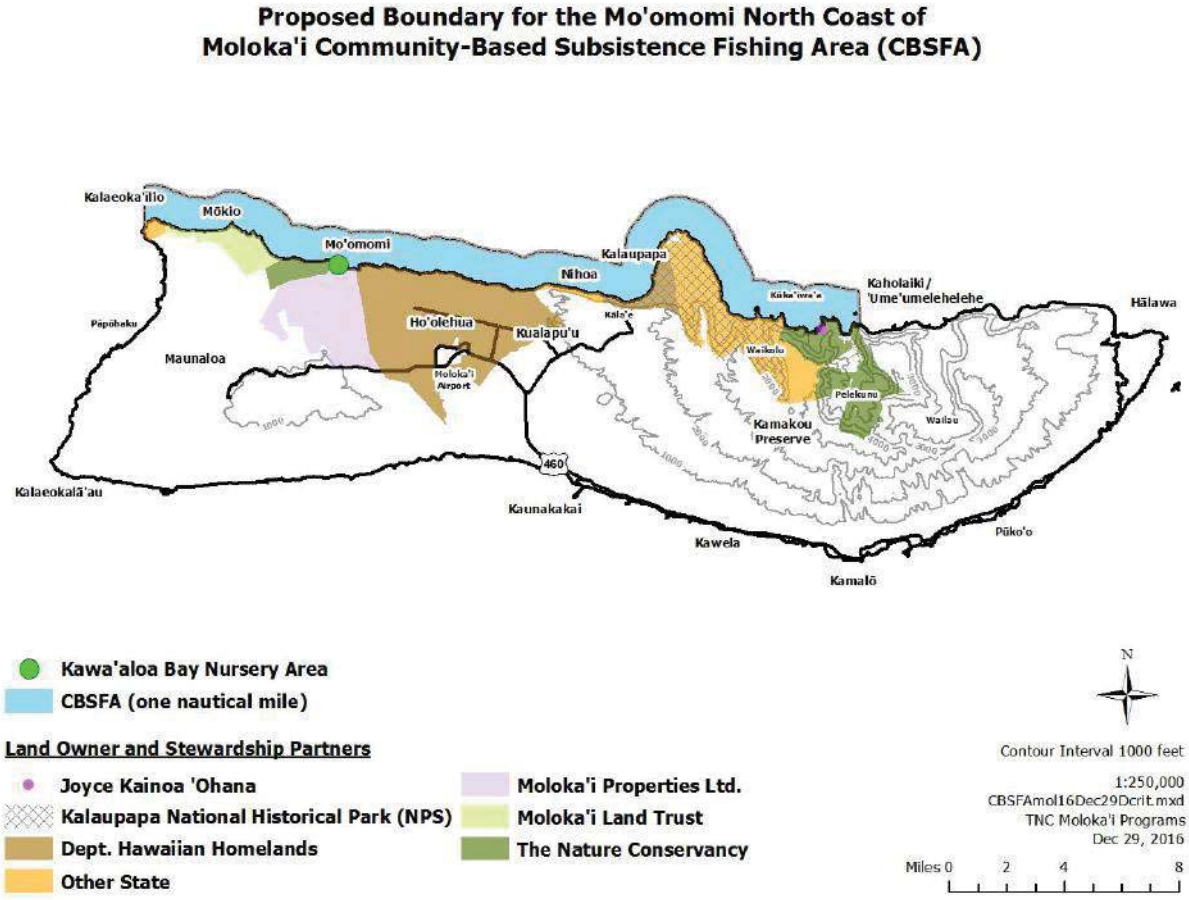


Table 1.2. Table of HMM Land Owner and Stewardship Partners

Area	Land Owner and Stewardship Partners	Access
Kalaeokaʻīlio to Anapuka	DLNR	Access restricted due to the presence of live unexploded ordnance throughout the area.
Anapuka to Keonelele	MLT	Managed access system for Molokaʻi residents. The 1,769 acre "Mokio Preserve" is managed to preserve and restore natural and cultural resources and for educational and traditional activities. http://molokailandtrust.org/
Keonelele to Kawaʻaloa	TNC	Access for subsistence available through traditional trail system. Moʻomomi Preserve is 921 acres, established in 1988 to protect coastal strand vegetation and native ground-nesting seabirds. http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/hawaii/placesweprotect/moomomi.xml
Kawaʻaloa	Molokaʻi Ranch	Access is restricted http://molokairanch.com/
Moʻomomi, east to Kīpū/Manawainui	DHHL	Access is open to the public. The 1,050 acres from Moʻomomi to Anahaki is a DHHL designated Special District to preserve and protect significant natural, historic and community resources.
Kīpū/Manawainui to Pālāʻau Park	Molokaʻi Ranch	Access is restricted. http://molokairanch.com/
Pālāʻau Park	DHHL	Access is open to the public. Managed by DLNR. The coastline below the park is sheer cliff.
Kalaupapa (Nihoa Flats to Kūkaʻiwaʻa)	DHHL and DLNR (land owner) and NPS (lessee/stewards)	Access to this area by land, sea and air is strictly regulated. https://www.nps.gov/kala/
Kūkaʻiwaʻa to Laeokapahu	Joyce Kainoa ʻOhana and TNC	Access is open to the public, except on private lands. The Joyce Kainoa ʻOhana owns land at Hāʻupu and monitors the marine resources from Kūkaʻiwaʻa to Laeokapahu. Within this area, TNC owns Waihoʻokalo and restricts access to that area.
Laeokapahu to Kaholaiki (including Pelekunu Valley)	TNC	Access is restricted due to remote, rugged location. TNC owns a significant portion of Pelekunu Valley and actively manages these lands. http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/hawaii/placesweprotect/pelekunu.xml

Government Partnerships

Support from government agencies for HMM began in 1994 with the designation of the first ever CBSFA pilot project, the Kawaʻaloa-Moʻomomi Bays Subsistence Fishing Pilot Demonstration Project, Molokaʻi (Moʻomomi CBSFA Pilot Project). Collaboration with these government agencies is essential for the success of this co-management endeavor. The government agencies listed below in Table 1.3, have collaborated with HMM in the development of the proposed Moʻomomi North Coast of Molokaʻi CBSFA.

Table 1.3. Table of HMM Government Partners

Government Partners	Time Period	Collaboration
DLNR	1994 - present	Worked with HMM since 1994 to establish the Moʻomomi CBSFA Pilot Project from 1995-1997; continued efforts to formalize CBSFA designation for the area.
DAR	1994 - present	Worked with HMM since 1994 on the Moʻomomi CBSFA Pilot Project. Engaged in periodic visits to Moʻomomi and participated in workshops to educate and engage community in the rulemaking process. From 1994 to 2012 DAR had a Molokaʻi biologist who worked closely with HMM in establishing and implementing the pilot project and continued to coordinate activities with HMM in their work, until retirement in 2012. From 2012 to present, there is no dedicated Molokaʻi DAR staff. The Maui District and Honolulu DAR staff did several site visits to Moʻomomi, participated in community workshops for the proposed regulatory solutions, helped gather research and information for the proposal and management plan, and participated in meetings and submitted comments to review the draft proposal and management plan.
Division of Conservation and Resource Enforcement (DOCARE)	1994 - present	Worked with HMM since 1994 with the establishment of the Moʻomomi CBSFA Pilot Project.
Aha Kiole ʻO Molokaʻi	2013 - present	Participates in sharing information and surveying the community. The Aha Kiole o Molokaʻi advises the Statewide Aha Moku Advisory Council (AMAC), which is housed within and serves an advisory role to DLNR.
DHHL	1994 - 2011	HMM held the DHHL lease for over 1,00 acres of Moʻomomi lands with a ¼ mile buffer zone from the shoreline to the main highway, including the pavilion area. DHHL continues to partner with HMM in the stewardship of its Moʻomomi lands.
Kalaupapa settlement residents, Hawaiʻi Department of Health (HDOH), DLNR, NPS	2009 - present	HMM works with community members and government staff that live in and manage the Kalaupapa National Historical Park on the CBSFA proposed regulatory solutions to integrate current regulations and codes of conduct at Kalaupapa into the proposal and management plan.

Office of Hawaiian Affairs (OHA)	2016-present	Assists in the review of the draft proposal and management plan. Offers grant opportunities and other funding support for HMM projects.

Network Affiliations

HMM exemplifies partnership, cooperation, and teamwork through their involvement in their network affiliations. The following networks listed in Table 1.4 have confidence in and provide support for the proposed Moʻomomi North Coast of Molokaʻi CBSFA.

E Alu Pū gathering and huakaʻi (site visit) to Kawaʻaloa Bay, Molokaʻi. Photo: KUA

Table 1.4. Table of HMM Network Affiliations

Network Affiliations	Time Period	Collaboration
E Alu Pū	2001 - present	In 2001, HMM co-sponsored a gathering on Molokaʻi of 45 people representing 13 communities from around the state and became a founding member of the former Hawaiʻi Community Stewardship Network (HCSN), now named Kuaʻāina Ulu ʻAuamo (KUA). By 2007, this network became known as E Alu Pū and now comprises more than 25 communities from around Hawaiʻi, including Moʻomomi, who support each other in protecting and stewarding the lands and waters of their place. E Alu Pū means "Move Forward Together." E Alu Pū is facilitated and supported by KUA. http://kuahawaii.org/e-alu-pu/

Maui Nui Makai Network (MNMN)	2013 - present	HMM is a founding member of MNMN, a group of individuals representing community groups across Maui Nui (Maui, Molokaʻi, and Lānaʻi) who are embracing their kuleana (responsibility) to care for the ocean in a way that honors cultural and traditional practices of their place and their kūpuna (ancestors). Supporting members include TNC and the Maui Nui Marine Resource Council. https://www.facebook.com/mauinuinetwork

1.f. Natural and Cultural Resource Stewardship Experience

Stewardship Projects, Activities and Experiences

HMM represents Hoʻolehua Homesteaders and Pālāʻau Moku residents whose subsistence lifestyle depends on efforts to mālama both natural and cultural resources for present and future generations. HMM has been actively caring for resources and people ma uka to ma kai (from mountain to sea) since 1993, and has provided stewardship of the natural and public trust resources at Moʻomomi throughout eight DLNR administrations. Below is a brief summary of the wide array of natural and cultural resource stewardship activities that exemplify their outstanding work and depth of experience.

Moʻomomi CBSFA Pilot Project (1995 - 1997): HMM was founded by Hoʻolehua Homesteaders and Pālāʻau Moku residents in 1993 in response to growing concerns about a serious decline of nearshore marine resources that the Molokaʻi community relies upon for subsistence. Its formation coincided with and supported the work of the Governor's Molokaʻi Subsistence Task Force (Subsistence Task Force) to document the importance of subsistence fishing and gathering of marine resources for Molokaʻi families. Throughout a year-long process of community focus groups, surveys and public meetings in conjunction with the Task Force, HMM designed and presented a proposal to DLNR and the Hawaiʻi State Legislature to: 1) create a new marine management designation that would be called a CBSFA; and 2) designate the nearshore area from Kalaeokaʻīlio to Nihoa Flats as a CBSFA (Governor's Molokaʻi Subsistence Task Force Final Report, 1994). In 1994, the legislature passed Act 271, which both authorized DLNR to designate CBSFAs in the Hawaiian Islands through the adoption of Hawaiʻi Administrative Rules and mandated the DLNR to establish a Moʻomomi CBSFA Pilot Project from Kalaeokaʻīlio to Nihoa Flats. Through the course of rulemaking, the Pilot Project area was reduced to Kawaʻaloa and Moʻomomi Bays. The Pilot Project was established and implemented by HMM from July 1, 1995 thru June 30, 1997. After the sunset of the pilot project in 1997, HMM continued to work with the Hoʻolehua Homesteaders and Pālāʻau Moku residents to informally but consistently monitor and manage Kawaʻaloa and Moʻomomi Bays. Moreover, the area managed by HMM through partnerships with coastal landowners and stewards expanded west to Kalaeokaʻīlio and east to Nihoa flats, despite the failure by DLNR to promulgate administrative rules to formally designate this area as a CBSFA (see for example, Appendix II, Management Recommendations for Mokio Preserve by Mac Poepoe).

Ongoing Management of Resources and Facilities at Moʻomomi and Kawaʻaloa Bay (1997 - present):
After the sunset of the pilot project in 1997, HMM has been involved in managing the resources and facilities at Moʻomomi and Kawaʻaloa Bay by: 1) conducting routine beach cleanups; 2) hosting educational groups and visitors; 3) reconstructing and managing the use and upkeep of two DHHL community pavilions; 4) propagating plants and installing berms for erosion control; 5) restoring fencing, lawn, and surrounding areas with grass and native vegetation; 6) installing fence posts to protect fragile coastal vegetation from vehicular damage.

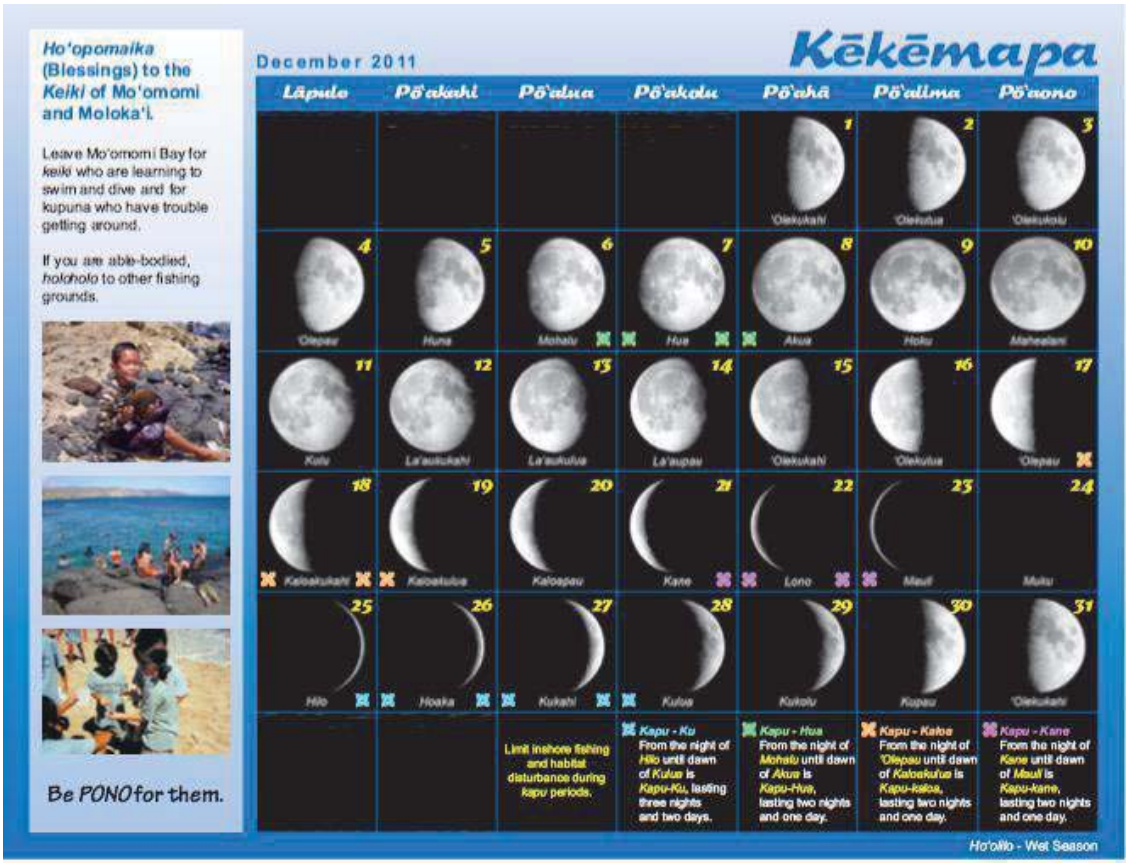
Hawaiian Moon Phases and Fish Spawning Cycles (1994 - present): Traditionally, Native Hawaiian ancestors observed how the phases of the moon, as it waxes and wanes, affects the life cycles of plants and animals in the ocean and on the land.

At Moʻomomi, members of HMM, under the mentorship of Mac Poepoe, observed the moon phases in relation to fish spawning cycles and developed a system by which to predict when selected fish species annually spawn along the north coast of Molokaʻi. "By observing spawning behavior and sampling fish gonads, community monitors have constructed a calendar identifying the spawning periods of major food fish species." (Poepoe et al., 2003). In 2000, the "peak spawning for ulua (Giant trevally, Caranx ignobilis), moi (Pacific threadfin, Polydactylus sexfilis), uhu (Parrotfishes, Scarids) and aʻawa (female Hawaiian hogfish, Bodianus albotaeniatus) occurred during the summer months. Late winter-early spring spawning was observed for āholehole and kūmū. Surgeon fishes typically [spawn] in late winter, as well as in early spring. Due to their local importance as food items, āholehole (Hawaiian flagtail, *Kuhlia sandvicensis*), moi (Pacific threadfin, *Polydactylus sexfilis*), and the red seaweed limu kohu (*Asparagopsis taxiformis*) were examined more closely and models of resource dynamics were constructed to inform management decisions for Moʻomomi." (Poepoe et al., 2004).

Publication of Pono Fishing Calendar, Moʻomomi, Molokaʻi (2006 - 2014):
As accumulated by generations of Native Hawaiians, moon calendars developed on different islands were documented by Native Hawaiian historians such as Kamohoʻula, Davida Malo and Joseph Mokuohai Poepoe. These moon calendars represented place-specific and scientific knowledge of natural life cycles in relation to the phases of the moon. Moon calendars were developed as predictive tools that indicate daily changes in natural life cycles throughout a month as the moon goes through various phases.

The publication of HMM's moon phase spawning calendars provide information about monitoring methods, gathering information, analyzing findings, and designing best practices based on traditional values and codes of conduct. HMM circulated 4,000 copies of the Pono Fishing Calendar from 2006 through 2014. The calendar has educated a lot of people throughout the state by providing critical information about monitoring marine resources in order to develop management policies that allow for the sustainable harvest of marine resources. For example, HMM published information about the sex and color change behaviors of aʻawa and eʻa (male Hawaiian hogfish), which has focused attention to these fish as indicator species for monitoring and managing resources on all islands. See Appendix III to reference fish spawning information in the 2011 Moʻomomi Pono Fishing Calendar. The sharing of this locally generated knowledge has raised consciousness about Hawaiian scientific methods and traditional scientific

management of marine resources throughout our islands. This has empowered other communities to intentionally monitor and care for marine resources.



2011 Mo'omomi Pono Fishing Calendar. Photo: HMM

Erosion Control Projects (late 1990s - early 2000s): After heavy rains, HMM observed that part of the old dirt road leading down to the Mo'omomi pavilion area functioned like a stream bed and connected with the old stream bed leading into the ocean at Mo'omomi Bay. During heavy runs, water would rush down the road, eroding the banks and sweeping up soil, depositing heavy sedimentation into Mo'omomi Bay and surround waters, turning it the color of chocolate. As a result, in the late 1990's to the early 2000's, HMM, with the help of community members, closed that dirt road and built berms across it to slow and disperse the flow of storm waters. HMM, in partnership with Maui County Public Works and DHHL, cleared and graded a new road to Mo'omomi that would not result in the same erosion problem as the old road. This management project effectively reduced the amount of runoff to the point where the waters of Mo'omomi Bay no longer turn a brownish/red color after a major rain event.

Turtle Nesting Observations (1993 - current): HMM has observed turtle nesting patterns of the endangered honu (Hawaiian green sea turtle, *Chelonia mydas*) at Kawa'aloa Bay for two decades in collaboration with sea turtle expert George Balazs, a marine biologist with the National Marine Fisheries Service (NMFS). "According to Balazs, geneticists have found only three genetic varions -- or haplotypes -- of green sea turtles. The third halotype is the most-rare and

that's the genetic variation found in the turtles nesting at Moʻomomi." (Cluett, 2012). Observations made by HMM have led to management measures to support the nesting activities of the green sea turtles at Kawaʻaloa, and the proposed CBSFA regulatory solutions will restrict activities that interfere with the turtles during their nesting season.

From roughly 1960 into the 1990's, the community noticed a vast amount of līpoa (*Dictyopteris plagiogramma*) growth in the Moʻomomi area, including Kawaʻaloa Bay. As discussed above, after the erosion control project in the late 1990s to early 2000s, HMM observed immediate die back of līpoa within the Moʻomomi and Kawaʻaloa Bay area. During this time, HMM also noticed that turtle nesting activity began to recover within the bay.

Honu at Kawaʻaloa Bay. Photo: Rikki Cooke

HMM observed steady and consistent nesting and hatching of eggs beginning in 2004. In the 2014 nesting season, volunteer on-island turtle monitors working with George Balaz, observed 1,317 successful hatches, an extraordinary nesting year, with the last new nest of the season observed in August 2014.

By contrast, in 2015, after several years of normal nesting behavior following the implementation of the erosion control measures, turtle nesting at Kawaʻaloa declined to a two-month period during which only one mother made a few nests with 212 successful hatches. HMM is currently closely monitoring the nesting patterns of the honu to identify possible reasons for this decline. In 2016, HMM observed turtles coming into the bay earlier than usual, yet not necessarily coming in and nesting, a pattern similar to the previous year.

Observations made by volunteer on-island turtle monitors working with George Balaz and HMM provide important insights that have provided for management recommendations within this proposal. Continued close monitoring by HMM and volunteer monitors will allow them to detect patterns that can yield predictions of marine animal behavior and enable them to plan actions that can be taken as a community to maintain and restore natural cycles and a healthy ecosystem.

Native Hawaiian Plant Restoration (2001 - 2004): HMM received a U.S. Fish and Wildlife Service (USFWS) grant to re-vegetate the landscape around the Moʻomomi pavilion and along the coastal area above Moʻomomi Bay with native coastal strand plants such as ʻohai, ʻakoko and pohinahina. This area along the coastline is one of the few somewhat intact sand-dune ecosystems for native coastal plants. This initiative is key in keeping the soil where it belongs and curbing run-off during the rainy season. As a result of the project, some of the lushest and

most diverse native strand vegetation in the islands, including several severely endangered plant species, now grow on once-barren land along the Moʻomomi coast.

Return of Kalaina Wāwae (the feet of Kalaina) to the Stewardship of Hui Mālama O Moʻomomi (2003): In March 2003, the Bishop Museum returned three sandstone slabs which appear to have the imprint of square heels and no toe marks, providing the impression of booted feet, which Kalaina, a Native Hawaiian woman of Moʻomomi, interpreted as a prophesy of the arrival of foreigners to Hawaiʻi. The imprints are on 10-inch-thick slabs of lithified sand that were removed by the Bishop Museum in the early 1900's from Keonelele, a lithified sand dune that is now within the TNC Moʻomomi Preserve. The largest slab was 51 inches by 54 inches. Permission for its removal came from George Cooke who, at the time, was the manager of Molokaʻi Ranch which owned the land. Cooke wanted to protect the f/bootprints from further damage by cattle. HMM applied to the Bishop Museum under the Native American Graves Protection and Repatriation Act (NAGPRA) to have these cultural artifacts repatriated to Moʻomomi. Upon receiving the sandstone f/bootprints, HMM mounted them on stone ahu (platforms) with signage explaining their cultural significance. Kalaina Wāwae is located near the pavilion at Moʻomomi within the area that has been restored with native coastal plants. HMM provides ongoing monitoring and stewardship of these kinds of cultural artifacts and archeological sites.

Kalaina Wāwae monument at Moʻomomi Bay. Photo: D. McGregor

Cultural Stewardship Educational Programs (1993 - present): HMM conducted summer educational classes from 1993 to 2007, targeting keiki (children) from Kualapuʻu Elementary School who live in the Hoʻolehua Homestead. Through ma ka hana ka ʻike (through doing and working one learns), HMM hosted classes of 12-14 keiki every year, covering topics that spanned ma uka to ma kai (mountain to sea). The ocean was the main focus of the curriculum with lessons about traditional monitoring, conducting natural resource inventory, assessing how much is being removed and how much can be replenished, ethno-math, and calculating what an allowable take should be. Other topics included the restoration of native vegetation, the importance of protecting restored areas, the damaging effects of erosion and how to control it, archaeological sites and studies, cultural connections to the land, and how land use affects the ocean. The program ended soon after the schools transitioned to a year-long school session. In the late 1990's, in partnership with the Pacific American Foundation, elementary level curriculum with a focus on the moon cycles and ahupuaʻa was also created.

From 2013 to present, HMM partnered with Conservation International Hawai‘i and Tri-Isle Resource Conservation and Development to hold annual summer ‘Ohana Lawai‘a Camps. These annual camps encourage participation of multiple generations to create a space where families can share and learn from one another. Camp curriculum is based on traditional fishing practices, mo‘olelo (history) of the area, making fishing tools, learning observation and how to gather, clean, and prepare their catch. The goal of the camp is to perpetuate cultural practices by inspiring ‘ohana to mālama ‘āina (care for the land). The participants include members of Ho‘olehua Homestead families ranging in age from toddlers, children, youth, mākua (adults) and kūpuna (elders) in their seventies.

Keiki learning how to dive at Mo‘omomi. Photo: HMM

Recognition of HMM's Management Efforts

The following is a list of awards received by members of HMM in recognition of HMM's efforts to manage the fishery, engage in and advocate for community-based and co-management of Hawai‘i's fisheries, and educate about the sustainable management of ocean resources used by the Native Hawaiian community, as a whole, for subsistence:

Kākoʻo ʻĀina Award (2014): TNC honored HMM as a member of the Maui Nui Makai Network for exemplifying how communities can return reefs and fisheries to abundance.

Native Hawaiian Advocate of the Year (2013): The Native Hawaiian Legal Corporation ("NHLC") honored Hui member Mac Poepoe in 2013 with its Native Hawaiian Advocate of the Year Award.

Umu Kai Award (2013): The National Oceanic and Atmospheric Administration (NOAA), Office of National Marine Sanctuaries Pacific Islands Region honored HMM board member Mac Poepoe for the 2013 Umu Kai Award. This award recognizes the contributions of Native Hawaiian practitioners to modern day fisheries conservation.

Hoʻokahiko Award (2010): At the 2010 Reef and Ocean Expo, HMM board member Mac Poepoe was recognized for his efforts to protect Mo‘omomi and for the development of the Pono Fishing Calendar. The Ho‘okahiko award was established to honor those who are dedicated to passing on Hawaiian traditions.

Lifetime Achievement Award (2006): Hawaii's Living Reef Awards Program awarded HMM board member, Mac Poepoe, the Lifetime Achievement Award.

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2. Justification for CBSFA Designation

2.a. Define Traditional and Customary Fishing Practices

2.a.i. Description of Traditional Fishing Practices

Despite the rugged shoreline and windward exposure of the proposed CBSFA management area, the north coast of Molokaʻi is regarded as an essential and extensively used traditional fishing and gathering area. The marine resources of this area have sustained the local Hawaiian population of north Molokaʻi since at least 900 A.D.

A 1987 article by Marshall Weisler in *The Molokai News*, Vol. 4(15), provides an overview of the cultural resources in the Moʻomomi area. Here are excerpts related to the cultural marine resources of the area:

> Over 10 centuries ago a group of fishermen were on the shores of Kawaaloa (literally, the 'long canoe', at Moomomi, possibly paying tribute to the gods for a bountiful catch they made in nearby coastal waters. This may not be far from the truth as an archaeological study of this area in 1984 (conducted by the author and a colleague, Sara Collins) uncovered a small pit about two feet wide and about four inches thick, dug into the now compact sands behind the bay. Partially lined with turtle bone and filled with the remains of the locally extinct endemic Hawaiian goose, nene, the pit also contained 63 whole aholehole that were carefully stacked together and oriented east-west, parallel to the coastline.
>
> A complex chemical analysis assigns "dates" to previously living plant and animal material known as C-14 dating was used to date a portion of the fishbone in the pit. This yielded an age of over 1,000 years old! . . . the study of the pit contents informs us that Hawaiians were fishing and hunting nene in the Moomomi area as early as 900 A.D. . . . numerous habitation sites and several fishing shrines (koʻa) are situated just inland from the coast. Dense concentrations of shellfish remains (opihi, pipipi, and pupuawa), sea urchin (wana), and fish, bird and turtle bone and basalt flakes are found mixed with charcoal and ash from ancient fireplaces. At some sites, rectangular outlines of stone mark the places of former prehistoric houses. One such house-site, built of white sandstone boulders, can be seen in profile at the wave-cut cliff inland of Moomomi bay. This site is dangerously close to destruction from storm surf.

> Other habitation sites include rockshelter, which are natural cavities in the seacliffs and gulch sides, that provide ready-made shelter for the ancient Hawaiians and even hunters today. Study of these sties has been limited, but from archaeological survey and careful excavations conducted from time to time over the past 30 years, we have learned that habitation sites in the Moomomi area were occupied for short durations - probably in the summer months - during the 1400s to 1700s. Analysis of the contents of these sites suggests that fishing the rich coastal waters, shellfish gathering along the rocky coast and collecting fine-grained basalt rock for adze making were the dominant activities.

Annually, Native Hawaiian fishers from Molokaʻi's windward northeast coastal valleys spent the summer months at Moʻomomi catching, salting and drying fish to see them through the winter months when the ocean off of their valleys became too rough for fishing (Summers, 1971). Early inhabitants of nearby north coast valleys made regular canoe voyages to Moʻomomi to fish and gather ocean and coastal resources. Accounts from oral history allude to a time when indigenous inhabitants walked on trails from Nihoa to Kalaeokaʻīlio and beyond, monitoring and harvesting from managed koʻa (fishing grounds) which were marked along the shoreline by kūʻula (or fishing shrines). The knowledge, function and protocols related to the fishing grounds and kūʻula have been passed on from one generation to the next and are known by the master fishermen of this area, to this day. Holes in the cave at Anapuka were made by ancestral fishermen in order to tie up their canoes. A shelter in the bluff at Kaiehu Point was used primarily by fishermen, according to Bishop Museum archaeologists, and a radiocarbon dating of charcoal from this site yielded a date of 1408+/- 300 years (Pukui, 1974). At present, Hoʻolehua residents rely on this area for gathering fish, seaweed, sea salt and other marine resources (Governor's Molokaʻi Subsistence Task Force Final Report, 1994).

Throughout the centuries of subsistence fishing and gathering, the sustainability of the marine resources along the Moʻomomi and the north coast was assured. The fishing protocols, scientific observation methods and harvesting practices of that time have been passed down from generation-to-generation to promote the sustainable use of marine resources within the utilized nearshore areas.

The subsistence fishing activities off the north coast of Molokaʻi that originated with the Hawaiian ancestors who settled the island were adopted and have been perpetuated by the original homesteaders of the Hoʻolehua community and their descendants. In 1924, "Hoʻolehua was the second homestead established after the U.S. Congress passed the Hawaiian Homes Commission Act in 1921 with the intent of returning Hawaiians to the land." (Poepoe et al., 2007). The original homesteaders were specifically selected to settle the area by the Hawaiian Homes Commission for their capacity to be self-sufficient and be able to live off of the land. Residents of Hoʻolehua still utilize a traditional trail from Moʻomomi down to Kalaeokaʻīlio around the west Molokaʻi coastline. The subsistence fishing activities that originated with the Hawaiian ancestors who settled the island have also been perpetuated by paniolo who worked for Molokaʻi Ranch, along with their families and descendants, across the area from Kalaeokaʻīlio to Kawaʻaloa Bay. Practices have also been perpetuated by the patients and staff who reside at Kalaupapa, Makanalua, Kalawao and Waikolu. The Joyce Kainoa ʻOhana also exercise these traditional and customary practices in their area including, but not limited to, Kukaʻiwaʻa to Laeokapahu.

The reach of coast between Kapalauoa and Nenehanaupo (see Appendix IV. Benthic Habitat Map for the Moʻomomi North Coast of Molokaʻi CBSFA and Appendix VI. Map of Existing Reserves for the Moʻomomi North Coast of Molokaʻi Region) Kapalauaoa is on land owned by TNC and Nenehanaupo is on DHHL land, west of Kalaupapa) is the most heavily fished area within the proposed CBSFA boundary. The semi-protected waters of Moʻomomi and Kawaʻaloa Bays are focal points for pole and hand-line fishing, throw net, spear fishing as well as gathering ʻopihi (*Patellidae spp.*), ʻaʻama crab (*Grapsus tenuicrustatus, Pachygrapsus plicatus*), limu (various marine algae) and lobster (*P. penicillatus*).

When ocean conditions permit, residents of the Pālāʻau Moku are able to launch small boats from a modest, unimproved boat ramp on the east side of Moʻomomi Bay, as well as across the sandy beach to fish for nearshore species using a variety of methods. These species are listed below in section 2.b.1. The homesteaders have rebuilt a recreational center on the eastern margin of the bay.

Ulua (*Caranx ignobilis*) are caught by small boats trolling throughout the management area, and akule (*Selar crumenopthalmus*) are taken in sandy bottom areas. The pelagic waters seaward of the management area are popular trolling spots for ono (*Acanthocybium solandri*) and other open ocean species. Salt and limu are also gathered within the proposed boundaries.

Access for fishing and gathering of ʻopihi and limu from Kawaʻaloa through Kalaeokaʻīlio is managed by Molokaʻi Ranch, TNC, and the MLT. Previously, these areas were primarily accessible to Hoʻolehua Homesteaders and Molokaʻi Ranch employees and their families. The area continues to be the focal point of subsistence fishing and gathering by their descendants.

Place Names
Ancestors inscribed the landscape with names to acknowledge the resources, natural features and human activities of a particular area. The following list of place names within the proposed CBSFA boundary, indicate some of the marine resources and marine activities that the north coast of Molokaʻi is historically known for. The translation of each name is from *Place Names of Hawai'i*, by Mary Kawena Pukui (1974), unless otherwise noted.

Anapuka
Shore cave, ʻĪlio Pt. qd., Molokaʻi. Lit., cave with holes

Hāʻupu
Peak and ridge, Līhuʻe district, Kauaʻi (PH 107), probably named for a demigod (see Pōhaku-o-Kauaʻi), also called Hoary Head. Bay, peak, and ridge, Pelekunu Valley, Ka-malō qd., Molokaʻi, the fortress of Ka-peʻe-ka-uila who abducted Hina (HM 464); she was rescued by her sons Kana and Nīheu. The hill stretched, but Kana defeated it by using five stretching bodies: human, rope, convolvulus vine, banana, and spider web (HM 466). The hill was lifted up by turtles. Also called Hāʻupu-kele. About 200 yards into the bay are some rocks as much as 100 feet high. It is said that a giant, Kana, walked down the ridge after defeating an enemy and kicked these stones into the water (Jarrett 21). See Ke-olo-ʻewa, Kūkaʻi-waʻa, Mō-koholā. Land section, Pearl City, Oʻahu. Lit., recollection.

Hinanaulua
Point, Airport qd., north Molokaʻi. Lit., inspired [by a god] hinana fish.

Honokaʻupu
Land section, Pelekunu, Molokaʻi. Lit., the albatross bay.

Kahiʻu
Point, Ka-laupapa peninsula, Molokaʻi. Lit., the fish tail. Also called Lae-o-Kahiʻu.

Kaholaiki
Bay near Pelekunu, north Molokaʻi. Lit., the small fish poisoning.

Kaiehu
Point, Airport qd., Molokaʻi. A bluff shelter at the southeast end of the point was excavated by Bishop Museum archaeologists in 1953. It was used primarily by fishermen. A radiocarbon date of 1408 ± 300 years was obtained from charcoal at the lowest level of the shelter. Lit., sea spray.

Kalaekiloiʻa
Coastal area, Ka-malōqd., north Molokaʻi. Lit., the fish-observing point.

Kawaʻaloa
Bay, Airport qd., north Molokaʻi.

KealapūpūaKiha
Coast area, ʻĪlio Pt. qd., north Molokaʻi. Lit., the shell pathway of Kiha. (The Maui chief, Kiha-a-Piʻilani, built a shell pathway near here; For. 5:176. See Kiha-a-Piʻilani.)

Keanapuhi
Large cave, Pelekunu, Molokaʻi. Lit., the eel's cave. (A shark who lived here went to Kahiki and on returning found an eel occupying the cave. He covered the cave's mouth, but the eel bored a hole and got out. Ka Nupepa Kuokoa, July 6, 1922.)

Keawanui
Big Bay

Keonelele
Desert area, ʻĪlio Pt. qd., north Molokaʻi, said to have been a burial site. *Lit.,* the flying sand.

Kūkaʻiwaʻa
Point, Ka-malō qd., north Molokaʻi. Lit., canoe extension. (The demigod Kana came to Hāʻupu to rescue his mother, Hina, in a canoe called Kau-mai-ʻeliʻeli; For. 4:442–444. He anchored the canoe's bow at Hāʻupu and the stern at Kūkaʻi-waʻa. See Hāʻupu.)

KukuioKanaloa
Bluff, Kaunakakai qd., north Molokaʻi. Lit., light of Kanaloa, the god of the ocean.

Mokio
Although the meaning of the name Mokio is not commonly known, one source (P. Spalding III – Harriet Ne) says that it is the name of a fish that is found there.

Mokio Preserve coastline, North Coast of Molokaʻi. Photo: Rikki Cooke

Mōkoholā
Large rock islet (0.36 acres, 50 feet elevation), off Pele-kunu, Molokaʻi. This island and Mō-kōlea were believed formed by rocks hurled at Kana's canoe while he attempted to rescue his mother, Hina, from Hāʻupu hill (Summers 210). For another version, see Hāʻupu. Lit., cut (mō- is short for moku) whale.

Moʻomomi
According to John Kaimikaua, Moʻomomi is a moʻo wahine with pearly white shiny scales who lives in a cave under Kaiʻehu. When she suns on the rocks, she can be seen as a pearly white moʻo.

Pūwāhi
Coastal land section, Ka-laupapa peninsula, Molokaʻi. Lit., broken conch.

Waʻaʻula
Trail and coastal area, Ka-malō qd., north Molokaʻi. Lit., red canoe.

Winds
Kuapā is the wind of Moʻomomi. According to the Hawaiian dictionary, it means dashing, slashing, as waves on a shore.

Films Documenting Traditional Fishing and Mālama Practices

Fishing Pono – PBS Hawaii produced this Maui Film Festival award winning video in 2012, featuring Hui Mālama o Moʻomomi and the traditional management practices being used to restore the local fishery of Moʻomomi. Fishing Pono is available to view online at: http://video.pbs.org/video/2365509726/

Nā Loea: The Masters | Mac Poepoe: Mālama Moʻomomi – ʻŌiwi TV produced a video series of master practitioners around Hawaiʻi that was showcased on television and online. The series featuring Mac Poepoe, describes the rural lifestyle of Molokaʻi and explains that the ocean is considered the people's "ice box." It also describes how Mac and the community work together to manage their nearshore fisheries to ensure their ocean is abundant and able to provide for future generations. The video details Poepoe's extensive generational knowledge and how he has dedicated his life to hone and perpetuate traditional resource management. Nā Loea: The Masters | Mac Poepoe: Mālama Moʻomomi is available to view online at: http://oiwi.tv/oiwitv/na-loea-malama-moomomi/.

2.a.ii. Fishing Codes of Conduct

HMM and its stewardship partners have informally managed the Moʻomomi North Coast of Molokaʻi proposed management area guided by traditional subsistence ʻohana values, customs and practices. For example, HMM and DHHL have signs posted at Moʻomomi Bay listing guidelines relating to the harvesting of marine resources in line with these values and practices. Furthermore, HMM partnered with the Western Pacific Fisheries Advisory Council (WESPAC), the Division of Boating and Ocean Recreation (DOBOR) and NOAA Conservation Reef Program to post signage of the basic Moʻomomi fishing code of conduct at harbors and boat ramps throughout the islands. Through the publication and wide circulation of the Moʻomomi, Molokaʻi Pono Fishing Calendar and through holding workshops and educational activities, an intentional "code of conduct" has also been promoted to focus on how fishing should be practiced to maintain healthy biological renewal processes, rather than on how much fish should be harvested (Pacific American Foundation, & Hui Mālama O Moʻomomi, 2001).

Mac Poepoe, Paul K. Bartram and Alan M. Friedlander (2007) published a chapter in the book, *Fishers' Knowledge in Fisheries Science and Management*, providing an elegant and concise explanation of the evolution and practice of the "customary code of conduct" utilized by HMM in the management of the Moʻomomi and north coast of Molokaʻi fishery. The following excerpt from this chapter "The Use of Traditional Knowledge in Contemporary Management of a Hawaiian Community's Marine Resources," provides an introduction to the customary "code of conduct" for the Moʻomomi North Coast of Molokaʻi.

> The wisdom and insights of leaders and kūpuna who possess and transmit traditional knowledge and values are crucial in lending credibility to the code of conduct (Pacific American Foundation/Hui Mālama O Moʻomomi, 2001). Kūpuna wisdom is based on cultural protocol (EKF, 1995). Protocol combines knowledge, practice and belief—fundamental characteristics of most traditional systems (Berkes, 1999)—that evolve over time within a specific cultural and ecological context. Hawaiian protocol is built on an old foundation of responsibilities that link people with their environment (EKF, 1995). These responsibilities define behavioral norms in the Hoʻolehua Homestead and other

Hawaiian communities on Molokaʻi to such an extent that a new educational curriculum has been developed around them for use in public schools (Pacific American Foundation/Hui Mālama O Moʻomomi, 2003). The most important of the responsibilities (from Handy et al., 1972; Pūkuʻi et al., 1972; Kanahele, 1986; EKF, 1995; Hale, undated) are:

- *Concern about the well-being of future generations*. Meet present food needs without compromising the ability of future generations of people to meet their needs. Irresponsible resource use is tantamount to denying future generations their means of survival.
- *Self-restraint*. Take only what one needs for immediate personal and family use and use what one takes carefully and fully without wasting. A good Hawaiian fisher is not the one with the largest catch but the one who can get what he or she needs without disrupting natural processes. An ʻōlelo noʻeau, or example from the compilation of ʻsayings of wisdomʼ by Mary Kawena Pūkuʻi, illustrates this conservation ethic, E ʻai i kekahi, e kapi i kekahi—Eat some now and save some for another time.
- *Reverence for ancestors and sacred places where ancestors rest*. Hawaiians inherited valuable knowledge from their ancestors. At one time, this knowledge was crucial for physical survival. The ʻancestry of experienceʼ (Holmes, 1996) stored in the memories of living Hawaiians is still largely transmitted through non-written processes. It is taught to succeeding generations by telling stories, creating relationships among people and between people and places, and establishing personal meaning. Ancestors are worshipped because the survival of Hawaiian culture depends on knowledge and skills passed from generation to generation (Holmes, 1996).
- *Mālama* (ʻto take care of living thingsʼ). The Hawaiian perspective is holistic, emphasizing relationships and affiliations with other living things. Accountability, nurturing and respect are important for good human relationships, are also beneficial in relationships with marine life.
- *Pono* (ʻproper, righteous'*) behavior*. Hawaiians are expected to act properly and virtuously in relationships with past, present and future generations and with the food sources that sustain them.

Signage at Moʻomomi Bay:
HMM has posted a sign at Moʻomomi Bay which provides guidelines to uses of the area, including the following guidelines regarding the harvest of marine resources:

- "Permittees and guests shall not gather or harvest ocean resources by access from Park during closed season [moi, mullet, lobster, etc.]."
- "We encourage your support for the protection of our lobster population, please gather with no more than [3] pieces of lobster net."

Code of conduct signage at Mo'omomi Bay. Photo: S. Kamaka'ala

Signage at Boat Ramps and Harbors Statewide:
HMM partnered with WESPAC, DOBOR and the NOAA Coral Reef Conservation Program to write up and share the basic Mo'omomi Fishing Code of Conduct, statewide.

- "Respect nature and your place in it."
- "Seek advice of experts with generation knowledge of the local resources."
- "Show regard to spawning seasons and juvenile fish."
- "Do not waste. Take only what is needed."
- "Keep safe people, property and resources."
- "Obey fishing laws and rules."
- "Use proper gear and techniques."
- "Pick up you trash."
- "Share your catch."

Signage at Kaunakakai Boat Ramp. Photo: D. McGregor

Code of Conduct in Pono Fishing Calendar:
In addition to the above guidelines, HMM promoted the following code of conduct through their Pono Fishing Calendar that was published in four years from 2006 to 2014, with an total distribution of 4,000 copies:

- Observe kapu periods (no-take periods) when fish are spawning. These times are important for many species to reproduce. Do not disrupt the spawning schools or habitat during peak spawning season.
- In each month, there are four major ritual periods, collectively known as kapu pule. Limiting inshore fishing and other disturbances during these days and especially during the nights of the kapu periods is a pono practice and strongly recommended.
- Harvest only what you need.
- Catch only what you can carry.
- Rotate areas when collecting ʻopihi. Don't "pound" in one place.
- Never harvest the deeper dwelling ʻopihi, kōʻele.
- Don't sell ʻopihi off island.
- Reproductive spores are trapped in the roots of limu, so always ʻako (pinch the stems) of limu to gather it and leave at least an inch of root stock growing in the coral. Never huki (pull) the limu, lest the roots get loose.
- During the huli (change) from hoʻoilo (wet season) to kau (dry season), limu kohu on the reef die back from sun exposure, take what you need.
- For moi, release females (generally 12 inches or longer).
- For moi, use only throw net or pole-and-line to catch. Do not use gill net to catch moi because females will die and cannot be released alive.
- During the spawning season uhu form harems of one male (blue-green) with several females (red). Removing the only male disrupts the harem, meaning that the females will not reproduce.
- No harvesting of ula during peak summer spawning season.
- Release female ula with ripe eggs or sperm patch.
- Release lobsters smaller than 1 pound and larger than four pounds.
- Try a variety of fish species, not just your favorite, to relieve pressure on prized species.
- Ask permission before fishing in someone else's ahupuaʻa.
- Leave Moʻomomi Bay for keiki who are learning to swim and dive and for kūpuna who have trouble getting around. If you are able-bodied, holoholo to other fishing grounds.
- During turtle spawning season at Kawaʻaloa Bay, no camping, no night fishing, no netting, no vehicle driving close to the bay.

2.b. Identify Community-Based Subsistence Needs

2.b.i. Subsistence and Cultural Marine Resources

The inshore fisheries resources include a high diversity of shallow-water reef fish, invertebrates and limu, as well as coastal pelagic species. The species most important for subsistence within the proposed boundaries include, but are not limited to the following:

ʻaʻama crab (Rock Crabs, *Grapsus tenuicrustatus, Pachygrapsus plicatus*)
ʻalaʻihi (menpachi/Squirrel fish, *Holocentridae spp.*)
akule (Bigeye Scad, *Selar crumenopthalmus*)
enenue, nenue (Gray Chub/Rudderfish, *Kyphosus biggibus*)
heʻe (Octopuses, *Octopoda spp.*)
kole (Goldenring surgeonfish, *Ctenochaetus strigosus*)
kūmū (Whitesaddle Goatfish, *Parupeneus porphyreus*)
limu (Varieties of seaweeds)
moi (Pacific Threadfin, *Polydactylus sexfilis*)
ʻopihi (Limpets, *Patellidae spp.*)
paʻakai (Sea Salt)
papio (Jacks, *Carangids*)
uhu (Parrotfishes, *Scarids*)
wekeʻā (White Goatfish, *Mulloidichthy flavolineatus*)
wekeʻula (Yellowfin Goatfish, *Mulloidichthys vanicolensis*)
other Goatfishes (*Mullidae spp.*)
ula (Lobster, *Panulirus penicillatus*)
variety of Surgeonfishes (*Acanthuridae spp.*)
variety of Wrasses (*Labridae spp.*)


Kūmū. Photo: HMM


Uhu. Photo: HMM


Ula. Photo: HMM

2.b.ii. Community Reliance on Marine Resources for Native Hawaiian Subsistence, Culture and Religion

Fishing is interwoven with all aspects of community life and the cultural identity of Native Hawaiians on Molokaʻi and in Hoʻolehua. The Hoʻolehua Hawaiian Homestead community is comprised of traditional subsistence fishing practitioners and families known to be "more dependent than those in other communities in the state on subsistence farming and fishing." (Poepoe et al., 2007). According to a survey conducted by the Subsistence Task Force in 1994, 38% of the food consumed by residents of Hawaiian ancestry on Molokaʻi is obtained through subsistence activities – fishing, hunting, gathering and cultivation. Nearly all Hoʻolehua households include active fishers and consumers of marine resources. Per household, seafood consumption amongst Hoʻolehua Homesteaders is estimated to be about ten times higher than on the island of Oʻahu. Preliminary estimates suggest that the average household consumes nearly 11 kg of seafood per week, providing over a third of their diet from subsistence practices (Poepoe et al., 2007). The Department of Hawaiian Homelands staff estimate that there are approximately 380 homesteader households in Hoʻolehua.

In late January and February 2014 families were provided full copies of the proposed CBSFA regulatory solutions to prepare them to participate in a survey. The Aha Kiole has a reputation for transparency and equal opportunity when conducting surveys. Members of the Aha Kiole

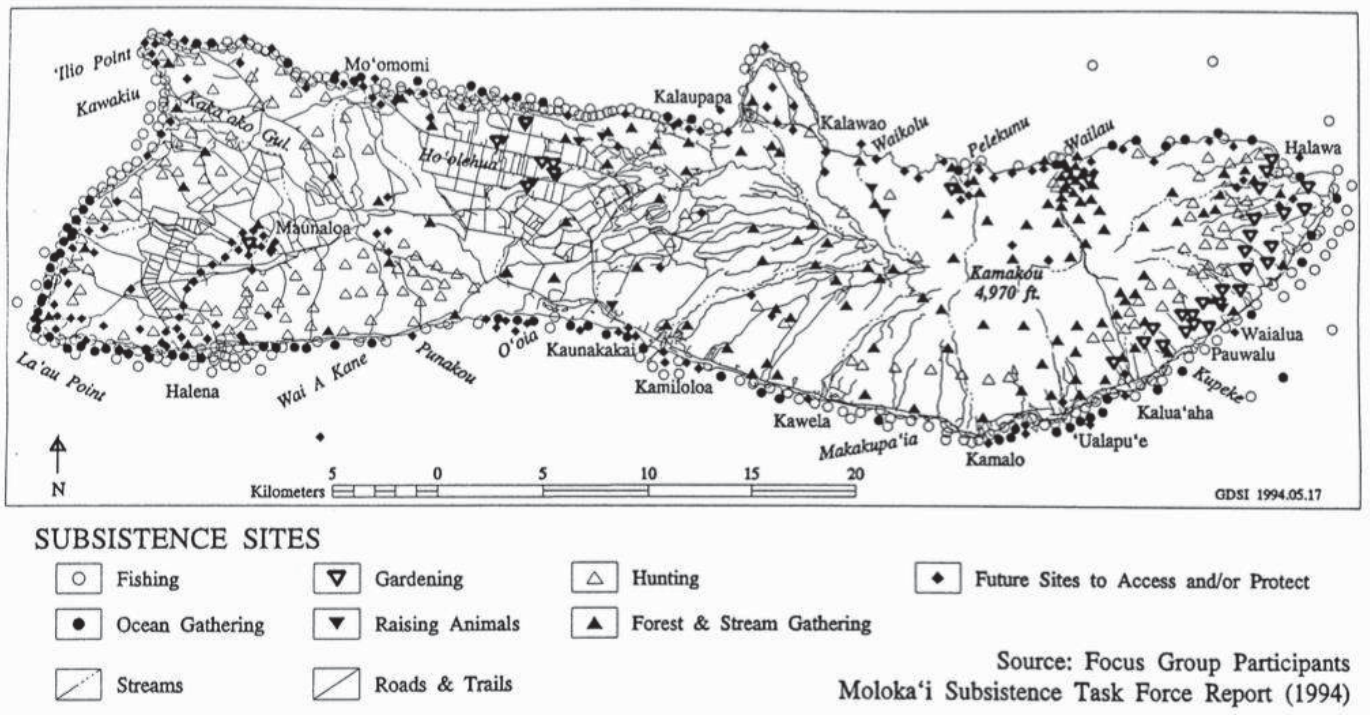
literally went through each street in Hoʻolehua Homestead, Kalae, Kualapuʻu, Kalamaʻula and Puʻuhauʻoli to identify each family of regular users at Moʻomomi. Sixty (60) surveys were passed out to individual ʻohana who are known to use Moʻomomi both regularly and occasionally, including those families who are in opposition to the proposed regulations. Sixty (60) households represents a significant number of the households who use the Moʻomomi area and 15 percent of the Hoʻolehua households. On the surveys, fifty-five (14 percent of the Hoʻolehua households) respondents stated that they support the CBSFA proposal, one (1) respondent stated their non-support, and four (4) surveys were not returned.

Sharing subsistence practices with the next generation. Photo: HMM

The Kohala Center published the *Health Impact Assessment of the Proposed Moʻomomi Community-Based Subsistence Fishing Area Island of Molokaʻi, Hawaiʻi* (2016), which points out that the 2009 - 2013 American Community Survey (ACS) documents that there are 1,239 residents in Hoʻolehua, of which 60 percent identify as Native Hawaiian (The Kohala Center 2016). The ACS data indicates that the residents of Hoʻolehua have: 1) a larger percent of multi-family households (as compared to single); 2) lower family incomes; and 3) lower per capita income than the rest of Maui County and the state (The Kohala Center, 2016). The mean annual income per capita in Hoʻolehua is $18,805, almost $12,000 less annually than the average state income per capita of $29,305 (The Kohala Center, 2016). These statistics help to explain the importance of subsistence fishing and gathering of marine resources for Hoʻolehua residents. Subsistence is essential to sustaining a healthy, traditional diet for Hoʻolehua families. Additionally, subsistence practices supplement the lower incomes of Hoʻolehua families.

The Molokaʻi Subsistence Sites Map generated by the Subsistence Task Force (see Figure 1.2.), depicts heavy subsistence use within the proposed CBSFA boundaries. Use was indicated by Molokaʻi practitioners through a series of focus group meetings held throughout the island in 1993. The map indicates that there are extensive fishing and ocean gathering activities from Kalaeokaʻīlio through Kalaupapa on the north coast of Molokaʻi.

Figure 1.2. Molokaʻi Subsistence Sites Map.



As the state does not require catch reporting by non-commercial fishermen, there are no accurate estimates of subsistence catch available within the management area. However, anecdotal information indicates a substantial subsistence fishery.

In summary, subsistence will continue to be essential to the lifestyle of the residents of the Pālāʻau Moku. Community-based management of the resources, rooted in the traditional values and codes of conduct, and empowered with the responsibility for monitoring of the resources will be critical in assuring a subsistence lifestyle for future generations on Molokaʻi.

2.b.iii. Importance of Marine Resources for Native Hawaiian Subsistence, Culture and Religion

Residents of the Pālāʻau place a high value on subsistence fishing and gathering activities, Hawaiian practices and values. The collective identity of Hoʻolehua Hawaiian Homesteaders is defined by a shared cultural heritage that is maintained by a system of interdependence and social reciprocity. This system is expressed in many ways, including the sharing of food gathered through subsistence. Amongst the Hawaiian families surveyed by the Subsistence Task Force in

1994, findings found that 38% of all food was acquired through subsistence. Subsistence fishing reduces dependence on purchased food. With subsistence providing the availability of an alternative food source, this gives residents a sense of self-sufficiency and freedom. The Task Force concluded that without subsistence as a major means of providing food and supplementing income, Molokaʻi families' standard of living would be greatly reduced.

Additionally, subsistence fishing provides other, less definable benefits. Time spent subsistence fishing cultivates intimacy and harmony with the ocean and environment, reinforcing a strong sense of kinship with nature that is the foundation of Hawaiian spirituality and religion. While engaging in fishing and gathering activities, practitioners share experiences and gain knowledge that provides continuity between the past and the present, building trust and cooperation. These shared experiences reinforce beliefs and values that are critical for perpetuation of Hawaiian cultural identity. Subsistence fishing emphasizes group identity and relationships, rather than individual economic accomplishment. Food obtained through subsistence fishing is distributed within the community and is consumed at family and community gatherings, reinforcing community ties and social networks.

The prevalence of the economic and social importance of subsistence activities on Molokaʻi is well documented. Subsistence is an essential and viable sector of the overall Molokaʻi island economy (Governor's Molokaʻi Subsistence Task Force Final Report, 1994). Subsistence fishing not only provides food, but contributes to a healthy diet. Obtaining equivalent food items, such as fish, from stores can be costly and families on fixed incomes are known to purchase cheaper, less healthy foods. Subsistence activities require physical exertion and provide opportunities for relatively inexpensive recreation that contribute to better health (The Kohala Center, 2016).

Beyond the immediate economic and health advantages of subsistence fishing are other benefits that serve to enhance family identity and community cohesion to perpetuate traditional cultural values. Subsistence fishing and marine resource gathering reinforces relationships of ʻohana and extended family by providing fish and marine resources for pāʻina and lūʻau (family gatherings) to celebrate important life cycle events such as weddings, first year baby lūʻau, graduations and funerals. Large ʻohana gatherings might otherwise be too expensive if the marine foods were purchased rather than harvested by members of the ʻohana. The kūpuna are also supported by subsistence activities, as the younger fishermen in the ʻohana regularly share their harvest with the kūpuna and family members who are not as able-bodied to engage directly in subsistence fishing and harvesting. Knowledge of fishing koʻa, both fishing congregation areas in the ocean and the shrines on the land that serve as markers, is passed down from one generation to the next as multiple generations of family members engage together in subsistence fishing and gathering. Through the practice of fishing and ocean gathering, ancestral scientific and cultural knowledge is passed on and perpetuated. Overall, subsistence fishing and gathering reinforce ʻohana cultural values of respect for kūpuna, aloha kekāhi i kekāhi or mutual support and caring for each other, a sense of connection, and responsibility to mālama or take care of the ocean and coastal area that has fed generations of family members (Governorʻs Molokaʻi Subsistence Task Force, 1994; McGregor, 2007).

Subsistence resources have allowed Molokaʻi to endure economic hardship without major social or cultural disruption. Molokaʻi provides a rare example of how a community can adapt to

changing economic circumstances without massive government intervention in the aftermath of failed economy. Subsistence became a more vital aspect of Molokaʻi's economy when a major employer closed down, leaving a number of residents unemployed. Subsistence should not be viewed as a replacement economy, but as an essential tradition that has survived and has buffered the impacts of failures in other sectors of the island's economy (Governor's Molokaʻi Subsistence Task Force Final Report, 1994).

Molokaʻi is unlikely to experience economic growth or social dislocation on a scale that would change its underlying cultural and subsistence lifestyle. Subsistence fishing and the ability for one's practice and the resources' health to sustain subsistence fishing on Molokaʻi will continue to be an integral part of the island's economy and the community's health.

Spiritually, the scenic, remote, and raw coastal line and coastal area of the Moʻomomi North Coast of Molokaʻi is a natural sanctuary where the natural elements uplift one's soul.

North Coast of Molokaʻi Coastline. Photo: Rikki Cooke

The coastal areas of Moʻomomi, Kawaʻaloa, Kawahuna and Keonelele comprise one of the most extensive ancient burial grounds in the Hawaiian Islands. Thousands of burials lie within the extensive dune system complex. The area is considered to be a leina-a-ka-ʻuhane or, according to the Hawaiian dictionary, leap of the soul, or a place where spirits leap into the nether world.

In a 1991 archaeological study, Marshall Weisler wrote:

> [I]t is apparent that thousands of bones within the Mo'omomi dunes undergo a continual process of reburial and exposure. The great extent of the major burial sites suggest also that more bones will be exposed over the years to come. Consequently, the dunes of

Mo'omomi should be considered one large burial area until such time as intensive archaeological excavations reveal otherwise.

Throughout history and to present, as a sanctuary for the kūpuna who are buried there, many families have scattered the ashes of their loved ones at Moomomi. Likewise, at Kalaupapa, historic burials of those who died of leprosy also line the coastal area. The designation of the Moʻomomi North Coast of Molokaʻi as a CBSFA will add an additional and formal layer of respect and protection for these sacred dunes and burial grounds.

2.c. Priority Threats to Traditional Fishing Practices and Marine Resources for Native Hawaiian Subsistence, Culture and Religion

Critical Transition of Stewardship

The most critical threat to the perpetuation of the traditional fishing practices and marine resources of the north coast of Molokaʻi is a diminishing role and authority of those in the community who are providing stewardship of the marine resources utilized for subsistence, cultural and spiritual purposes. As the kūpuna generation of this community is aging and the next generation is needed to take on the responsibility of exercising stewardship of these important community resources, the state can provide assistance and support by adopting the proposed regulatory solutions in order to formalize the management practices that have evolved through the work of HMM and its partners over the past two decades. In 1993, those who have since matured into the kūpuna of the community conceived the groundbreaking idea of having DLNR work with communities to manage the diminishing marine resources that such communities depend upon for subsistence, cultural and spiritual purposes. When DLNR failed to promulgate appropriate rules for the area after the 1994-1997 Moʻomomi Pilot Project, HMM persisted in fulfilling its stewardship responsibility. Now, HMM is calling upon DLNR to formally acknowledge and recognize the work of HMM by promulgating the accompanying proposed regulatory solutions. These regulatory solutions will reinforce the rights and responsibilities inherent in Native Hawaiian subsistence, cultural, and religious practices of managing the ocean for the next generation of stewards.

Teaching next generation of resource managers. Photo:

Threat to Marine Resources: The Severe Decline of Five Species and the Protection of Special Resources

HMM has identified five specific species whose populations have severely declined along the north coast of Molokaʻi. So as not to be repetitive, this issue is best explained in Part 2, the

Management Plan. Under the stewardship of HMM and given the broad education of the Molokaʻi community, an approximate balance has been achieved between harvesting and replenishment of inshore marine resources which the community depends upon for subsistence. However, there are still some popular fish species that have been overfished leading to the decline of the five identified species, as discussed above. The proposed regulatory solutions are designed to target and provide protection for the declining species. See proposed regulatory solutions, Pt. 2, pp 69 - 70.

The proposed CBSFA addresses the harmful harvesting practices and mentality occurring within and around the recommended designation area, which results in behaviors that do not comply with traditional fishing values and the Moʻomomi code of conduct. If these threats are not addressed, resources will continue to decline, with repercussions for the fisheries and the people who depend upon its resources for subsistence (Ault et al. 2009).

Codifying protections for sustainable subsistence fishing and gathering practices through CBSFA designation would help to conserve the north coast of Molokai's marine resources and encourage diversification of what is harvested, putting less pressure on the declining species. Currently, the five highly prized and vulnerable species that are critically overharvested include: moi (Pacific threadfin, *Polydactylus sexfilis*), kūmū (Whitesaddle goatfish, *Parupeneus porphyreus*), kole (Goldenring surgeonfish, *Ctenochaetus strigosus*), uhu (Parrotfishes, *Scarids*), and ula (Spiny lobster, *Panulirus penicillatus*). Part 2 provides background on the threats to these five species within the designation area and identifies the regulatory solutions that address these threats. These proposed regulatory solutions were designed with the following primary resource users in mind: Hoʻolehua Homesteaders, the residents of the Pālāʻau Moku the general Molokaʻi population and boat-based off-island fishers. In addition, the proposed CBSFA regulatory solutions would protect ʻopihi and limu that are vulnerable because they are in high demand.

Threats to Traditional Fishing Practices

There are five direct priority threats to traditional fishing practices along the north coast of Molokaʻi. Threats identified include: inappropriate harvest, overly efficient gear, overharvest, commercial harvest, and site specific concerns. The proposed regulatory solutions discussed in Part 2 are designed to protect threatened and vulnerable marine resources within the proposed CBSFA area from such negative impacts.

<u>Inappropriate Harvest</u>

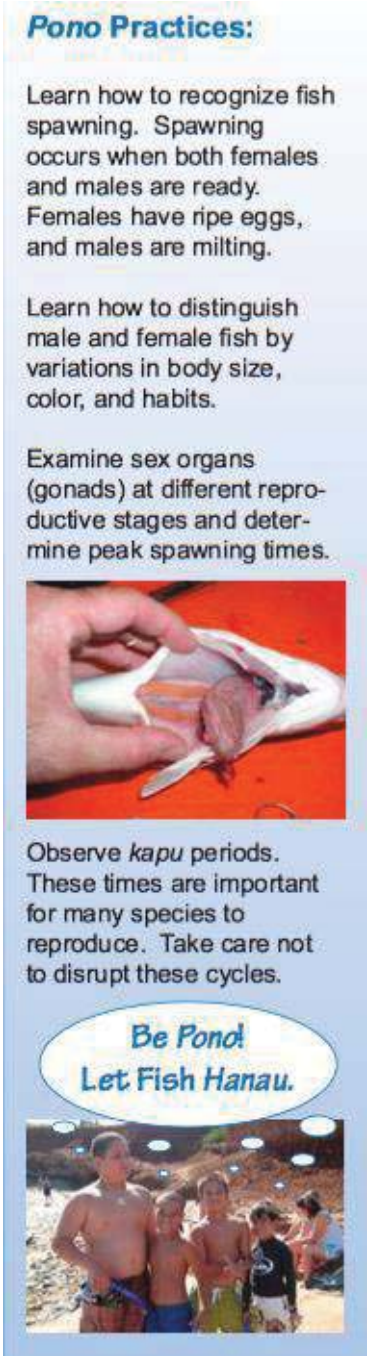
Coral reef fishers tend to target undersized, immature individuals that haven't yet reached reproductive age or size and should be protected from harvest (Vasilakopoulos et al., 2001). Catching immature (juvenile) reef fish hurts a population's ability to regenerate by removing potential recruits that would one day replace older, larger fish (Ault et al. 2009). Recruitment overfishing can be avoided when juvenile fish are allowed to "spawn-at-least-once" and contribute to recruitment (Myers & Mertz, 1998). We note that the harvest of baby manini was a customary practice on Hawaiʻi Island, but not on Molokaʻi and the recognition of traditional practices need to be specific to each island. Similarly, moi liʻi used be in the thousands in the Moʻomomi area and were harvested. However, they are no longer abundant and so it would inappropriate to havest the moi liʻi at this time. This is the importance of adaptive management. Adjustments need to be made in accordance with the health of the resources.

To address the issue of harvesting undersized individuals, the proposed CBSFA regulatory solutions create a minimum size limit of 5-inches for kole to allow the fish to reach sexual maturity. Observations by HMM members over the past 22 years indicate that kole are bigger on the north coast of Molokaʻi than on the south coast. On the south coast, the kole tend to be smaller than 5-inches, but on the north shore, the kole tend to be longer than 5-inches. Therefore, the suggested minimum size for catching kole within the proposed CBSFA has been adjusted accordingly to 5-inches.

There is the additional issue of fishing for larger, long-lived, slow-growing prized species at the onset, and then shifting to smaller, less desirable species as populations decline over time (Russ & Alcala, 1996; Pitcher, 2001; Friedlander & DeMartini, 2002). “The preference for larger and older fish has a disproportionately higher impact on the growth and replenishment of fish populations, since these fish produce more eggs and healthier offspring. If the abundance of a species drops too low, a fish population may lose its ability to rebuild itself. As large, predatory fish species are targeted and depleted, fishers will ‘fish down marine food webs,’ moving on to remaining smaller species which are then, in turn, depleted.” (NOAA Fisheries, 2016).

To address the threat of harvesting the large brood stock, the proposed regulatory solutions create a maximum size limit of 18-inches for moi (in addition to the existing statewide 11-inch minimum moi size restriction for moi), and a maximum size limit of 16-inches for kūmū (in addition to the existing statewide 10-inch minimum size limit for kūmū).

Fishermen can also improperly harvest species during their spawning season, which reduces the offspring that would help regenerate the population. However, at Moʻomomi, “[b]y observing spawning behavior and sampling fish gonads, community monitors have constructed a calendar identifying the spawning periods of major food fish species . . . . The calendar is crucial to community-based resource monitoring and management.” (Poepoe et al., 2007) By identifying peak spawning periods for important food fish in a Hawaiian calendar format, voluntary closures (kapu) can be agreed upon by the community so as not to disrupt spawning behavior and other natural processes.



Excerpt from Pono Fishing Calendar. Photo: HMM

The new proposed regulatory solutions minimize the threat of improperly harvesting species during spawning seasons by creating closed seasons for uhu pālukaluka (female Redlip parrotfish) and uhu ahu‘ula (female Spectacled parrotfish) (April to June), kūmū (January to March 31), and kole (April 1 to June 30). The improper and sometimes illegal harvest of large, juvenile, and spawning individuals strays from customary values and is directly averse to traditional practices and the sharing of valid information amongst fishermen.

Other examples of inappropriate harvest along the north coast of Moloka‘i include certain methods of limu gathering and night diving. Traditionally when limu was gathered, one would avoid pulling out the holdfast or roots still attached to the rocks, to ensure limu regrowth. The only exception to this practice would be during periodic projects to remove invasive limu, as deemed necessary. Harvesting while night diving is one of the single, most overly efficient modes of fishing since so many species are vulnerable at that time. By limiting the hours of spearfishing to daylight, many species can have a chance to recover.

Overly Efficient Gear

A growing number of people are using sophisticated fishing gear and technology to increase yields. This kind of fishing gear is often overly efficient, allowing humans to harvest marine resources at a rate that exceeds natural growth and reproduction. “The modern development of boat engines, depth finders, GPS units, diving gear, underwater lights, and other modern fishing gear in conjunction with the emergence of a market economy have greatly changed the nature of fishing and the ability of fishers to impact the resource. Such natural marine refuges no longer exist due to modern technological ability to extract fish and other resources.” (Jokiel et al., 2010). Jokiel et al. also noted that over time, “technology provided refrigeration and more efficient fishing gear, further accelerating the shift from subsistence to profit-based economies.”

To address the issue of overly efficient gear, the proposed regulatory solutions impose species-specific and general gear restrictions, and also distinguish between gears allowed solely for the use of subsistence take. Some of the main gear restrictions include no diving and/or spearing between 6pm and 6am; no using lobster nets to catch lobster; and no harvest of ‘opihi while diving.

Overharvest

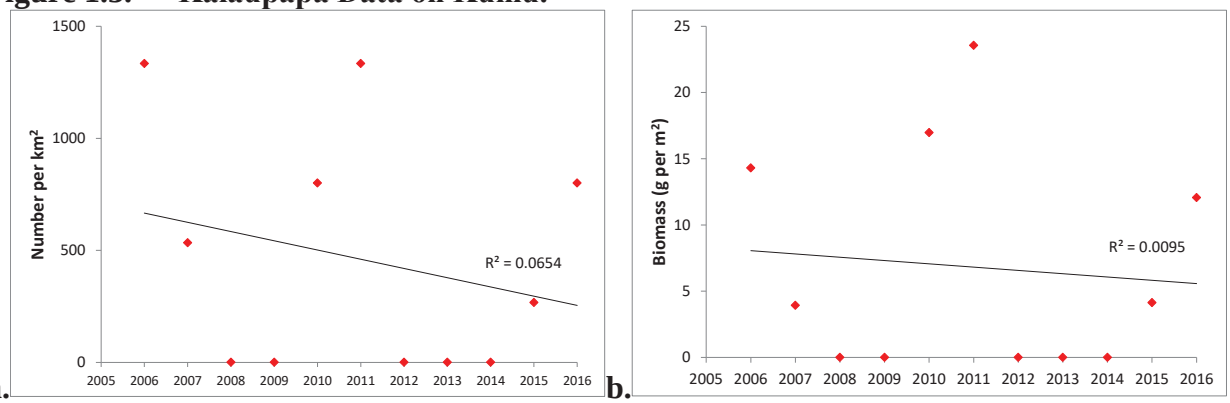
Evidence from both researchers and resource users indicate that over the past 20 years, marine resources within the Main Hawaiian Islands have generally declined (Friedlander et al., 2008). Overharvest is considered to be one of the largest threats to nearshore marine ecosystems, while land-based pollution and coastal development also pose significant harm (Harman & Katekaru, 1988; Grigg & Birkland, 1997; Tissot et al., 2009). Hawai‘i’s marine resources are especially susceptible to the threat of overharvest owing to the state’s “relative isolation, limited recruitment, and high species endemism.” (NOAA Fisheries, 2016). Size, density, and biomass of nearshore reef fish are drastically lower in the Main Hawaiian Islands than the Northwestern Hawaiian Islands, which see less fishing pressure (Friedlander & DeMartini, 2002). “Coastal fisheries are facing severe depletion and overexploitation on a global scale and Hawai‘i is no exception. This decline in abundance, particularly around the more populated areas of the state, is likely the cumulative result of years of chronic overfishing.” (Shomura, 1987).

The overharvest of marine species is occurring within the proposed area for at least five species. HMM has been monitoring the area from Kalaeokaʻīlio through Nihoa Flats from 1995 to 2016. Throughout these 21 years, observations by members of HMM reveal a steady decline in the size, population, and catch of these five previously mentioned threatened species. Of the five species, ula is experiencing the most notable harms, where long-term observations indicate there is little chance that ula populations will recover to a sustainable level (see Pt.2, pp. 45-47). Through shared informal catch reports, in 2012, information provided by the fishermen confirmed the decline of lobster populations observed by the community's in-water observational census. This decline has been primarily caused by overharvest, mainly through the use of lobster nets. Ula decline is also exacerbated by the sexual imbalance of harvest (i.e., a disproportionate harvest of large, mature males) resulting in an insufficient number of superior brood stock to perpetuate a healthy ula population. As observed by members of Hui Mālama, sometimes in the presence of DOCARE officers, overharvest has largely occurred from within the Pālāʻau Moku community, which means the onus is on residents of this area to acknowledge the need for stricter regulations if sustainable populations and self-sufficiency are to be fully realized. This proposal provides solutions for community-based and co-management of the proposed CBSFA, which can allow the Pālāʻau Moku community to initiate the measures necessary to curb overharvesting of ula, while promoting ula protection and restocking.

Long-term observations by HMM members also indicates declines in kūmū and moi from the mid-seventies and eighties to the present. "Moi have a readily identifiable aspect of their life history (sex reversal) that has contributed to its decline in Hawaiʻi: continued overfishing results in relatively few females left in the population around heavily fished areas of the state." (Poepoe et al., 2007). In-water observational census, fisherman-collected information and observations also show noticeable declines in kole and uhu, with drastic declines in observations of uhu ʻeleʻele (large male Redlip parrotfish, *Scarus rubroviolaceus*) and uhu uliuli (large male Spectacled parrotfish, *Chlorurus perspicillatus*) (ʻIke Maka). Kole do not typically stray far from their home boundaries and are easily exploited due to their territorial behavior. Uhu species are also easily collected at night while they are sleeping on the reef (Lindfield et al., 2014). A 2014 study indicates that uhu and are likely being overfished in Hawaiʻi (Pardee, 2014). Nadon et al. (2015) reported that fish species likely experiencing recruitment overfishing in Hawaiʻi based on their documented spawning potential ratio include longer-live, lower natural mortality species such as the pālukaluka parrotfish, surgeonfishes like the kole, and the highly-prized kūmū goatfish.

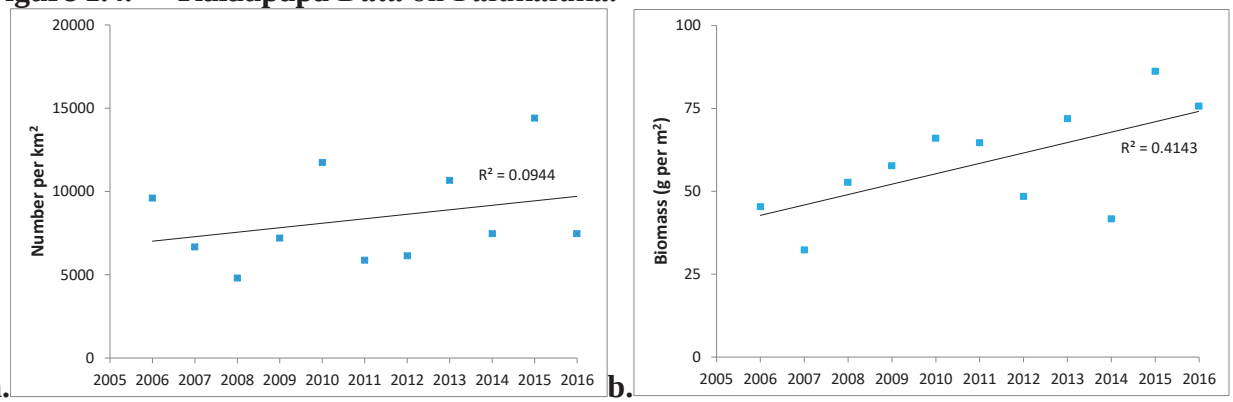
The abundance and biomass data from Kalaupapa National Historical Park for kūmū and pālukaluka (uhu ʻeleʻele) shows different patterns since 2006. Even though there is a slight downward trend in both kūmū abundance and biomass, there does not appear to be a significant relationship in the patterns due to the low r^2 values (Figure 1.3.a-b.). This result is most likely due to the relatively low numbers of kūmū in the park. In comparison, pālukaluka has displayed a modest increase in abundance since 2006 (Figure 1.4.a.), but more importantly there appears to be a significant increase in biomass (Figure 1.4.b.) indicating larger fish are now found around the peninsula. Note the different Y-axis scale values between species for the same metric.

Figure 1.3. Kalaupapa Data on Kūmū.



a. Abundance (Number per km^2) of kūmū observed on 30 annual transects from 2006-2016 at Kalaupapa National Historical Park. **b.** Biomass (g per m^2) of kūmū observed on 30 annual transects from 2006-2016 at Kalaupapa National Historical Park. R^2 values provided for each trend line indicating the strength of the relationship between the points and the overlying slope.

Figure 1.4. Kalaupapa Data on Pālukaluka.



a. Abundance (Number per km^2) of pālukaluka observed on 30 annual transects from 2006-2016 at Kalaupapa National Historical Park. **b.** Biomass (g per m^2) of pālukaluka observed on 30 annual transects from 2006-2016 at Kalaupapa National Historical Park. R^2 values provided for each trend line indicating the strength of the relationship between the points and the overlying slope.

To address the particular concern of overharvest of these five species, the proposed CBSFA regulatory solutions provide sound recommendations to address the varying threats and circumstances of the vulnerable species and ecosystems within the proposed area. See proposed regulatory solutions, Pt. 2, pp. 61-68.

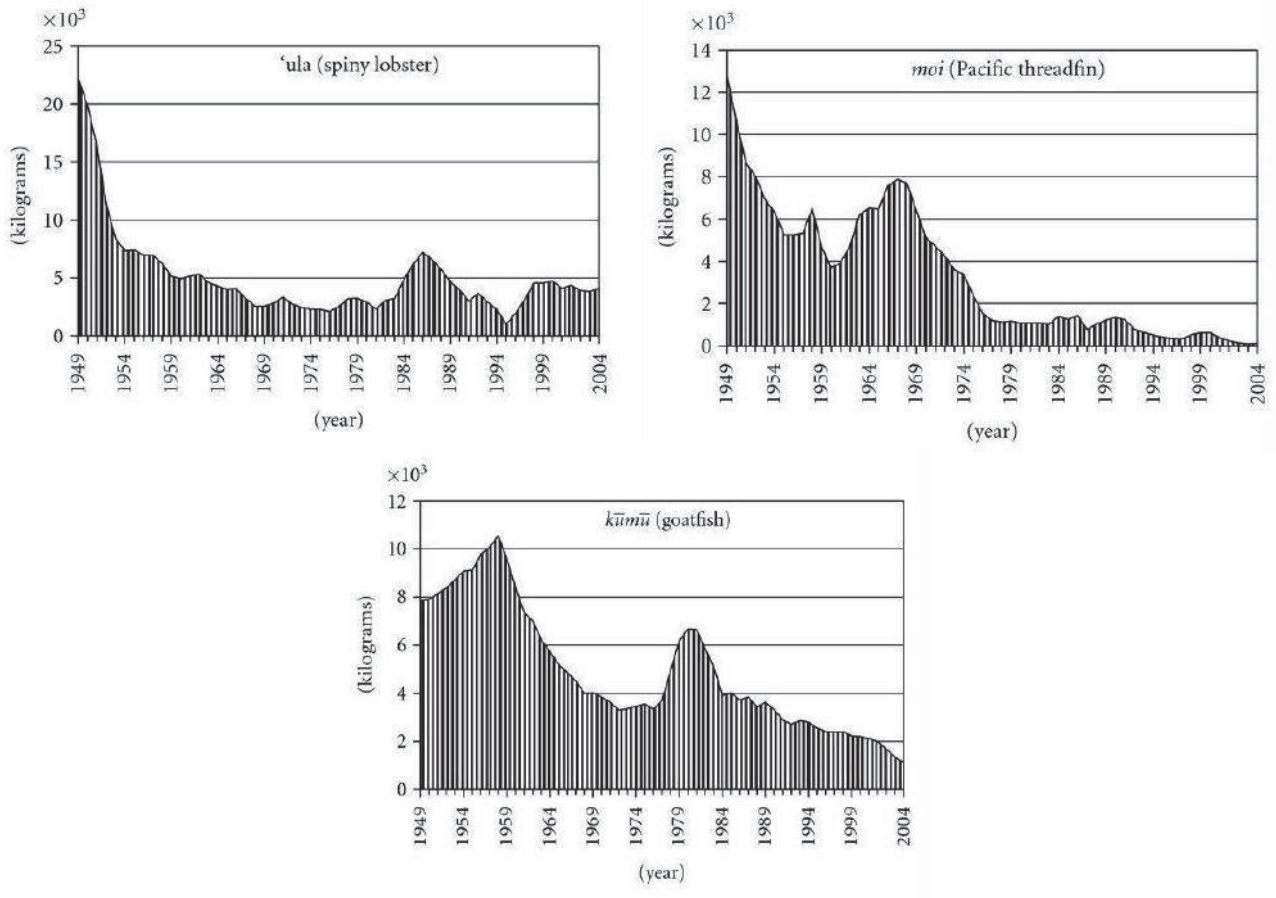
<u>Commercial Harvest</u>

Commercial harvest of nearshore and reef fish species such as kūmū, ula, moi, ‘opihi, menpachi and uku in the proposed area directly compete with subsistence fishing needs and practices by reducing populations of subsistence target species and their reproductive potential.

Dramatic declines in catch of nearshore and reef species were observed during the initial period of fisheries commercialization in Hawai‘i (Maly & Maly, 2004). Three of the species of concern identified in need of protections in this proposal, ula, moi, and kūmū, appear to have been overharvested from 1949 to 2004 (see Figure 1.5 below) (Jokiel et al., 2010). Figure 1.5 does not include catch per unit effort information, however, because ula, moi, and kūmū are three species that are highly recognized and highly desired on Moloka‘i and throughout the state, there is no strong indication that the decline in commercial catch is because of a decline in the market desirability of these three species. Thus, declines in the commercial catch of these species most likely correlates with declines in the abundance of these species.

While moi has seen the greatest decline statewide, of the commercially harvested reef species in the proposed area, kūmū and ula have seen the most drastic local reduction and will require a significant amount of time, without commercial fishing pressure, to recover. It is important to note that based on the state commercial catch data for 2010 to 2014, when comparing the number of kūmū caught and sold with the pounds of kūmū caught and not sold for the Mo‘omomi Area, 312, the data shows that the majority of kūmū caught were undersized and could not be sold, according to state minimum regulations (see pp. 56). The proposed CBSFA designation would provide a necessary respite for these species. For more specific commercial catch data, see Pt. 2, pp. 55-57.

Figure 1.5. Main Hawaiian Islands commercial marine landings data, tracking the decline of ‘ula, moi, and kūmū from 1949 to 2004 (Jokiel et al., 2010).



Commercial near-shore harvest in Hawai‘i increases fishing pressure and competition amongst commercial and recreational fishers, which in turn introduces standards of behavior and perceptions that drastically deviate from traditional subsistence, cultural and religious practices and conservation ethics. Currently within the state, fishing decisions that will have an impact on the fishery are made with considerable uncertainty about how fishermen will in turn behave collectively. Such uncertainty tends to shorten planning horizons and places a premium on short-term catches over future catches. Commercial harvest by residents, off-island fishermen, and new residents is causing some Moloka‘i fishermen to question traditional values such as the sharing of seafood resources and conservation for future generations and codes of conduct, which are the foundation of the traditional subsistence practices and cultural values. An alarming number of fishermen are using inappropriate harvesting methods, taking undersized animals or ignoring seasonal prohibitions. Traditional means of assuring compliance and punishing infractions for an un-codified code of conduct are not currently realized in modern society, requiring the designation of a contemporary CBSFA to protect marine resources and traditional practices. Given the growing threats discussed above, there is a degree of urgency to expedite the CBSFA designation in order to protect the proposed area’s marine resources for current and future generations.

To address the threat of commercial harvest, the proposed regulatory solutions prohibit the sale of any marine life taken from within the Mo‘omomi North Coast of Moloka‘i CBSFA, with the exception of akule and ta‘ape. While some commercial bottomfish and pelagic fishing may now occur within the proposed 1 mile boundary, continued opportunities for bottom and pelagic fishing exist beyond the boundary. See Appendix IV for a map of benthic habitat within the proposed management area.

Site-specific Concerns

Kawa‘aloa Bay is an important nursery area for many species and traditionally was left alone for juvenile reef fish to rest. The importance of Kawa‘aloa Bay as a nursery was broadly discussed in the focus groups and meetings of the Governor’s Moloka‘i Subsistence Task Force conducted in 1993 – 1994 (Governor’s Moloka‘i Subsistence Task Force, 1994). When the final recommendations for the report was presented to the Moloka’i community as a whole, the original proposal for establishment of a community-based subsistence fishing area from Kalaeoka‘īlio to Nihoa Flats, was endorsed, including the provision for special protection for Kawa‘aloa Bay.

Today, recreational activities such as swimming in the bay, disrupts the fishes’ natural behaviors. The proposed CBSFA regulatory solutions reinvigorate traditional use of this bay by preventing in-water disruption caused by swimming, surfing, body boarding, diving, operating vessels, or other in-water activities (e.g., Fay 2009, Slabbekoorn 2012). Restricting such activities are also necessary for the protection of turtle nesting at the bay. Appendix XI provides disturbance factors for turtles during the various stages of their nesting process. The proposed regulatory solutions for the area do permit the continuation of harvesting shoreline species of ‘a‘ama crab and limu. Gear used from shore, such as throw-net and hook-and-line, are also permitted, with some restrictions to prevent by catch. See Pt. 2, pp. 65-68, for site-specific maps and regulatory solutions for the Kawa‘aloa Bay Nursery Area. These restrictions may fall under the jurisdiction

of DOBOR. However, regulatory solutions affecting subsistence marine resources should be streamlined under the CBSFA rulemaking process.

Summary
By addressing the threats of commercial harvest, overharvest, inappropriate harvest, overly efficient gear, and other site-specific concerns through CBSFA regulatory solutions, Moʻomomi and the north coast of Molokaʻi may serve as an important example of traditional resource conservation to ensure future food, economic, and cultural sustainability. Designating the area as a CBSFA would join Moʻomomi's local knowledge and kuleana with the enforcement capabilities and responsibility of DLNR to protect Hawaiʻi's marine resources and traditional practices through co-management, "the only realistic solution for the majority of the world's fisheries." (Gutierres et al., 2011; Levine & Richmond, 2011).

○ ◗ ●

3. Identify CBSFA Boundaries

3.a. Location, Boundaries and Map of CBSFA

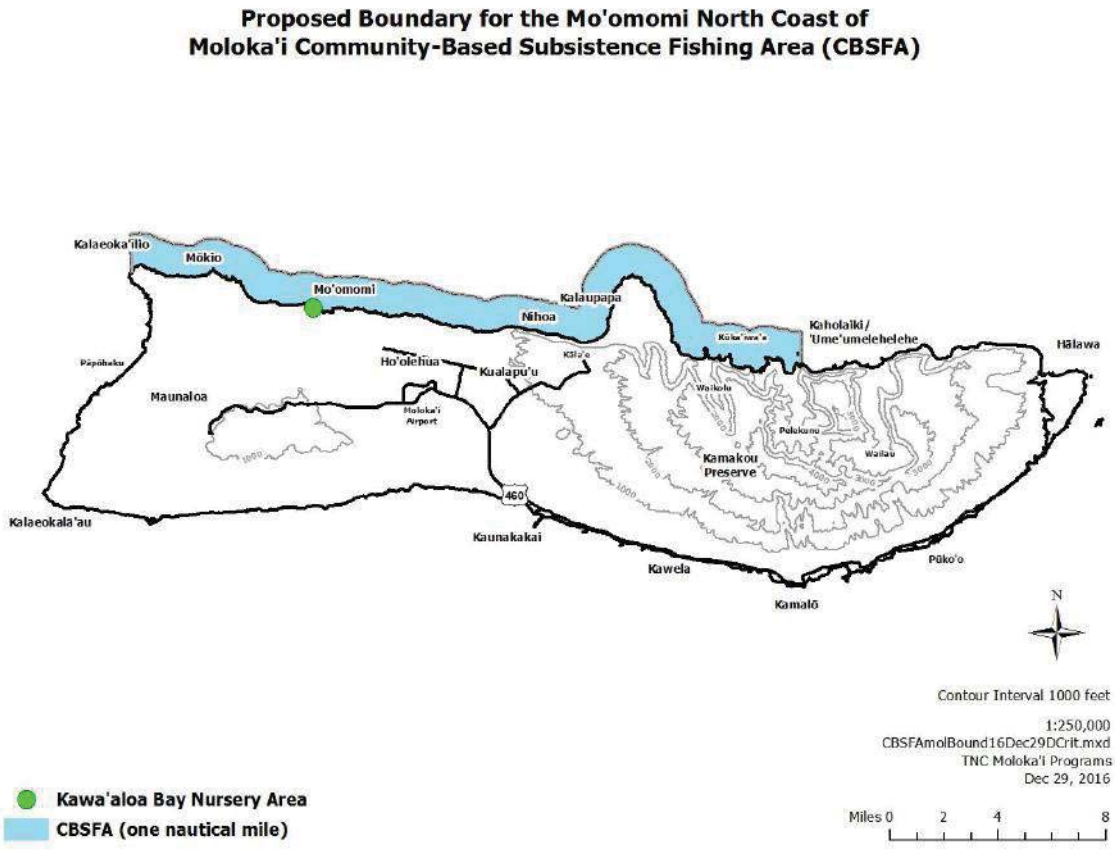
The area proposed for designation encompasses the marine waters and submerged lands off of the northwest coast of Molokaʻi, extending seaward one nautical mile from the high-water shoreline from Kalaeokaʻīlio in the west, to Kaholaiki in the east (see Figure 1.6 below). Officially, in 1859, Kingdom law acknowledged and instituted what had evolved as Native Hawaiian custom and practice with regard to the management and harvesting of marine resources in the nearshore ocean of the ahupuaʻa and moku, over centuries. Under Kingdom Law, the fishing grounds for the konohiki and the people on their lands extended "from the reefs, and where there happen to be no reefs, from the distance of one geographical mile seaward to the beach at the low water mark." (King. Haw. Civ. Code § 384-396 (1859); Haw. Rev. Stat. § 187A-23(a)) Thus, the one-mile seaward boundary of the proposed Moʻomomi North Coast of Molokaʻi CBSFA is a fundamental feature of traditional customary management of nearshore fisheries by Native Hawaiians and consistent with the statutory language of Haw. Rev. Stat. § 187A-23(a).

Importantly, the one-mile boundary along the Moʻomomi North Coast of Molokaʻi ensures protection of most of the koʻa or traditional fishing areas related to the ahupuaʻa and moku of this coast that were traditionally managed by the konohiki and makaʻāinana and continued to be managed and used by succeeding generations to the present. Notably, the one-mile boundary enables protection from commercial extraction of a range of fish, from the reef to the bottomfisheries and the pelagic fishing zone for subsistence. As mentioned above, when ocean conditions permit, residents of the Pālāʻau Moku launch small boats and surround akule (Selar crumenopthalmus) or troll for ulua (Caranx ignobilis), ono (Acanthocybium solandri) and other open ocean species. A more narrow boundary would not afford protection for a broader range for subsistence fishing. For example, the shoreline off of Kalaupapa has wide benches and the existing ¼ mile protected boundary for the Kalaupapa National Historic Park does not afford protection for the pelagic fishing grounds for the residents.

Kaholaiki on the eastern border of the management area is adjacent to one of the least accessible reaches of coastline in the Main Hawaiian Islands, where the highest sea cliffs in the world extend to Halawa Valley. Pelekunu Valley is largely owned by TNC, but there are also a small number of kuleana land parcels in the area. Hā‘upu is owned in part by the Joyce Kainoa ‘Ohana. Waiho‘okalo is owned by TNC. Waikolu is owned by the State of Hawai‘i, but not inhabited. Kalaupapa is an isolated area with restricted access and fishing is regulated by the patient community. Subsistence fishing and gathering of marine resources along the west side of the Kalaupapa National Historic Park has been and is limited to the residents and park service employees (see Appendix V for Kalaupapa Visitors Rules & Regulations). From Nihoa Flats, west of Kalaupapa, to Mo‘omomi Bay, access is through Hawaiian Home Lands. From Kawa‘aloa to Kalaeoka‘īlio, access is through lands controlled by Moloka‘i Ranch, TNC, MLT, and the State of Hawai‘i. Access to the state-owned Kalaeoka‘īlio is restricted because of the presence of unexploded ordnance in the land. This area is in the beginning stages of being designated as a Natural Area Reserve.

See Figure 2.2., Pt. 2, pg. 64 for a larger proposed boundary map. For a map of existing reserves and place names along the coast, see Appendix IV. Benthic Habitat Map for the Mo‘omomi North Coast of Moloka‘i CBSFA and Appendix VI. Map of Existing Reserves for the Mo‘omomi North Coast of Moloka‘i Region.

Figure 1.6 Proposed Boundary for the Mo‘omomi North Coast of Moloka‘i CBSFA



3.b. Description of the Proposed Size of the CBSFA in terms of its Necessity for Meeting Native Hawaiian Subsistence, Cultural and Religious Needs

The area proposed for designation as the Moʻomomi North Coast of Molokaʻi CBSFA spans approximately 27 square miles along the coast and extends seaward out to one nautical mile from the high water shoreline.

Kalaeokaʻīlio to Nihoa

Native Hawaiians who resided in the Kaluakoʻi and Pālāʻau ahupuaʻa and the windward valleys of Molokaʻi's north coast traditionally and customarily fished and gathered marine resources along the coast from to Kalaeokaʻīlio to Nihoa, establishing fishing trails, koʻa (fishing shrines) and temporary shelters (McGregor & La Benz, 2006). Following this tradition and custom, Hoʻolehua Hawaiian Homesteaders have continued to fish and gather along this shoreline. When Maunaloa town was established in the 1940s, residents from this area also accessed the shoreline for their subsistence. These traditional areas for fishing and gathering by the residents along the northwest coast were acknowledged and respected by the residents from other areas of Molokaʻi, as well as Oʻahu.

Kalaupapa National Historic Park

The original residents of Kalaupapa, Makanalua and Kalawao fished off of their peninsula from Nihoa to Kūkaʻiwaʻa. Historically, when the families from the north Molokaʻi valleys passed along this coastline for their annual summer residence at Moʻomomi, they did not fish off of the Kalaupapa peninsula. When the area from Nihoa to Kūkaʻiwaʻa was established as a settlement for Hansen's Disease patients in the mid-nineteenth century, the coast, reef and ocean there was reserved for use by the patients and their caregivers. The Kalaupapa National Historic Park has a ¼ mile buffer zone that is part of the legislated park boundary (Public Law 95-565, 1980, December 22). Subsistence fishing and gathering of marine resources along shorelines that are part of the Kalaupapa National Historic Park is limited to the patients, community residents, sponsored visitors and employees of the state and NPS. Currently, subsistence fishing and gathering of marine resources along shorelines that are part of the Kalaupapa National Historic Park are limited to the patient-residents and employees of the state and NPS. Sponsored visitors are allowed to pole and line fish from shore and are subject to the same state and federal laws that govern fishers around the rest of Hawaiʻi. All entry to the peninsula by land, sea and air is strictly regulated by the Hawaiʻi Department of Health, in partnership with NPS. The Moʻomomi North Coast of Molokaʻi CBSFA will honor this longstanding traditional and customary practice of reserving fishing and shoreline gathering rights from Nihoa to Kūkaʻiwaʻa for Kalaupapa residents and employees only (see Appendix V. Kalaupapa Visitors Rules & Regulations). National Park Service staff annually survey 150 transects distributed among different reef habitat types around the Kalaupapa peninsula. Resulting data shows that reef fish densities, biomass and species richness have remained relatively stable in the last 10 years (Brown et al., 2015). This is attributed to low fishing pressure. As general current patterns in Hawaiʻi run east to west (Lumpkin, 1998), it has been observed that Kalaupapa serves as a vital source of replenishment for fish stocks in the area from Nihoa to Kalaeokaʻīlio. The area from Lae Hoʻolehua to Lae ʻUmeʻumelehelehe is a DLNR Bottomfishing Restricted Area out to .25 nautical miles (BRFA B, Kalaupapa, Molokaʻi). The Kalaupapa area is also included in the proposed CBSFA designation for ecological management purposes.

Kūkaʻiwaʻa to Laeokapahu

Joyce Kainoa and her ʻohana are the only people who have lived in the proposed CBSFA area from the National Park boundary at Kūkaʻiwaʻa, east to Laeokapahu in the contemporary period. The Kainoa ʻOhana are traditional subsistence fishing practitioners. This area, like the ocean off of Kalaupapa, serves as an important nursery for the north coast of Molokaʻi, allowing for the recruitment of species and is included as part of the ecological approach to managing the proposed CBSFA.

Pelekunu

The area from Laeokapahu, east to Kaholaiki (and/or ʻUmeʻumelehilehi) includes the nearshore ocean off of Pelekunu Valley. Traditionally, the residents of Pelekunu fished adjacent to their ahupuaʻa, and also fished off of the area from Moʻomomi through Kalaeokaʻīlio in the summer months. Pelekunu is primarily owned and managed by TNC. Annually the families of Pelekunu would travel to Moʻomomi by sailing a canoe or climbing the cliffs and hiking over (McGregor & La Benz, 2006). They also buried their loved ones at Moʻomomi and are likely to have used the salt that they gathered there for their burials (McGregor, 2007). Key informants shared that they remember people from Pelekunu who continued to come to Moʻomomi up through the 1940s (McGregor & La Benz, 2006).

Special Consideration

The proposed management area also houses critically endangered and endemic Hawaiian species' habitat and significant Hawaiian cultural sites. Moʻomomi is the most intact beach and sand dune ecosystem in the Main Hawaiian Islands, which was once home to at least 30 bird species, about one-third of which have since become extinct, and the nesting site for hundreds of pairs of endangered seabirds (The Nature Conservancy of Hawaiʻi). Kawaʻaloa Bay is also a green sea turtle nesting area. There are two state seabird sanctuaries on the islets of Okala and Mōkapu, which lie off of Waikolu valley. Another unique feature on the Molokaʻi north coast are sea caves at Kalawao, Keanapuhi and Hāʻupu. Areas rich in artifacts and human burial remains have been identified in extensive areas along Moʻomomi beach and inland sand dunes. Most of these remains appear to date from prehistoric Hawaiian communities and activities. Some are sacred sites and places referred to in Hawaiian legend (Summers, 1971).

4. Letters of Support

4.a. Letters Endorsing the Justification for Designation From at Least Two Independent Cultural Experts

See Appendix VII for ʻOpuʻulani Albino and Vanda Wahinekuipua Wallace Hanakahi introduction and letters.

4.b. Other Letters Endorsing the Group as a Suitable CBSFA Co-Management Partner From Parties With Experience Working With the Group i.e. NGO partner(s), agencies, donors etc.

Table 1.5. Table of Letters of Support (See Appendix VII for individual letters of support)

Name	Affiliation/Relationship/ʻĀina
ʻOpuʻulani Albino	Independent Cultural Expert, Molokaʻi
Vanda Wahinekuipua Wallace Hanakahi	Independent Cultural Expert, Molokaʻi
Ochie Bush	Hoʻolehua Homestead Association, President
Kilia W. Purdy-Avelino	Hoʻolehua Ag. Association, Secretary
Kulia Keliʻikuli-Peters	Pālāʻau Moku Representative, ʻAha Kiole o Molokaʻi
Malia Akutagawa, Esq.	Manaʻe, Molokaʻi
Noa Emmett Aluli, M.D.	Hoʻolehua Homesteader, Molokaʻi
Halealoha Ayau	Hoʻolehua Homesteader, Molokaʻi
Kevin Chang, Esq.	Kuaʻāina Ulu ʻAuamo, Executive Director
Eric Co	Harold K.L. Castle Foundation, Senior Program Officer for Marine Management
Kamanaʻopono Crabbe, Ph.D.	Office of Hawaiian Affairs, Ka Pouhana, Chief Executive Officers
Stacy Helm Crivello	Maui County Council, Councilmember, Island of Molokaʻi District
Mervin Dudiot	Kamiloloa/One Aliʻi Homesteader, Molokaʻi
Dennis and Pam Fujii	Ewa Limu Project, Oʻahu; and E Alu Pū
Kauwila Hanchett	Ka Honua Momona, Molokaʻi, Executive Director
William “Butch” Haase	Molokaʻi Land Trust, Executive Director
Aldolf Helm ʻOhana	Hoʻolehua Homesteaders, Molokaʻi
Kekamaikaikamaikalani Helm	Kalamaʻula Homesteader, Molokaʻi
Makaʻala Kaʻaumoana	Hui Hoʻomalu i ka ʻAina, Kauaʻi; and E Alu Pū
Shaelene Kamakaʻala	Kahana Kilo Kai Program, Oʻahu; and E Alu Pū
Hiʻilei Kawelo	Kahaluʻu, Oʻahu
Damien Kenison	Hoʻokena, Hawaiʻi; and E Alu Pū
Kamanu Keohuloa ʻOhana	Hoʻolehua Homesteaders, Molokaʻi
Colette Machado	Office of Hawaiian Affairs, Trustee Molokaʻi and Lānaʻi
Nahulu Maioho	Ke Aukahi o Molokaʻi
Davianna Pōmaikaʻi McGregor	Protect Kahoʻolawe ʻOhana
Walter Ritte	Hoʻolehua Homesteader, Molokaʻi
Kitty M. Simonds	Western Pacific Regional Fishery Management Council, Executive Director
Erika Stein Espaniola	Kalaupapa National Historical Park, Superintendent - Land Owner & Stewardship Partner
Kawika Winter, Ph.D.	Limahuli Garden and Preserve of the National Tropical Botanical Garden, Kauaʻi; and E Alu Pū

PART 2: MANAGEMENT PLAN

Introduction and Framework

This Management Plan and the description of the marine resources in this proposed Moʻomomi North Coast of Molokaʻi (CBSFA) is based upon observations and knowledge that have been accumulated and passed down from one generation to the next of kūpuna and poʻo lawaiʻa (head fishers). This ancestral knowledge has been enriched by the life experience and daily to weekly observations over the past 21 years by members of the Hui Mālama O Moʻomomi (HMM). The observations, findings and recommendations have been periodically shared with the fishers in the Hoʻolehua and surrounding communities for them to provide input, challenge, validation and acceptance. This combined knowledge is known as ʻIke Maka and will be referred to where this is the source of information given in the plan.

Moʻomomi Spearfishing. Photo: HMM

1. Description of Marine Resources

1.a-b. Ecological, Life History Characteristics, and Current Condition of the Marine Resources Targeted for Management

The ecological life history and the current conditions of the marine resources targeted for management are discussed together below, rather than being discussed separately.

Species of Concern

The following species are of special management concern due to their current overfished condition within the proposed CBSFA area. See Appendix VIII for a summary table of species of concern, their habitat and distribution, key life history characteristics, and current and proposed regulations. For more information on the threats affecting these resources, see Pt. I, pg. 30-38.

Ula (Spiny Lobster)

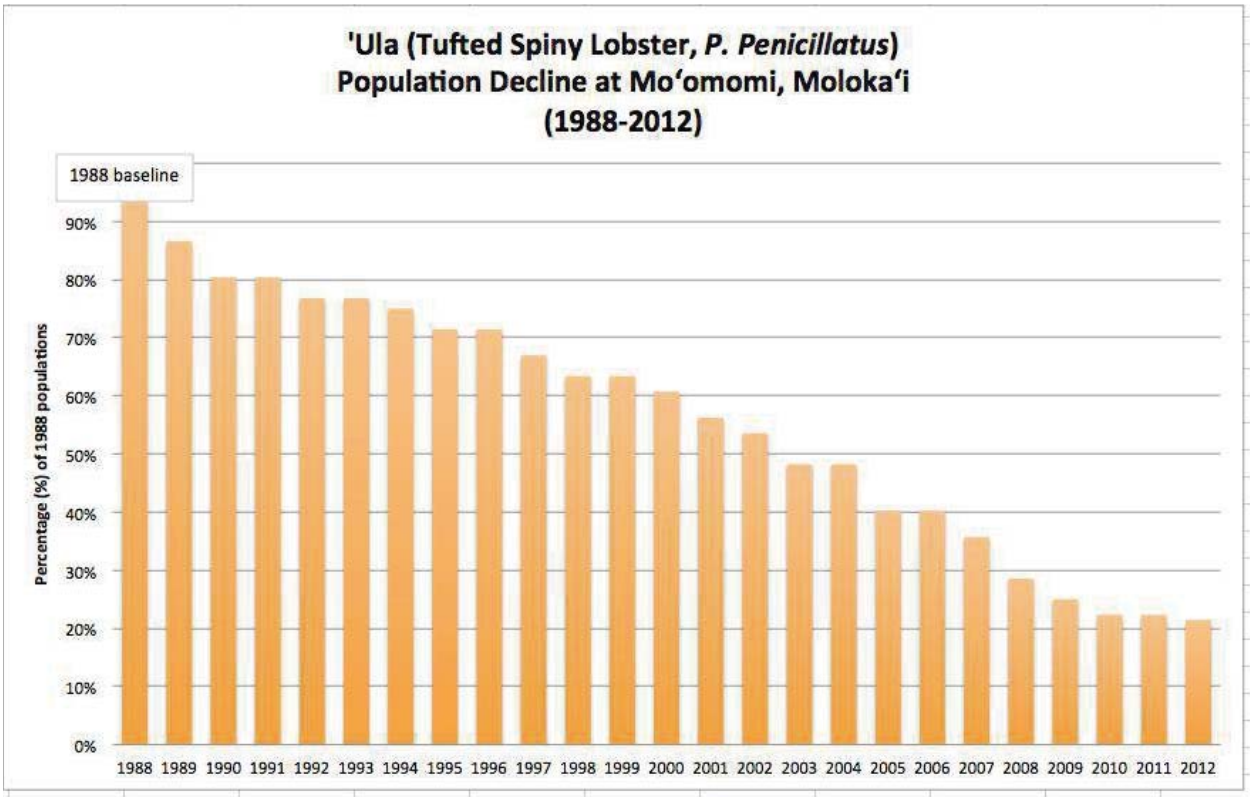
Ula (Tufted Spiny Lobster, *Panulirus penicillatus* and Banded Spiny Lobster, *Panulirus marginatus*) are two species of spiny lobster in Hawaiʻi that inhabit crevices and caves, occurring from depths of a few feet to a maximum of 600ft (Hoover, 2008). They are nocturnal feeders and can forage from the reef to adjacent sandy habitats. Ula are especially vulnerable to overfishing as they are easily caught in traps and tangle nets (Hoover, 2008). In Hawaiʻi, ula have a relatively small home range and move relatively short distances as adults (Prescott, 1988; O'Malley & Walsh, 2013). The spatial scale of populations is determined by how far juvenile

larvae disperse during the long (>6 months) pelagic larval period (Iacchei & Poepoe, 2015). Ula generally have a year-round spawning, with a peak from May through August.

For both species, Iacchei et al. (2014) found regional genetic differentiation between the Main Hawaiian Islands (MHI) and the Northwest Hawaiian Islands, indicating that Papahānaumokuākea Marine National Monument, which is closed to all fishing activities, may not serve as a source for re-populating ula in the MHI. This suggests that ula populations in the MHI may rely on local stocks to maintain future populations of ula in the area (Iacchei & Poepoe, 2015). While Iacchei and Poepoe did not find any significant genetic differentiation between P. penicillatus sampled at Moʻomomi and any of the other sampled sites in the MHI, this does not necessarily mean that there are high levels of gene flow among the MHI. It is therefore important that ula populations are maintained at the local level in order sustain and perpetuate traditional and customary subsistence practices.

At Moʻomomi, *P. Penicillatus* is the dominant ula species; *P. Marginatus* is rarely found. A steady decline of the *P. Penicillatus* population has been observed over 28 years with no evidence of recovery to a sustainable level (see Figure 2.1).

Figure 2.1. Ula (*P. Penicillatus*) Population Decline at Moʻomomi (ʻIke Maka)



Lobster population data (numbers per weight or size class) were collected using three methods: (a) fisher surveys (interviews with 20-30 people per year, throughout the season); (b) dive surveys (repeat 2-hour surveys covering entire established sampling areas); and (c) catch surveys (count of entire catch during first three days of lobster season). Dive surveys also recorded

abundance in favored habitat. Lobster population, condition and habitat data were then combined into categories and graphed. Categories are defined below. Note that "Threatened" and "Endangered" are not the definitions from the Endangered Species Act of 1973.

In 1988, the population of ula was so plentiful, one could see ula feelers as one swam on the surface of the water. Today, ula are rarely found in the shallows. Ula may be found if you dive at a depth of 20 feet or more and farther out from shore. One factor for this decline can be attributed to the cumulative use of lobster nets, which are more efficient, etc. (ʻIke Maka). By 2010, the estimated population size had decreased to an alarming 10% of 1988-1989 levels (see Figure 2.1). In 2012, Hoʻolehua fishermen came to an agreement to voluntarily hold off from gathering lobsters until it could be determined that the population had increased to a level that would allow sustainable harvest. To date (2016), the ula population at Moʻomomi remains at 2012 levels, possibly due to disproportionate harvest of large, mature males, resulting in not enough superior brood stock to perpetuate a healthy population (ʻIke Maka).

NWHI Lobster Industry Collapse

A similar collapse was documented in the Northwestern Hawaiian Islands (NWHI) lobster fishery. The fishery observations started in 1976 and focused on the endemic Hawaiian spiny lobster (*Panulirus marginatus*) and the scaly slipper lobster (*Scyllarides squammosus*) (Iacchei et al. 2014). A total of 11 million lobsters were harvested with peak landings in 1983–1985 (Schultz et al. 2011), but landings (DiNardo et al. 2001) and catch per unit effort (O'Malley 2009) declined over the next decade (1986–1995). The National Marine Fisheries Service shut down the fishery in 2000 because of the decline and uncertainty associated with population and stock assessment models. Both species have not recovered (O'Malley 2009, 2011) and the fishery will most likely not resume given the protected status of the region beginning in 2006, with the creation of the Papahānaumokuākea Marine National Monument.

<u>Uhu (general)</u>

Parrotfish are herbivorous, feeding primarily on algae, using their strong beak-like teeth to scrape and gouge food from the substrate (Hoover, 2008). Parrotfish are also corallivorous, as they feed on coral and zooxanthellae, microscopic algae residing in corals (Gulko, 1998). Recent findings also uncovered that, for the five major species of parrotfishes of Hawaiʻi, it initially takes three years for females and two years for males to reach sexually maturity (DeMartini & Howard, 2016). Parrotfish appear to be reproductively active throughout the year, with peak spawning estimated to be April to July, with some species having a second, smaller peak around November (DeMartini & Howard, 2016).

Statewide, in addition to being a prized and sought after species, larger parrotfish have great biological and ecological importance on the reef in terms of reproduction, algal grazing and bioerosion rates (Birkeland & Dayton 2005; Bellwood et al., 2011). *S. rubroviolaceus* and *C. perspicillatus* both play a fairly significant role in bioerosion on reefs in Hawaiʻi (Pardee, 2014) due to the significant effect of their scraping and excavating feeding behaviors, with larger parrotfish producing as much as 800 pounds of sand per year. (Ong & Holland, 2010). Parrotfish, like the ʻaʻawa (*Bodianus bilunulatus*, Hawaiian hogfish, table boss) are sex changing fish, with the largest females changing sex into males, defending territories, and creating a harem of females with which they breed. Territories of larger males contain more females, and male size

could therefore be a factor in reproductive success, with greater reproductive output from large males with large harems. (Hawkins & Callum, 2003) Decreases in the proportion of these large males could cause females to have difficulties finding high-quality mates with whom to spawn (Hawkins & Callum, 2003; Clua & Legendre, 2008) and decrease the reproductive output of the population. Also, if fishing prevents females from growing large enough to change sex, it could also result in a lower reproductive output (due to a limitation of males) unless the species can compensate by changing sex at a smaller size. (Hawkins & Callum, 2003)

Parrotfish species are most commonly caught by spear fishing, and most efficiently caught at night while they are sleeping on the reef (Lindfield et al., 2014). Commercial fishers have been observed to use surround nets, taking tons of uhu at one time. Large males are targeted over the smaller, initial phase males and females (Clua & Legendre, 2008). In the Main Hawaiian Islands, a decrease in the average weight of landed uhu has been observed between 1977 and 2012 by catch reports and fish dealers (Pardee, 2014).

Statewide, the estimated parrotfish harvest varied between 3% in 1977 and 37% in 2012. Parrotfish harvest increased in the mid 1990s, remaining fairly constant until 2006, when the mean harvest rate started to increase again (Pardee, 2014). From 2010-2012 (the most recent time period considered in the study), the harvest rate was greater than 24%, which is the harvest rate at which the largest catch can be taken from the parrotfish population for an indefinite period of time (Pardee, 2014). Results from one model indicates that there is a greater than 85% probability that overfishing has been occurring from 2010 to 2012 (Pardee, 2014). Commercial fishing pressure was unprecedented from 2010 to 2012, leading to an 89% probability that overfishing was occurring in 2012 (Pardee, 2014). Concurrent with the assessment of overfishing, commercial catch of parrotfish in 2011 and 2012 were roughly 1.5 times greater than the previous high from 1988 (Pardee, 2014).

A more recent publication in the Journal of Fish Biology in February 2016 by Demartini and Howard reinforces the observations regarding the increased harvest of parrotfish:

> The catches of parrotfishes that contribute to Hawaii shallow-water reef fisheries have substantially increased in recent years. Reported commercial catches had increased 89% to c. 34t year−1 during 2011–2012, from average reported annual catches of c. 18 t during the mid-2000s. To put in even greater perspective, the 2010–2012 values are over twice the average annual catches (c. 15 t) reported during the 1990s to mid-2000s (C. B. Pardee, unpubl. data). Moreover, commercial landings represent only part of the extraction of coral-reef species, including parrotfishes, in Hawaii: artisanal-recreational catches are unreported, but estimated to be at least twice that of commercial landings (Kittinger et al., 2015) and State of Hawaii commercial catch records themselves are biased towards low (Williams & Ma, 2013).

Uhu pālukaluka and ʻeleʻele (Redlip parrotfish, *Scarus rubroviolaceus*)

There are seven species of parrotfish found in Hawai'i, three of which are endemic (found nowhere else in the world). The two largest species of parrotfish found on the reef are uhu ʻeleʻele (male Redlip parrotfish, *Scarus rubroviolaceus*) and the endemic uhu uliuli (male Spectacled parrotfish, *Chlorurus perspicillatus*) (Hoover, 2008). The remaining five parrotfish

species are considered small-bodied. Initial phase fish, uhu pālukaluka, of both sexes are typically reddish brown to gray; for the large males, uhu ʻeleʻele, are green with blue tints and darker blue marks around the mouth and eye (Randall, 2007; Hoover, 2008).

The length at which 50% of the population has reached sexual maturity, or L50, for *S. rubroviolaceus* is around 13 inches fork length (FL). Under current DAR rules of a minimum size limit of 12 inches, only about 11% of the population is expected to be reproductively mature (Howard, 2008). This means that very few of the highly prized *S. rubroviolaceus* will have had the opportunity to reproduce before being exposed to fishing mortality, potentially leading to the spawning biomass being depleted to a level where the species can no longer replenish itself (Pauly, 1983).

Further evidence for the importance of larger parrotfish is supplied by Howard (2008), who found that larger *S. rubroviolaceus* females not only produce proportionally more eggs in a batch, but may also be spawning over a longer time frame or with greater frequency than their smaller counterparts (Howard, 2008).

In the Moʻomomi area, the observation is much the same as the rest of state. The population of this large parrotfish has drastically declined over the last 15 years as fishermen target the large blue male of this species more than others, many times as a trophy fish. In the 1970s, the average size uhu caught was 10-12 pounds and today a seven pound uhu is considered a "big" uhu (ʻIke Maka).

Uhu ʻahuʻula and uliuli (Spectacled parrotfish, *Chlorurus perspicillatus*)
The uhu ʻahuʻula and uliuli are the largest of Hawaiʻi's three endemic parrotfishes. Large, terminal phase males (uhu uliuli) are deep blue-green overall with a conspicuous dark band across the top of the snout. Initial phases fish (uhu ʻahuʻula) of both sexes are dark gray-brown with red fins and a broad white band at the base of the tail (Randall, 2007; Hoover, 2008).

Uhu ʻahuʻula and uliuli are uncommon in the Main Hawaiian Islands except in conservation zones or areas with difficult access (Hoover, 2008). Knowledge and understanding of life history characteristics is limited for the MHI. Studies in the NWHI estimated median body sizes at sex change at Kure, Midway, and Pearl and Hermes atolls to be 19.6 inches, 18.8 inches, and 17.4 inches respectively (DeMartini et al., 2005).

Kūmū (Whitesaddle Goatfish, *Parupeneus porphyreus*)
Kūmū is one of the most prized and culturally valuable reef fish in Hawaiʻi, and is preferentially targeted by spear fishing. Kūmū is also Hawaiʻi's only endemic shallow-water goatfish. It is found over sand, rock, and reef from 6.5-460 feet, and is typically low in the water column, < 6.5 feet from the bottom (Longnecker, 2008). Adults shelter in holes in the reef during day and forage over sand and rubble at night, returning to the same hole in the morning, but young feed during the day (Longenecker, 2008). The maximum reported size is 20 inches, and maximum age is estimated at six years (Longenecker, 2008).

Kūmū has a reputation for being the best tasting of the Hawaiian goatfish. Traditionally, kūmū was used extensively as an offering to the gods, with women forbidden to eat its flesh (Titcomb, 1972).

In the Moʻomomi area, in the late winter to early spring, spawning (January to April, peak February to March) has been observed for kūmū (Poepoe et al., 2007). The current condition of kūmū in the Moʻomomi area is highly depleted. The most recent downward trend began in the late 1970s, due to overfishing and illegal fishing with chlorine and scuba. Regarding the size of the fish, the average kūmū caught at Moʻomomi in the 1970s to 80s was six to seven pounds, whereas today the average size caught is one pound (ʻIke Maka).

Kalaupapa Data on Kūmū and Pālukaluka (uhu ʻeleʻele)

The abundance and biomass data from Kalaupapa National Historical Park for kūmū and pālukaluka (uhu ʻeleʻele) shows different patterns since 2006. Even though there is a slight downward trend in both kūmū abundance and biomass, there does not appear to be a significant relationship in the patterns due to the lower^2 values (Figure 1.3.a-b., pg. 35). This result is most likely due to the relatively low numbers of kūmū in the park. In comparison, pālukaluka has displayed a modest increase in abundance since 2006 (Figure 1.4.a., pg. 35), but more importantly there appears to be a significant increase in biomass (Figure 1.4.b., pg. 35) indicating larger fish are now found around the peninsula. Note the different Y-axis scale values between species for the same metric.

Kole (Goldring surgeonfish, *Ctenochaetus strigosus*)

Kole is one of the most numerous reef fishes in Hawaiʻi and is targeted as a favorable food fish. It is found over coral, rock, and rubble, and is most common in shallow sub-surge zones (Longenecker, 2008). Individuals are usually solitary, and favor certain areas based on food availability. They do not stray far from their home boundaries, and are easily exploited due to this territorial behavior. Size at 50% sexual maturity (L50) is estimated at 3.3 inches FL for females and 3.9 inches FL for males (Langston et al., 2009). Males and females mature by 15 months and 9 months, respectively, and may live up to 18 years or more (Langston et al., 2009). Spawning is mostly group spawning with some pair spawning (Sancho et al., 2000). Accounts of the spawning season range from March to June, to February to May (Longernecker, 2008; Langston et al., 2009).

At Moʻomomi, the kole is highly targeted in the summer months when the conditions are calm. Because kole is in high demand, is easy to catch, and lives in shallow water, it is easily and often overharvested. Since the large, reproductive individuals have been removed from the population and group aggregations are reduced, recovery of the population has been slower and slower over time (ʻIke Maka).

Kole (Goldring Surgeonfish). Photo: HMM

Moi (Pacific Threadfin, *Polydactylus sexfilis*)

Moi is a very popular and much sought-after sport and food fish in Hawaiʻi (Friedlander & Ziemann, 2003). In ancient Hawaiian culture, moi were

reserved for the ruling chiefs and prohibited for consumption by commoners (Titcomb, 1972). Hawaiians developed a number of traditional strategies to manage moi for sustainable use. Kapu, or closures, were placed on moi during the spawning season (typically from June to August), so as not to disrupt spawning behavior.

Moi are protandric hermaphrodites, meaning they initially mature as males after a year at about 7.8-9.8 inches FL and then undergo a sex change, passing through a hermaphroditic stage and becoming functional females between 11.8 and 15.7 inches FL at about three years of age (Santerre et al., 1979). Spawning occurs inshore and eggs are dispersed and hatch offshore (Lowell, 1971). Larvae and juveniles are pelagic until juveniles attain a FL of about 2.4 inches, whereupon they enter inshore habitats including sandy bays, shoreline surf zones, reefs, and stream entrances (Santerre & May, 1977; Santerre et al., 1979). Newly settled young moi, locally called moi liʻi, appear in shallow waters in summer and fall where they are the dominant member of the nearshore surf zone fish assemblage.

Moi in the Moʻomomi area are dispersed along the rugged coastline in specific habitats, encompassing many koʻa, or fish aggregating spots, that are regularly fished throughout the season. Up until the mid-80s, moi populations in this area remained at a sustainable level averaging about 30 moi per koʻa during the spawning season (ʻIke Maka). Moi is also known to gather in massive schools of up to 10 tons. The last large school observed in Moʻomomi was in 2005, and was estimated to be about 1 ton. Prior to that sighting, the last event occurred in the 70s, with a much larger school weighing about 2 ½ tons. However, today the koʻa close to access points are depleted and fishermen must walk miles to gather enough to feed their families. “Moi have a readily identifiable aspect of their life history (sex reversal) that has contributed to their decline in Hawaiʻi: continued overfishing results in relatively few females left in the population around heavily fished areas of the state.” (Poepoe et al., 2007).

Moi generally spawn along the Moʻomomi North Coast of Molokaʻi coastline. Observations regarding the spawning cycle of moi along this coastline are provided below in the section on the construction of “mental models” for monitoring of fish species (see pg. 84).

Additional Species Proposed for Protection

The following are additional species or subsistence gathering of particular species that HMM deems necessary to protect within the management area. Commercial harvest, overharvest, and inappropriate harvest activity targeting these species can quickly deplete populations and have detrimental effects on the ecosystem as a whole.

ʻOpihi makaiaūli (Blackfoot ʻOpihi, *Cellana exarata*); ʻOpihi ʻālinalina (Yellowfoot ʻopihi, *Cellana sandwicensis*); ʻOpihi kōʻele (Giant ʻopihi, *Cellana talcosa*)

There are three species of ʻopihi, all of which are endemic to the Hawaiian Islands. They inhabit basaltic boulder and cliff shorelines with high wave energy, and each species is found in a distinct zone along the shore. ʻOpihi makaiauli lives highest on the shoreline, and can be found on rocks around the high tide line. ʻOpihi ʻalinalina inhabits the next zone, and is found between the high tide and low tide lines. ʻOpihi kōʻele is generally found below the water line. ʻOpihi have high cultural value as a food species often served at celebrations. The most desired species

is ʻopihi ʻalinalina. As a result of high commercial demand and market price, many accessible shorelines are being overharvested and no longer have ʻopihi.

ʻOpihi have planktonic larvae, and must successfully settle in suitable habitat within 2 to 14 days of spawning. Once the larvae settles, ʻopihi grow rapidly and reach reproductive maturity within seven to eight months (size at maturity varies by species, with makaiaūli and ʻālinalina maturing at 1.25 inches). This rapid growth rate suggests that ʻopihi are a species that should be able to sustain local subsistence harvest pressure and recover quickly if managed appropriately. However, ʻopihi have very limited dispersal, making it very important to manage populations locally. Sustainable levels cannot be maintained under commercial harvest conditions. HMM resource managers have conducted tests and found that the ʻopihi population in a particular location will bounce back if left alone for a period of time after harvesting.

ʻOpihi that grow below the low tide mark are in many cases the spawners, providing the source for the ʻopihi to reproduce and have a healthy population. In Kīpahulu, there is a voluntary moratorium on gathering ʻopihi below the low tide mark so as to protect the spawners and the kōʻele. The low tide mark refers to the low tide on the day of the lowest tide in a calendar year. If ʻopihi gatherers resort to gathering below the low tide mark, this is an indication that there are not enough ʻopihi above the low tide mark and that the resource has diminished to the point where it should not be harvested at all and a voluntary kapu should be observed to allow the ʻopihi to recover.

Limu

Edible native limu species found in the Moʻomomi area are important for traditional subsistence practices, and are also a vital part of the ecosystem. The patterns and changes in the growth of limu tell HMM resource managers a great deal about the conditions in the ocean, and are monitored on a regular basis.

One species in particular, limu kohu (*Asparagopsis taxiformis*), was studied extensively from 2000 to 2001 by HMM (Poepoe et al., 2007). In the Moʻomomi area, limu kohu grows in areas of intense surge from the splash zone on intertidal papa to boulder and flat limestone bottoms as deep as 40 feet. The shallow water habitat in this area is suited for limu kohu, as it receives wave action almost year-round. There are seasonal changes in distribution, due to differences in tidal patterns between the wet season and dry season.

Limu kohu reproduces by spores. The observations during the wet season indicate that this shallow-water plants bear spores after they have grown to a height of 2.8 inches and continue until full growth of 3.9 to 5 inches is completed. The continued availability of limu kohu in the Moʻomomi area depends on the recruitment and growth of new plants. Successes in reproducing through sporing and in attaching to local substrata are key processes that sustain the supply of this seaweed. The critical conservation principle for limu kohu is to retain spores so they are more likely to settle out on local substrata. That is why limu kohu gatherers are encouraged to rub plants against a rough surface (such as the collector's bag) as they are harvested, in addition to not picking the holdfast. Many spores are trapped within the basal mass and leaving this mass in the water increases the chance that spores will attach and grow near the original harvest location. Observations during the peak harvest period in May 2000 suggest that limu kohu may

replant in shallow inshore areas of the papa as a result of this conservation practice (Poepoe et al., 2007).

In the Moʻomomi area, limu kohu is an important and heavily harvested species for local subsistence along the entire coastline from Kapalaoa to Hinanaulua and at Kalaupapa. It provides important minerals for a healthy diet. It is harvested in areas where one can stand and bend over to gather it. It is not accessed by swimming or diving. Limu kohu is particularly vulnerable to inappropriate harvest and could easily be depleted by commercial harvest.

Nurseries and Spawning Areas

Protecting nursery areas is a critically important management tool to allow for the recovery and regeneration of the marine resources, while supporting overall species and ecosystem health. It is vital for nurseries or safety zones to be designated within all CBSFAs. Protecting nursery areas maximizes recruitment rates, providing for a well-stocked fishery.

Kawaʻaloa Bay is one of the only sandy bays within the Moʻomomi North Coast of Molokaʻi CBSFA. Kawaʻaloa is semi-protected from wave action and it serves as an important spawning and juvenile nursery areas for many marine species, such as turtles, peʻeone ʻōhiki, moi, aholehole, ʻōʻio, kūmū, limu kohu, ʻopihi, pipipi and hāʻukeuke. Disturbance within the nursery area negatively impacts fish behavior, so there is a critical need to minimize disturbance in order to allow fish and other marine species a healthy space to regenerate (e.g., Fay 2009, Slabbekoorn 2012, Lopes Costa, 2017).

As mentioned in Part 1, the original proposal to create a community-based subsistence fishing area from Kalaeokaʻīlio to Nihoa Flats, emphasized the importance of designating a special protected area for the nursery at Kawaʻaloa Bay. That proposal emerged through a process of community focus group discussions and community meetings organized by the Governor's Molokaʻi Subsistence Task Force conducted in 1993-94.

In protecting the Kawaʻaloa Bay Nursery Area, certain subsistence harvesting activities that do not disturb the nursery area or have minimal disturbance on the nursery, should be able to and can still occur. These kinds of subsistence activities include the hand-harvest of ʻaʻama crab on the shoreline; the gathering of limu; throw net during the day; fishing with a hook and line and artificial lures during the day; and fishing with a pole shorter than 15 feet with live bait during the day.

Additionally, the area on the east side of Kalaupapa and Kalawao from Kūkaʻiwaʻa to Kalaeokapahu also serves as a nursery area for the Moʻomomi North Coast of Molokaʻi CBSFA. The fresh water streams of Waiʻaleia, Waikolu and Waihoʻokalo flow into the ocean along this coastal area, creating an estuary that supports the spawning and growth of nā pua (baby fish).

The area from Laehoʻolehua on the Kalaupapa Peninsula to Lae ʻUmeʻumelehilehi is a Bottom Fish Restricted Fishing Area.

Coastline east of Kalaupapa & Kalawao. CBSFA.
Photo: Rikki Cooke

Kaholaiki, east boundary of the proposed

Photo:Rikki Cooke

Species Open to Commercial Harvest
The following species are open to commercial take within the proposed CBSFA.

Akule (Bigeye Scad, *Selar crumenophthalmus*)
Akule are a meso-pelagic species that appear to have a stable population along the north shore of Moloka‘i, capable of withstanding commercial and subsistence harvest without depleting stocks (‘Ike Maka). Akule are nocturnal, feeding on zooplankton, and form schools during the day, mainly inshore and in bays (Randall, 2007). Akule are not preying on reef fish in a way that would disrupt spawning activity. Thus, their presence would most likely not disturb other species. They may prey on juvenile target species in their planktonic stage, but this is a natural process and should not be seen as disruptive. Young akule (halalū) are common during mid to late summer in protected areas such as bays where they may attract predators such as bluefin trevallies, greater amberjacks, and small sharks (Hoover, 2008). These predators in turn may disturb other species by their presence (Eric Brown, personal observation). Size at maturity is estimated around eight inches, and the spawning season is likely from April through September or October (Clarke & Privitera, 1995). Clarke and Privitera (1995) also found that akule appear to spawn between dusk and dawn, and that females spawn every three days during the spawning season. In the Mo‘omomi area, halalū typically arrive in the winter and spring, and akule typically aggregate in the summer months. Consequently, the customary practice of surround gill nets by akule fishers for commercial and subsistence uses are not seen as inconsistent with the goals and purpose of the Mo’omomi North Coast of Moloka’i CBSFA.

Ta‘ape (Blueline Snapper, *Lutjanus kasmira*)
Ta‘ape are a common coral reef species that was introduced to the Main Hawaiian Islands in 1958 from the Marquesas (Hoover, 2008). Since then, it has become very abundant and gradually spread throughout the Hawaiian chain. Ta‘ape is known to traverse depths from 6 to 870 feet (Randall, 1995). Ta‘ape generally form nearly stationary schools during the day, and feed individually at night. Concern has been expressed that ta‘ape may produce negative effects on populations of native food fishes, for instance by disrupting the ecosystem and habitat for native species (Schumacher & Parrish, 2005). In the Mo‘omomi area, large schools have been observed.

2. Description of Other Marine Resource Uses

2.a. The Fishery Within the Proposed CBSFA

Subsistence Fishing
The inshore fisheries resources include a high diversity of shallow-water reef fish, invertebrates and seaweeds, as well as coastal pelagic species. “Homesteaders still eat a diet that is heavy on the traditional Hawaiian staples of fish, limu (seaweeds) and poi (pounded taro and water paste). The marine species most important for community subsistence include a diversity of shallow-water reef fish, invertebrates and seaweeds.” (Poepoe, 2007).

Recreational Fishing
As a non-commercial activity, recreational fishing, including trolling and bottom fishing are not prohibited. The only observed recreational fishing activity is trolling by boat, which occurs along the entire coastline.

Commercial Fishing
The Division of Aquatic Resources (DAR) provided the following information and commercial fishing license reports. Most commercial trolling activity is outside of the one nautical mile CBSFA boundary. Typically, Ulua species (Jacks, *Carangids*) and papio (juveniles) are the only nearshore/coastal pelagic species found within the one nautical mile boundary of the proposed CBSFA. Commercial harvest of akule and taʻape will be allowed under the proposed CBSFA regulatory solutions.

The State of Hawaiʻi requires nearly all commercial fishermen to furnish reports of fish catch, effort and revenues for each fishing trip. The proposed CBSFA corresponds with a portion of the State’s fisheries used by commercial fishers. Area 312 extends from Kalaeokaʻīlio to Kahiʻu Point on the northern tip of the Kalaupapa Peninsula.

Fifty-two commercial fishing licensees reported catching a total of 51 different species in the Moʻomomi area (Area 312) from 2010 to 2014, of which 42 species were reported sold. The total pounds of catch reported during that five-year period was 63,366 lbs., of which 40.7% was reported sold for a value totaling $105,861.

Table 2.1 Table of the Annual Reported Landings for Area 312 from 2010 to 2014 (Note: this area does not line up with the current proposed CBSFA boundary) (source: DAR)

Annual Reported Landings for Area: 312 from 2010 to 2014								
Year	**No. Licen-sees[1]**	**No. Caught**	**Lbs. Caught**	**No. Sold**	**Lbs. Sold**	**% No. Sold**	**% Lbs. Sold**	**Value**
2010	15	29,080	18,456	5,774	7,522	19.9%	40.8%	$33,146
2011	12	14,385	14,329	1,731	5,332	12.0%	37.2%	$26,890
2012	21	12,999	13,090	2,489	5,143	19.1%	39.3%	$17,213
2013	12	7,804	6,898	3,042	3,666	39.0%	53.1%	$8,855
2014	12	10,548	10,593	1,846	4,106	17.5%	38.8%	$19,757
5 YEAR TOTAL	**52**	**74,815**	**63,366**	**14,882**	**25,768**	19.9%	40.7%	**$105,861**
annual mean	**14**	**14,963**	**12,673**	**2,976**	**5,154**	**19.9%**	**40.7%**	**$21,172**

Ten primary income generating species represented >81% of the total catch in pounds between 2010 to 2014 and > 84% of the total income generated by commercial fleets reporting catch in the area (omitting goat fish data; see Table 2.2).

Table 2.2. Table of Commercial Catch Report for the Top 10 Income Generating Species for Area 312 from 2010 to 2014 (source: DAR)

Commercial Catch Report for the Top 10 Income Generating Species for the Mo‘omomi Area (Area 312) between 2010 to 2014								
Species	**No. Licen-sees[2]**	**No. Caught**	**Lbs. Caught**	**No. Sold**	**Lbs. Sold**	**% No. Sold**	**% Lbs. Sold**	**Value**
‘Ōpakapaka	10	2,342	9,748	1,907	7,918	81.4%	81.2%	$50,081
Ta‘ape	13	48,512	32,718	6,228	8,332	12.8%	25.5%	$13,972
Ono	20	111	2,655	76	1,825	68.5%	68.7%	$7,732
Onaga	5	141	557	105	453	74.8%	81.3%	$3,575
Menpachi	10	1,212	731	451	568	37.2%	77.7%	$2,950
Kūmū	3	283	328	96	275	33.9%	84.0%	$2,821
Uku	11	84	715	70	575	83.8%	80.4%	$2,820
Toau	7	5,449	3,065	365	772	6.7%	25.2%	$2,601

[1] Distinct unduplicated count of licensees reported during 5-year period.
[2] Distinct unduplicated count of licensees reported during 5-year period.

Mahimahi	17	78	1,005	40	500	51.3%	49.7%	$1,956
Goat Fish[3]	-	-	-	-	-	-	-	-
TOTAL (excluding Goat Fish)		**58,212**	**51,521**	**9,339**	**21,218**	**16.0%**	**41.2%**	**88,509**

species caught in Area 312, the proposed CBSFA would meaningfully impact the commercial catch of Kūmū (for which there were only three licensed fishers), To‘au, Menpachi, Uku and Goat Fish. Ta‘ape, the species with the highest volume caught commercially within Area 312, will continue to be open to commercial harvest within the proposed CBSFA boundary. Opakapaka, Ono, Onaga and Mahimahi are typically harvested outside of the proposed boundary of the CBSFA (i.e., caught in deeper water, outside of one nautical mile).

Table 2.2 above reports that 96 kūmū were sold with a total weight of 275 lbs, reflecting an average weight of 2.86 lbs. The report also shows that 187 kūmū were **not** sold and cumulatively weighed 53 lbs. This is an average weight of .28 lbs per unsold fish. Based on the allometric growth equation (See Brown et al. 2011b) and fitting parameters from FishBase (http://www.fishbase.org/search.php), the estimated weight for a 10” kūmū would be 0.55 lbs. Therefore, it is reasonable to assume that kūmū with an average weight of 0.28 lbs, the average weight of the majority of kūmū caught would be smaller than the legal limit in Hawai‘i of 10”. As the kūmū populations are already seriously depleted throughout the proposed CBSFA, this data provides evidence for banning commercial harvest of kūmū.

In Area 313, located west of Kahi‘u Point on the Kalaupapa Peninsula to Hālawa Point, the area within the proposed CBSFA, from Lae Ho‘olehua to Lae ‘Ume‘umelehelehe, is a Bottom Fish Restricted Fishing Area. Catching ‘ōpakapaka, the fish caught most in Area 312 and onaga, the fourth most caught fish in Area 312 is restricted in the section of Area 313 that falls within the proposed CBSFA.

2.b. The Non-Fishing Uses of Marine Waters Within the Proposed CBSFA Boundary (e.g. boating, recreation, small businesses)

Kalaeoka‘īlio to Nihoa

The non-fishing uses in this area include swimming and surfing in Mo‘omomi Bay and the backshore is used for picnicking, camping and enjoying the nature preserves. There is some swimming that occurs in Kawa‘aloa Bay, more typically by tourists. The road to Mo‘omomi is long and dusty. People come from Ho‘olehua homesteads where there is a population of approximately 1,000 resident Hawaiians. Boats occasionally come into the area, but not often due to the northeast trade winds and large winter swells. Commercial kayak launching from Hālawa to Mo‘omomi is no longer allowed and does not occur any more since a Hālawa landowner stopped boat launch access. Since the mid-2000s, there has not been any non-fishing commercial use within the CBSFA area. The proposed regulatory solutions do not affect any boating or in-water activity except at Kawa‘aloa Bay. Since there are no non-fishing commercial activities at Kawa‘aloa Bay, there does not appear to be any impact to small businesses.

[3] Generic species name only, goat fish is one of the top ten income generating species, but actual data must remain confidential when provided by < 3 licensees.

Furthermore, the proposed regulatory solutions would enhance the wilderness values of the place. Swimming activity would continue to occur in nearby Moʻomomi Bay.

Kalaupapa
Because of the regulations at the settlement and limits on visitors, non-fishing activity is very limited, but includes a little swimming in the nearshore, and occasional small boats and kayaks on the leeward side. The proposed CBSFA regulations would not change any non-fishing activity at Kalaupapa.

Kalaupapa to Pelekunu Valley
There is one ʻohana at Hāʻupu. There is very little non-fishing use in this area. Most of the wave-exposed shoreline at the base of the sea cliffs is physically inaccessible from land. Boats can approach the shore when the ocean is calm, and small boats and kayaks pass through in the summer months. Certain trails exist, known mainly by people who use these areas. The area from Waikolu to Hāʻupu is only accessible by boat and the Pelekunu trail.

View of coastline from the Joyce Kainoa ʻOhana compound looking west toward Kalaupapa. Photo: Kiha Pimetal

3. Management Goals and Objectives

3.a. Goals

Hawai‘i Revised Statute (HRS) § 188-22.6, “Designation of Community Based Subsistence Fishing Area,” states that the purpose of designating a CBSFA and carrying out fishery management strategies for such areas is to reaffirm and protect “fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion.” In order to fulfill the stated purpose of a CBSFA, HMM and its partners have identified two primary goals for the Mo’omomi North Coast of Moloka‘i CBSFA.

GOAL 1: A functional adaptive management and regulatory system, based on ancestral/Hawaiian science allows marine resources to be available to Moloka‘i ‘Ohana for subsistence, cultural and religious purposes, while sustaining a healthy and abundant marine ecosystem along the north coast of Moloka‘i

Kumu: The management system for the Mo‘omomi Northwest Coast of Moloka‘i CBSFA shall be rooted in an ancestral/Hawaiian system of monitoring and subsistence fishing and gathering involving a voluntary adaptive customary code of conduct, as discussed in Part 1, pp. 21-24. The ancestral/Hawaiian system will be bolstered and reinforced by a regulatory system formally adopted through Chapter 91 administrative procedures and enforced in conjunction with DLNR. The success of the voluntary adaptive and formal regulatory system will be evaluated according to the extent to which the ‘ohana of the Pālā‘au Moku have their day-to-day subsistence needs met and are also able to have large ‘ohana gatherings for important life cycle celebrations including birthdays, weddings, graduations and funerals. It will also be evaluated according to the health and abundance of the marine ecosystem within the CBSFA.

GOAL 2: The Moloka‘i community respects and engages in traditional and customary practices of fishing and gathering marine resources for subsistence, cultural and religious purposes along the north coast of Moloka‘i, and the general public acknowledges and respects these traditional and customary practices.

Kumu: The second goal of the Mo‘omomi Northwest Coast of Moloka‘i CBSFA is for the traditional and customary fishing and gathering practices that sustain subsistence, cultural and religious activities to be recognized, practiced and respected within the Pālā‘au Moku, on Moloka‘i and throughout Hawai‘i. In order to ensure the protection of our marine resources for future generations, those who use and manage our marine resources need to be alert and concious of how human behavior and changes in our climate and ecosystem impact the resources. Users and managers of marine resources need to voluntarily adopt conservation practices such as those observed by Native Hawaiian ancestors.

3.b. Objectives

Relative to the two goals stated above, HMM and its partners have identified the following objectives to accomplish in order to fulfill the above goals.

GOAL 1: A functional adaptive management and regulatory system, based on ancestral/Hawaiian science allows marine resources to be available to Moloka‘i ‘Ohana for

subsistence, cultural and religious purposes, while sustaining a healthy and abundant marine ecosystem along the north coast of Molokaʻi

1.1. Marine resources important to Molokaʻi ʻohana's subsistence and cultural practices continue to be available for fishing and gathering as a result of the adoption of rules informed by traditional knowledge and customary fisheries management practices.

Kumu: The regulatory solutions proposed by HMM and its partners are based upon the last 21 years of observations utilizing traditional and customary methods of monitoring marine resources in the area being proposed for CBSFA designation. The proposed regulatory solutions are rooted in traditional and customary Native Hawaiian fishing and gathering practices. It is believed that the adoption and implementation of these regulatory solutions will significantly contribute to sustaining the health of the marine resources that are important for subsistence and cultural practices of ʻohana on Molokaʻi. Importantly, the proposed regulatory solutions will be deemed effective if subsistence fishing and harvesting of marine resources continue to fulfill the day-to-day subsistence needs of the Pālāʻau Moku fisher households as well as providing for important ʻohana gatherings, e.g. birthdays, weddings, graduations, funerals

1.2. CBSFA monitoring data collected by HMM and partners informs the evaluation of CBSFA management effectiveness and the adaptive management of the CBSFA

Kumu: HMM will continue to monitor the marine resources along the Moʻomomi North Coast of Molokaʻi in accordance with traditional and customary Native Hawaiian methods that have proven to be effective. The marine program at Kalaupapa National Historical Park will continue monitoring and research activities along the coastline around the park. DAR will work with NPS and other partners to establish a base line and collect data on biomass and benthic habitat cover. The information from these various sources will be analyzed to evaluate the effectiveness of the management of the proposed CBSFA. HMM will make annual progress reports to the Moʻomomi Konohiki Advisory ʻOhana and the Kakoʻo Management Team and HMMʻs observations and analysis will be shared with DAR every 5 years. NPS will continue its monitoring activities and DAR will assist in collecting data on biomass and benthicc habitat cover. These results will be shared and discussed with HMM.

1.3. A community -based process for evaluating and adaptively managing the CBSFA is established.

Kumu: The ʻAha Kiole for the Pālāʻau Moku will help form and convene a Moʻomomi Konohiki Advisory ʻOhana (MKAO) made up of the homesteader and fishing families of the area. The various partners who have worked with HMM to develop this proposal for a CBSFA will form a Kākoʻo Management Team (Support Management Team - KMT) that will assist in monitoring and collecting information. HMM will work with landowner partners to standardize catch report forms that they distribute and collect from subsistence fishers who access the ocean through their lands.

GOAL 2: The Molokaʻi community respects and engages in traditional and customary practices of fishing and gathering marine resources for subsistence, cultural and religious

purposes along the north coast of Molokaʻi, and the general public acknowledges and respects these traditional and customary practices.

2.1. The perpetuation of traditional knowledge and marine resource management methods is supported by an increase in the number of learning opportunities for learners from Molokaʻi, neighbor islands, and beyond.

Kumu: HMM will continue to collaborate with its partners to secure grants to provide training programs for novice fishermen and the community. HMM will continue to host kūkākūkā with fishers to share observations, sustainable fishing methods and stories. HMM will also continue hosting events for Molokaʻi youth to learn about traditional and customary fishing practices and codes of conduct. HMM will also continue to network with teachers, students, visiting scientists and government officials to provide learning activities in the CBSFA.

2.2. The number of Molokaʻi youth receiving financial support for obtaining college degrees in relevant environmental programs increases.

Kumu: There are a number of Molokaʻi youth who will become interested in natural resource management as they get involved with the Moʻomomi North Coast of Molokaʻi CBSFA. The island needs a new generation of resource managers who will get involved and help to manage the CBSFA.

2.3. Increase the number of opportunities for the public to become informed about the CBSFA and its rules by providing a variety of avenues where relevant information is disseminated/can be obtained.

Kumu: As discussed below, HMM and its partners will conduct outreach and educational activities through signage, a web site and public and social media to educate the Molokaʻi and general public about the CBSFA and its resources and adopted regulations.

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4. Management Activities

4.a. Proposed Regulatory Solutions for the Moʻomomi North Coast of Molokaʻi CBSFA

The following provides the community's proposed regulatory recommendations for activities to be permitted and prohibited within the proposed CBSFA area. The proposed regulatory solutions were created during lawaiʻa meetings and community round-table rulemaking sessions. The greater community and DAR staff provided input during public community meetings and workshops on Molokaʻi that contributed to modifications of the proposed regulatory solutions. Each management action that is proposed addresses specific threats and important resources that warrant protection.

Additionally, the proposed regulatory solutions are highly interconnected and have been designed in a way that provides for a delicate balance between subsistence fishing and harvesting of key species and resources and the ongoing availability of these species and resources for present and future generations. Alterations to the proposed regulatory solutions could skew this balance, thus, minimal to no modifications are advised. Should any modifications be necessary, they should be made in consultation with HMM.

The proposed regulatory solutions, in combination with the ongoing observations and monitoring methods will provide for an overall positive impact on the health of the Moʻomomi North Coast fisheries that goes beyond what existing state regulations can achieve. All existing state regulations continue apply and will be upheld. See below on pp. 63-69 for a map of the proposed boundary, maps of the Kawaʻaloa Bay Nursery Area and a summary of the proposed regulatory solutions. See Appendix X for a proposed regulatory solutions justifications table.

4.a.i. Proposed Boundaries

Moʻomomi North Coast of Molokaʻi CBSFA

Figure 2.2 below shows the proposed boundary for the Moʻomomi North Coast of Molokaʻi CBSFA in blue and indicates the location of the proposed Kawaʻaloa Bay Nursery Area in green. The proposed boundary for the CBSFA would extend seaward one nautical mile from the high water shoreline from Kalaokaʻīlio in the west to Kaholaiki in the east. This proposed boundary is a fundamental feature of traditional and customary management by Native Hawaiians of the nearshore fisheries and is consistent with the statutory language of Haw. Rev. Stat. § 187A-23(a). Under Kingdom Law, the fishing grounds for the konohiki and the people on their lands extended "from the reefs, and where there happen to be no reefs, from the distance of one geographical mile seaward to the beach at the low water mark." (King. Haw. Civ. Code § 384-396 (1859) This law acknowledged and instituted what had evolved as the fishing practices customarily and traditionally exercised for purposes of Native Hawaiian subsistence, culture and religion.

Importantly, the one-mile boundary along the north coast of Molokaʻi ensures protection of most of the koʻa or traditional fishing areas related to the ahupuaʻa and moku of this coast that were traditionally managed by the konohiki and makaʻāinana and continued to be managed and used by succeeding generations to the present. Notably, the one-mile boundary would protect the area from commercial extraction of reef fish, bottom fish, and pelagics, focusing more on subsistence use. As mentioned above, when ocean conditions permit, residents of the Pālāʻau Moku launch small boats and troll for ulua (Caranx ignobilis), ono (Acanthocybium solandri) and other open ocean species or surround akule (Selar crumenopthalmus). A narrower boundary would not afford such protection. For example, the shoreline off of Kalaupapa has wide benches and the existing ¼ mile protected boundary for the Kalaupapa National Historic Park does not afford protection of the pelagic fishing grounds for the residents.

We note that most radar units on boats can be easily scaled to a one mile distance ban. Therefore, it is easy for boats to determine if they are in or out of the boundary. As of 1993, the Kahoʻolawe Island Reserve has a boundary of two miles indicating that such a mechanism can been successfully utilized.

Kawa‘aloa Bay Nursery Area

Below, Figures 2.2, 2.3 and 2.4 show the proposed boundaries for the Kawa‘aloa Bay Nursery Area. While the 1995-1997 Pilot Project area extended from Kaiehu Point to Naaukahihi Point, this boundary included both Kawa‘aloa and Mo‘omomi Bays. Unlike the Pilot project, the focus for protected nursery area is solely on Kawa‘aloa Bay. For this reason, the boundary lines are drawn to focus the protected nurseary area on Kawa’aloa bay. This will allow the extensive subsistence fishing and gathering activities at Mo‘omomi Bay and in the area from Mo‘omomi Bay west to Kawa‘aloa Bay to continue. It is important to design this boundary so that it affords protection of the primary nursery with the appropriate habitat types, while also acknowledging and being considerate of the fishers and gatherers who use the areas adjacent to this nursery area.

Rather than drawing one straight line, the proposed boundary is comprised of three straight lines – from point A to B; from point B to C; and from point C to D. Point A is a point on shore, as is Point D. Point B is the actual Kaiehu point, a mound in the sea that is not easily visible nor accessible because it is usually underwater, except during a minus tide. There is a papa (reef) that extends diagonally Northeast to Southwest between Point A on the land and Point B, Kaiehu Point. This aligns with the diagonal boundary represented by the line drawn between Point A and Point B.

Point C is located so as to include the offshore rocks near the east end of bay. There are three imperative reasons why it is important to include these offshore rocks within the boundary of the protected nursery area. First, the offshore rocks are integral to the ecology of the nursery. The rocks are a natural and primary breeding place for the various species within the nursery. On a rare day when it is calm enough to swim by these rocks, you would be able to look into the cracks and be stunned by the number of young marine life that thrive there. This rock pile needs the highest level of protection. If a straight line were drawn from Point B to D these important offshore rocks that are central to the nursery habitat would not be included within the protected nursery area. Second, these rocks serve as a natural boundary that users on shore and in the water can easily identify. If someone is in the water, they look to the west or behind them, and see Kaiehu point, they know they’re pushing it and should probably get out. If they are working with the currents (east to west), they see the rocks, they know to stay away, they’re going to get pounded. And if they look to the east and see the offshore rocks or behind them, they also know- get out. By contrast, if there was a straight line drawn from Point B to D users and enforcers would probably need a GPS to know when they crossed that imaginary line (B->D). In addition, if the line were drawn from Point B to D, divers might be tempted to venture into the bay area and closer inshore if they believe they can swim around and inside those rocks. This would compromise both their safety and the protection of the bay species. The third reason is that the outer edge of these rocks is the traditional and customary boundary known by the community to be the natural boundary of Kawa‘aloa Bay, as passed down from our ancestors. Having the boundary drawn as proposed, with the rocks as the boundary, would be both respected by the users and easier to enforce by DOCARE officers than an imaginary line.

Figure 2.2. Proposed Boundary of the Mo‘omomi North Coast of Moloka‘i CBSFA

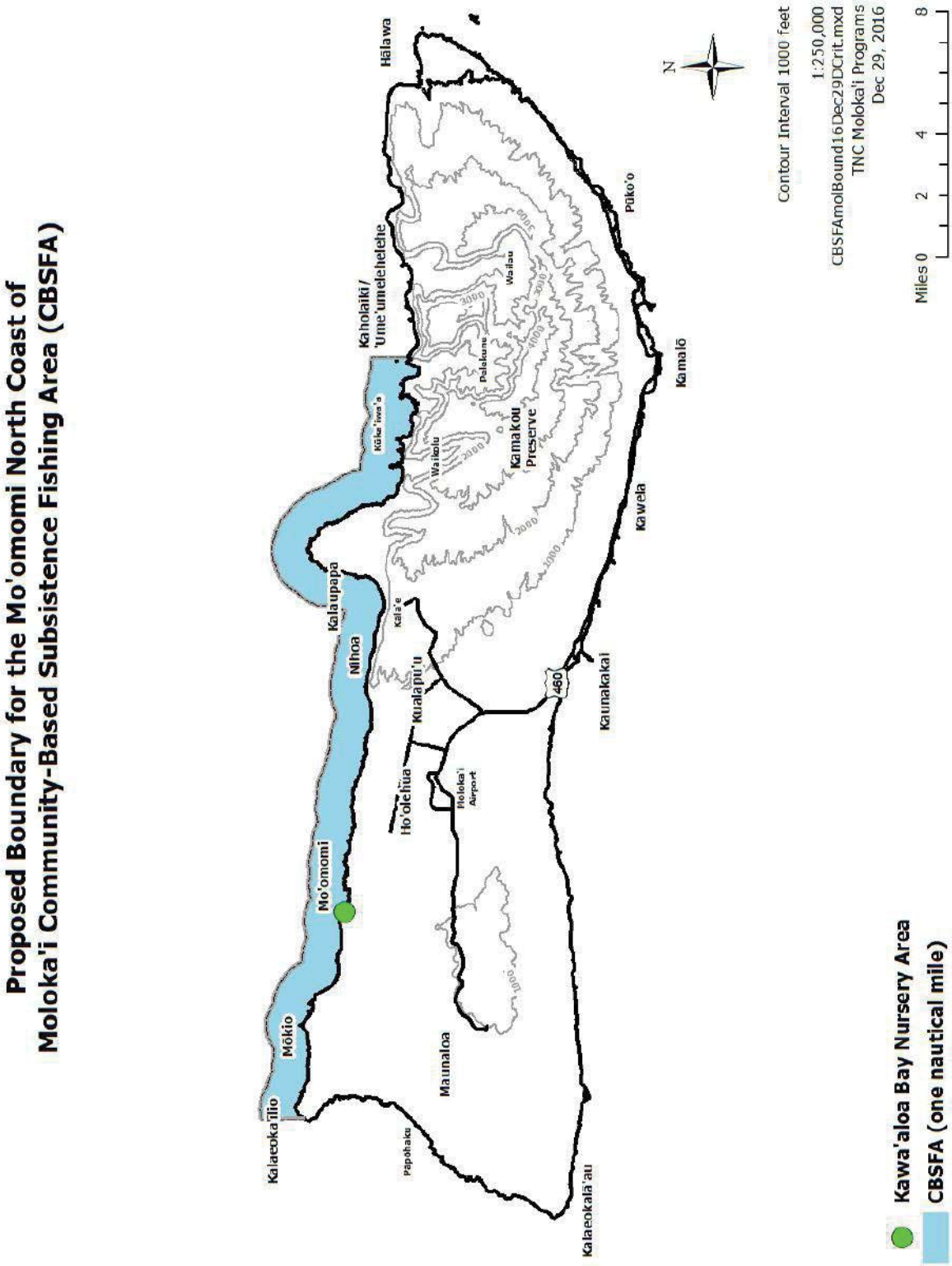


Figure 2.3. Map of the Kawa‘aloa Bay Nursery Area (with boundary coordinates)

Figure 2.4. Map of Kawa‘aloa Bay Nursery Area (without boundary coordinates)

4.a.ii. Proposed Regulatory Solutions

Proposed Regulatory Solutions for the
Moʻomomi North Coast of Molokaʻi
Community-Based Subsistence Fishing Area (CBSFA)

- Purpose: To reaffirm and protect Native Hawaiian traditional and customary subsistence fishing, cultural and religious practices

- Proposed Boundaries: Kalaeokaʻlio to Kaholaiki, from the shoreline out to one nautical mile (see Figure 2.2, pg. 64)

- NOT ALLOWED within the proposed Moʻomomi North Coast of Molokaʻi CBSFA:
  - No commercial fishing, except for akule and taʻape (recreational/charter fishing operations are NOT included under commercial fishing)
  - No night diving and/or harvesting from 6pm to 6am[4]
    - Exception: lamalama (night torching) is allowed
  - No scuba spearfishing (including rebreathers and/or other underwater breathing devices)[5]

- Implement place-based pono fishing fishing practices:

Species Bag Limits: • Ula (spiny lobster): 2 per day • Uhu pālukaluka or ahu'ula: 2 per day • Kūmū: 2 per day • Kole: 20 per day
Species Size Limits: • Moi: maximum size of 18 inches fork length • Kūmū: maximum size of 16 inches fork

[4] "Diving" means any activity conducted in the water involving the use of an underwater breathing apparatus or a mask, goggles, or any other device that assists a person to see underwater while his or her face is submerged. Diving includes both extractive and non-extractive activities, such as scuba diving, free diving, and snorkeling.

[5] "Spear" means any device or implement which is designed or used for impaling marine life. Spears may include but are not limited to spear gun shafts, arbaletes, arrows, bolts, Hawaiian slings, tridents, or three-prong spears. A dive knife is not considered to be a spear.

length • Kole: minimum size 5 inches fork length
Species-Specific Gear and Harvesting Restrictions: • Moi: take by hook-and-line, spear, or throw net only • Ula (spiny lobster): take by hand-harvest, hook, or trap only • ʻOpihi: take by hand-harvest only[ii] and no take of opihi below the low-tide mark • Akule and Ta'ape: commercial gathering by surround gill net or bag net methods allowed • Limu: No taking with holdfast or roots attached, except during periodic projects to remove invasive limu as deemed necessary; take by hand-harvest only[ii]

- Protect the Kawaʻaloa Bay Nursery Area (see Figure 2.3 and 2.4, pp. 65-66):

Fishing and Gathering is Prohibited Except for the Following, Which are Allowed in the Kawa'aloa Bay Nursery Area	Recreational Activities That are NOT ALLOWED in the Kawa'aloa Bay Nursery Area
• Gather ʻaʻama crab from the shoreline by hand-harvest only • Gather limu from the shoreline by hand-harvest from 6am-6pm only (note: no taking with holdfast or roots attached, except during periodic projects to remove invasive limu, as deemed necessary)[6] • Throw net from 6am-6pm • Hook-and-line using artificial lures only from shoreline from 6am-6pm (*minimizes bycatch*).	• Swimming, surfing, body boarding, snorkeling, diving, operating a vessel, or engaging in any other recreational activity is not allowed (*need to minimize disturbance by non-subsistence activities in the nursery*).

Note: Existing state regulations continue to apply.

[6] Limu and hand-harvest with a knife or scissors is allowed. Shorelinie refers to the areas accessed by standing up and bending over to gather, not by swimming or diving.

4.b. Activities to Reaffirm and Protect "fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion"

Adopting Regulatory Solutions (1.1.1 & 1.1.2)
The regulatory solutions proposed by HMM and its partners are informed by traditional knowledge and customary practices and based upon two decades of observations and direct experience. Finalizing the management plan and rule package, conducting and completing the Chapter 91 Administrative Procedures process to adopt rules to establish a CBSFA for the Moʻomomi North Coast of Molokaʻi and protect the marine resources of the area is integral to protecting the marine resources and the customs and practices that they sustain. HMM and its partners will work with DLNR to reach out to the Molokai community with information to increase the public's understanding of the proposal, the State's administrative rule-making process, the community's role, the issues, and how they can get involved. By reaching out and seeking participation, the partners can address people's questions, and generate better understanding and more support. This increased understanding and public support will naturally have a positive effect on the area once it is designated as a CBSFA.

Enforcement of Administrative Rules Within the CBSFA (1.1.3)
The Hawaii Division of Conservation and Resources Enforcement (DOCARE) is responsible for enforcing CBSFA rules, and is integrally involved in both voluntary compliance efforts and enforcement. HMM and its partners will support DOCARE in the enforcement efforts.

Ongoing subsistence Fishing and Gathering (1.1.4)
Engaging in fishing and gathering of marine resources, in accordance with the conservation guidelines of Native Hawaiian ancestors is, in itself, a traditional and customary practice. It is important for the community to be able to secure what they need for their day-to-day subsistence needs and cultural practices as well as be able to harvest and gather what is needed for larger ʻohana gatherings that are integral to the cultural practice of celebrating important life cycle events – birthdays, weddings, graduations, funerals, etc.

Observations and Monitoring (1.2.1)
Hawaiʻi Revised Statute (HRS) § 188-22.6, "Designation of Community Based Subsistence Fishing Area," states that the purpose of designating a CBSFA and carrying out fishery management strategies for such areas is to reaffirm and protect "fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion." The science, art and skill of traditional and customary observation and monitoring were and continue to be integral to the fishing practices customarily and traditionally exercised by Native Hawaiians, which HRS § 188-22.6, seeks to reaffirm and protect. Such observation and monitoring activities will be the principal activities to reaffirm and protect "fishing practices customarily and traditionally exercised," in the CBSFA. In addition, the monitoring methods that will be practiced are essential for the sustainable management of a robust ecosystem where diverse marine resources flourish. These monitoring activities are described below in section 4.e.

Adaptive Fishery Management Strategies (1.2.1)
In addition to regulations, observations and monitoring of the marine resources may also lead to the design and implementation of voluntary traditional and customary adaptive fishery management strategies. The conduct of fish and habitat utilization assessments to characterize the marine resources and habitat within the CBSFA as an initial large scale assessment by DAR, NPS and other partners with technical expertise will be important to establish a base line by which to measure the success of the regulatory and voluntary measures in protecting the marine resources.

DAR, NPS & Partners Conduct Assessments (1.2.2)
DAR, NPS and/or other partners with relevant technical expertise conduct fish and habitat utilization assessments to characterize the marine resources and habitat within the CBSFA as an initial large scale assessment. The initial assessment to be conducted in 2017 will help establish a baseline for evaluations to be conducted every five years.

Standardizing Report Forms (1.2.3)
HMM will also involve the landowners along the Moʻomomi North Shore of Molokaʻi to cooperate in using and sharing standardized catch report forms for distribution to and collection from those who access through their lands to engage in subsistence fishing and gathering.

Moʻomomi Konohiki Advisory ʻOhana (MKAO) (1.3.1 & 1.3.2)
To assist in outreach with the community and in providing support and feedback to HMM, the ʻAha Kiole for the Pālāʻau Moku will form and convene a Moʻomomi Konohiki Advisory ʻOhana (MKAO) comprised of homesteader and fisher families from the area. The MKAO will serve as a liaison between the HMM and the community by providing feedback to HMM and by reporting and providing outreach to their ʻohana, neighbors, friends and the broader community. As discussed below in section 5.6, the MKAO will also assist in the evaluation of the outcomes of the establishment of the CBSFA.

Kakoʻo Management Team (KMT) (1.3.3)
A Kakoʻo Management Team (KMT), comprised of HMM's statewide and Molokaʻi partners, landowners and government will also be formed and convened. The KMT will consult with and assist HMM in the implementation of the management plan, review of observation and monitoring information and address concerns identified by the MKAO.

5-Year Evaluation (13.4)
Using information received from HMM observations and monitoring programs and from DAR and NPS and partners, MKAO and KMT will help conduct an evaluation of the management plan after the first five years and every five years thereafter.

Training (1.3.4)
HMM will provide training for novice fisherman and host kūkākūkā sessions with fishers to share observations as part of the training. DAR and DOCARE will also provide training to HMM community volunteers engaged in community outreach about rules using DLNR's ʻIke Kai and Observation and Incident reporting curriculum. HMM will work with partners to develop grants that can provide resources for training and learning opportunities. HMM will also work with its

partners to raise scholarship monies for Molokaʻi youth to enroll in relevant college level environmental programs.

Outreach and Communication Programs (2.1.1 thru 2.3.4)
Outreach and communication programs with the residents of the Pālāʻau Moku will be important activities to reaffirm that they can continue their subsistence fishing and gathering activities in the CBSFA and to inform them of the important regulations and guidelines to ensure that the marine resources will continue to be available to them and future generations. These programs are discussed below in section 4.c.

4.c. Educational and Outreach Activities

The following educational and outreach activities are important to provide opportunities for the residents of the Pālāʻau Moku to be assured that they can continue their subsistence fishing and gathering activities in the CBSFA and to inform them of the important regulations and guidelines that will ensure that the marine resources will continue to be available to them and future generations. In seeking the passage of CBSFA rules to protect subsistence practices on the North Coast of Molokai, HMM, DLNR, and partners will reach out to the Molokai community with information to increase the public's understanding of the proposal, the State's administrative rule-making process, the community's role, the issues, and how they can get involved.

Train Novice Fishermen in Observations and Monitoring (2.1.1 and 2.1.2)
HMM will train new resource managers in monitoring resources in the CBSFA, including the collection and monitoring of data, and educating the community to observe the CBSFA regulations. It is hoped that these new resource managers can be trained in three years.. Such initiatives in the past have been best supported by grants and are most effective on the ground when done informally in a more traditional manner as this provides more authenticity and commitment. The substance of these activities will depend on what the fishers and/or resource managers want to learn and measures they want to implement for resource replenishment.

Host Kūkākūkā (talk-story) (2.1.3)
The further education of novice fishermen, especially the next generation of fishermen, and resource managers from the community in sustainable fishing methods and conservation ethics will also help perpetuate traditional fishing practices. Efforts to implement such an educational initiative include the sharing of stories

Conduct youth education programs (2.1.4)
HMM and others will continue youth engagement opportunities, including, Lawaiʻa Camps and Summer Dive Programs. The focus of such workshops link and continue Hawaiian customs and traditions to the present, for the future generations, highlighting the historical levels of abundance (re-setting the baseline for today's youth), traditional fishing uses, place names, moʻolelo, and traditional practices for caring for marine resources. Customary fishing practices and rules of conduct can best be maintained and restored in the CBSFA through outreach and education that emphasizes acquiring, using and transmitting ancestral knowledge. One of the primary audiences for initiation in sustainable fishing methods and values is children, who are

the next generation of fishers. The Hui also works with Molokai teachers and visiting scientists in promoting learning opportunities for youth.

Network With Educators, Students, Scientists, Government Officials (2.1.5)
HMM will continue to provide learning opportunities related to traditional fisheries' management and codes of conduct. In the past, these exchanges has enriched both HMM and those with whom we have shared experiences. This is an important aspect of gaining acknowledgement and respect for traditional and customary fisheries' management.

Help to Raise Scholarship Monies (2.2.1)
HMM will also work with its partners to raise scholarship monies for Molokaʻi youth to enroll in relevant college level environmental programs. This will encourage a new generation to train in resource and fisheries management that will be important in sustaining the CBSFA.

Signage (2.3.1)
It is very important for DAR, with support from DOCARE and HMM to create and install regulatory signage throughout the CBSFA within one of the CBSFA designation.

Media Coverage (2.3.2)
It is important to generate media coverage and messaging about the protection of ongoing subsistence practices under the new regulatory solutions that are adopted in local and statewide media outlets including the *Molokai Dispatch*, the *Star Advertiser*, and local news channels.

Educational Materials/Information Regarding CBSFA Rules (2.3.3 and 2.3.4)
HMM will work with DLNR to hold at least one informational meeting on Molokai after the rules are approved, allowing for questions from the community and preparing for clarifications and answers. HMM will work with DAR to develop and disseminate educational materials and information regarding the new rules and the vision and goals for the CBSFA. DAR shall update their website with CBSFA rules and update the fishing regulation book with the new rules. Community education and outreach events will be organized to assure participants that the CBSFA will support their ongoing customary fishing and gathering to fulfill their subsistence needs, while sustaining a healthy marine ecosystem. HMM will also utilize social media posts for messaging..

4.d. Enforcement Activities

4.d.i. Division of Conservation and Resources Enforcement (DOCARE)

Enforcement of the rules that are to be adopted through the Chapter 91 Administrative Procedures process is primarily the responsibility of the Division of Conservation and Resources Enforcement (DOCARE). DOCARE is responsible for the enforcement of all state laws, rules and regulations related to natural resources conservation and protection. To effectively enforce state rules and regulations DOCARE:

- Responds to reports of violations or suspected natural resource violations. Responses may include, but are not limited to, dispatching an officer to the scene of the incident, an immediate verbal or written acknowledgement of receipt of the complaint, and/or active follow-up investigation of the incident.

- Patrols state lands and waters to identify violations of applicable DLNR laws, rules and regulations; and
- Provides information and training to communities, organizations, and individuals related to conservations and natural resources enforcement.

4.d.ii. Education, Training and Outreach

Within six months of the designation of the CBSFA, DOCARE, the Makai Watch Coordinator and the Department of Aquatic Resource s (DAR) education specialist will provide training to Hui Mālama O Moʻomomi and community volunteers engaged in community and public outreach about rules using the ʻIke Kai and Observation and Incident reporting curriculum.

DAR will also help promote awareness of and enhance compliance with the rules that are to be adopted by conducting education and outreach including:

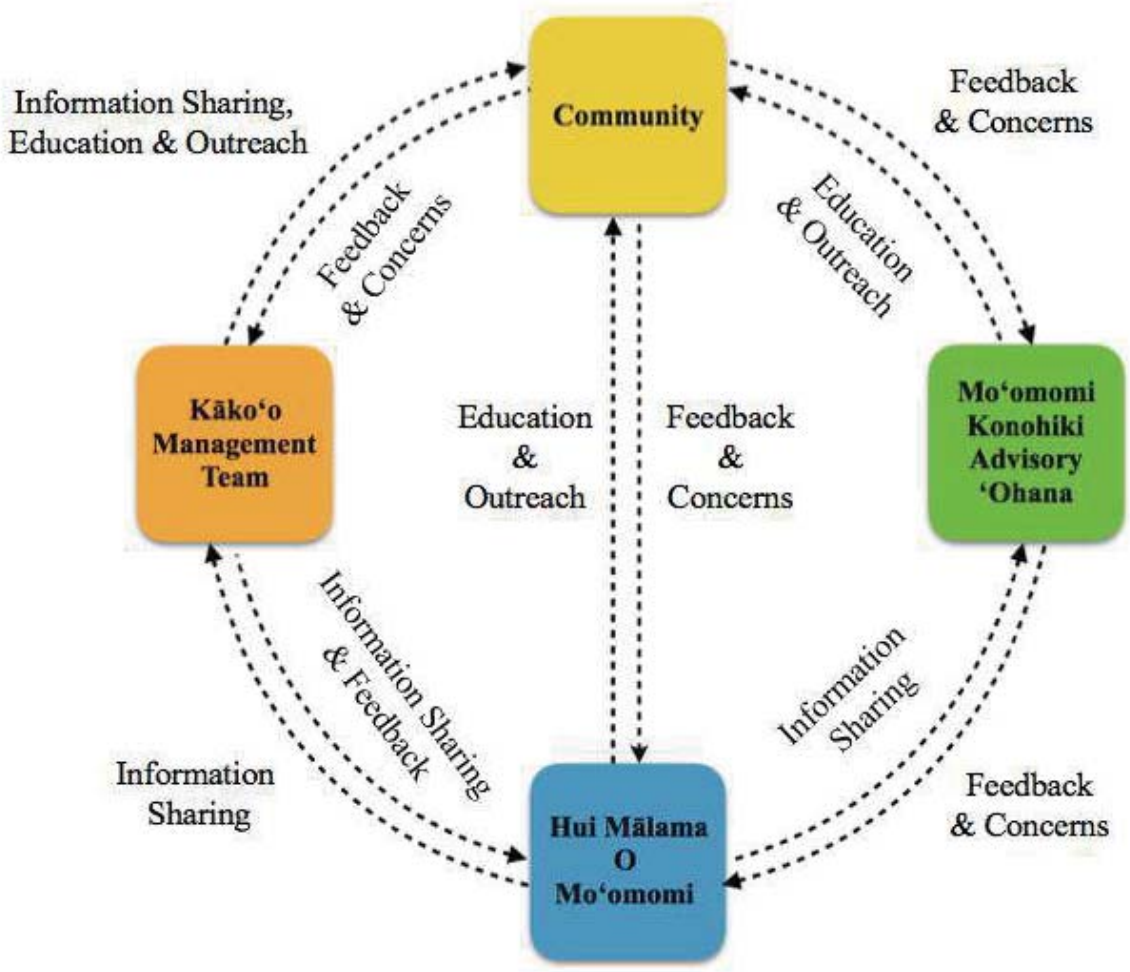
1. Develop and install appropriate signage
2. DAR will provide information and updates about the Moʻomomi North Coast of Molokaʻi CBSFA on its web site.
3. Update and provide the public with free printed copies of DAR fishing regulations.
4. Support the education and outreach efforts of HMM.
5. Support and participate in community-based outreach events.
6. Develop education materials and conduct outreach to raise awareness about the CBSFA

HMM will work with the Moʻomomi Konohiki Advisory ʻOhana (MKAO) that, as discussed below, is to be convened by the Aha Kiole for the Pālāʻau Moku to conduct outreach to the community and receive feedback about issues and concerns the community may have about the rules, once adopted. HMM will also work with its partners who will form a Kakoʻo Management Team (KMT), as discussed below, to conduct outreach and educate the community. Together, HMM, MKAO and KMT will conduct education and outreach activities to support the successful management of the CBSFA including:

1. Develop and disseminate education materials to raise public awareness of the rules that are to be adopted for the CBSFA and Native Hawaiian cultural values and perspectives.
2. Conduct educational programs for youth and community members that involve kūpuna (elders) and knowledgeable mākua (parents) to perpetuate the transmisson of cultural knowledge, values and practices.
3. Organize community meetings to provide updates by DAR and HMM to the public on their stewardship activities within the CBSFA.
4. Support development of DAR education and outreach materials and implementation of DAR outreach initiatives.

Figure 2.5 below depicts the flow of education and outreach between the HMM, the MKOA, KMT and the community.

Figure 2.5. Co-Manaement Diagram—Flow of Education and Outreach for the Mo‘omomi North Coast of Moloka‘i CBSFA



4.d.iii. Collaborative Resolution

Enforcement will involve a collaborative effort among DAR, DOCARE, HMM, KMAO and KMT to educate the community about the benefits of the regulatory measures that are to be adopted for the CBSFA. The KMAO will serve as a liaison with the community on behalf of HMM to receive feedback and hear concerns raised by the community. The KMT will also receive feedback and hear concerns. Issues that arise will be resolved with aloha, respect and transparency for all involved. Meetings with individuals and family members may be held by the KMAO. As much as possible, there will be a collaborative approach to resolving issues that may arise. As appropriate DLNR may provide an independent avenue for resolving conflicts between marine resource users within the CBSFA to ensure mutual respect of the volunteers and the public respect in order to promote the effective management of public trust resources. This may include holding meetings to foster communication and facilitate cooperative problem solving and/or arbitrate solutions for conflicts that may arise. Members of the public are to be informed that they can contact DAR and/or DOCARE if conflicts arise related to ocean resource management within the CBSFA.

4.e. Monitoring

Moʻomomi has demonstrated that there is a rightful place in the present day for traditional wisdom to play a major role in caring for the ʻāina, which includes the kai. This has also been acknowledged by the scientific world and non-governmental organizations. Therefore, traditional methods will be integral to the effective implementation of this management plan.

4.e.i. Framework

ʻIke Maka - Kūpuna Knowledge and Experience

In designing a successful model of resource management for the Moʻomomi North Coast of Molokaʻi, we look first and foremost to our kūpuna. Our kūpuna sustained Hawaiʻi's natural resources for over a millennium, and could predictably have done so without modern interference for the next thousand years. Our kūpuna were keen observers of nature and they planned their management strategies around their observations. In the book chapter, "The Use of Traditional Knowledge in Contemporary Management of a Hawaiian Community's Marine Resources," (Poepoe et al., 2007), we find, "[i]t is traditional for Hawaiians to 'consult nature' so that the methods, times and places of fishing are compatible with the local marine resource rhythms and biological processes." (Poepoe et al., 2007).

Showing keiki how to hand-catch heʻe. Photo: HMM

In the book, *Native Use of Fish in Hawaii*, by Margaret Titcomb (2005), the knowledge of the master fisherman was described as follows:

> Fishing as a profession belonged to the *poʻo lawaiʻa* and his company of apprentices . . . He was, at any rate, a man of extensive knowledge, and highly honored. Most of his knowledge was handed down to him from an older relative or a friend. Such teachers chose their legatees with great care, and it was a pupil's duty to transmit his learning, augmented by his own experience, to his own chosen pupils. His knowledge comprised the techniques of manufacture and use of apparatus needed, though it was usually made for him by other craftsmen, the methods of capture, habitats of the various fish, seasons of their spawning, and of their coming and going if they were roaming fish that moved in schools, and their particular peculiarities of response to attempts at capture.

The methodology that sustained and defined the traditional resource management system as applied by our kūpuna was simply a practical, logical and time-tested process that provided for a successful, long-range and balanced subsistence way of life.

Ancestral indigenous knowledge also informs cultural norms with regard to the ocean and marine resources. Cultural norms are practices that one learns growing up and includes practices

such as, “never turn your back to the ocean”; “only take what you can eat”; as well as “don’t eat or take banana when you go fishing”; “always share what you catch”; and “don’t talk about going out fishing.” Cultural norms are largely intuitive and rooted in values of respecting the resources and sharing the resources with the larger ʻohana (families). An effective monitoring program will capitalize on both modern and traditional instruments of data collection and interpretation in order to optimally plan and care for an area.

Place-Based
Every place is unique. Though there may be similarities, the history of a place, its spirituality, biodiversity, heritage, current community composition and other local distinctions all combine to create a unique place unlike any other. The particular features and landscape of an area, as well as the characteristics of the community of people who provide stewardship of the area should be considered when establishing the foundation of a community-based management program. Belonging to a place brings a powerful sense of responsibility and caring about what happens there. Local knowledge, experience and lore convey significant beliefs and ideas that have contributed to the way places have grown, accepted interaction with others or shown resistance toward outside influence, and how they have cared for what they have.

‘Ike Malū” – Knowledge that is Protected
Traditional knowledge that is passed down needs to be respected and protected. Information is shared with those who have demonstrated a dedication and a commitment to be responsible for the resources and to practice traditional methods consistently and with humility and respect. There is training and selection. Most skilled Hawaiian fishermen started out by being the bag boy for a father or uncle and acquired knowledge through thoughtful observation. Over time, the knowledge they learned was reinforced and enlarged with their own observations and intelligence.

4.e.ii. Environmental Observations: Moon Phases and Seasons
The following excerpt from Kamalu Poepoe, as cited in the *2011 Pono Fishing Calendar, Moʻomomi, Molokaʻi,* describes the importance of observing the moon phases as a part of monitoring and caring for marine resources:

> The moon was very important to the survival of Hawaiians. To the Hawaiian people, the moon was not an astral object that was projected into the sky millions of years ago as a result of a catastrophic event. The moon, Mahina, was family. Personified, she was the goddess Hina. She gave us the cycle of birth, life, death and rebirth each month—without fail. By her very nature of predictability, she was a reliable source of information that insured survival for generations upon generations. Just as lunar patterns and cycles were distinguished by nightly observations, so were correlating patterns and cycles noted in the sky, land and among living things on earth.
>
> Planting and fishing patterns were developed in alignment with lunar patterns that gave optimum yields. The times for resting fishing grounds or gardens were just as important and also widely known, because of the moon. Hawaiian knowledge of the moon names, functions and rhythms was a common knowledge, shared with all, because the moon was a benevolent provider of time proven, life giving resources and knowledge. As such,

great reverence was given to the moon and chants offered in her honor.

Ancestral knowledge about Hawaiian moon phases and seasonal climate patterns is essential for the monitoring of marine resources. The moon determines the fluctuation of the tides and the currents. This, in turn, determines the behavior of the fish. It also affects the growth pattern of limu and corals. The brightness or darkness of the moon as it waxes and wanes also affects the behavior of fish and other marine life.

Sunrise at Kaiehu. Photo: Rikki Cooke

An example of ancestral knowledge regarding the behavior of fish in relation to the moon can be found in the book, *Ka ʻOihana Lawaiʻa, Hawaiian Fishing Traditions*, by Daniel Kahaulelio (2006) as follows:

> The days that are good for going to sea to fish are the three *Lāʻau* days, for the fish take the bait continuously in all kinds of fishing; *Akua* too, for the fish had voracious appetites. They ate like akua, supernatural beings. On the day named *Mōhalu* the fish open their mouths wide for food; *Māhealani* the fish eat one after the other and on *ʻOle Pau*, the fish consume all, *pau*, taking, *hoʻolawe*, like Kahoʻolwe, which has been fished all around by your writer; that was with my parents and grandparents. On the three *Kū* nights the fish ate greedily. This my grandfolks taught me, it is useless to go fishing on any other time. Fish are caught, but very few and not like on the days of the lunar month in which there are many fish, (it is not the particular named night of the lunar month that brings the fish, but on those days the sea currents are good), so said my grandfolks and I've proven it.

The moon calendar emphasizes natural processes that repeat at different time scales: seasonal, monthly and daily. Distinctions are made between two general seasons *(ka'u* or

dry; *ho'oilo* or wet) and three general phases of the moon after the new moon: *ho'onui* · (nights of enlarging moon); *poepoe* (nights of full moon); and *emi* (nights of diminishing moon). In addition to diagramming seasons and moon phases, Figure 2.6 also gives the Hawaiian names for the twelve months of the year.

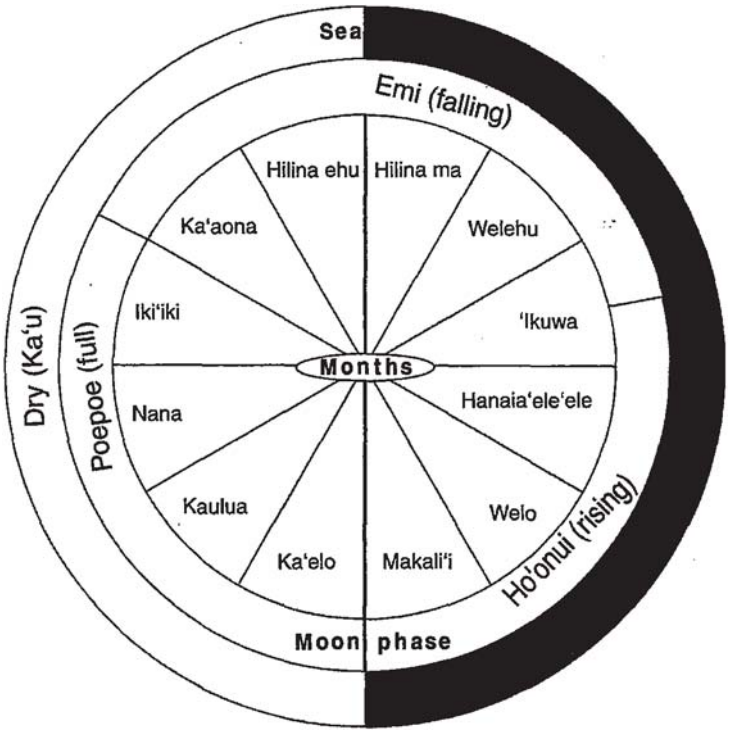


Figure 2.6. Hawaiian Moon Calendar showing months, seasons and moon phases that are used to guide fishing activities. Names used for months in this calendar are specific to the island of Moloka'i. Adapted from Friedlander et al. (2002).

Observations of the behavior of marine life in relation to each moon phase throughout the generations has been summarized by Hawaiian ancestors and is most readily accessible in the Hawaiian moon calendar published by the Prince Kūhiō Hawaiian Civic Club. More detailed information can be found in more recent renderings of Hawaiian moon/season/gathering calendars, such as the HMM Pono Fishing Calendar, Moʻomomi, Molokaʻi. This information is augmented by direct observations by monitors in designated places during the various phases of the moon.

Moon Phases and Fish Behavior

Many natural processes that affect fish distribution are monitored by the community, but the most important of these are seasons and moon phases. Specific names are also given to each night of the Hawaiian lunar cycle. Prohibitions (kapu) occurred on a monthly basis. The exact details of many of these prohibitions have been lost over time but their timing is associated with periods of the lunar cycle when spawning and movement of some important resource species usually occur. These prohibitions may have served to limit overall fishing effort on a monthly basis, in particular during periods when certain species might be more susceptible to harvest or when their capture could disturb reproduction or other important activities.

By observing spawning behavior, fish size and reproductive state, community monitors can construct a calendar identifying the spawning periods of major food fish species. In 2000, for example, the peak spawning for ulua (jacks, *Caranx ignobilis*), moi (Pacific threadfin, *Polydactylus sexfilis*), uhu (parrotfish, Scaridae) and ʻaʻawa (Hawaiian hogfish, *Bodianus bilunulatus albotaeniatus*, an endemic subspecies) occurred during the summer months. Late winter/early spring spawning was observed for aholehole (Hawaiian flagtail, *Kuhlia xenura*, a Hawaiian endemic) and kūmū. Surgeonfish (Acanthuridae) typically spawn in late winter, as well as in early spring. By identifying peak spawning periods for important resource species, traditional closures or kapu can be applied so as not to disturb the natural rhythms of these species.

Seascape view of Kaiehu Poing, looking east across Kawaʻaloa Bay. Photo: S. Kamakaʻala

4.e.iii. Observation of Organisms

"Ka Pōʻaiapuni" - Life Cycle

A resource manager must observe the life cycle of the fish, including recruitment. In order to identify fish spawning behavior, one needs to observe male and female variations by catching the fish and examining the gonads. Water temperature, currents and daylight hours (length of day) are all factors to consider. Some species prefer long days and some prefer the short days. For example, mullet spawn during the short days; kūmū also spawn during the short days of the fall and winter seasons; moi love the long days. It's not just necessarily the length of day that affects the health of the population. Timing is about when the egg can hatch the best. After hatching, it is about the food. The weather plays a very important role in all of the life phases as well. Once they grow, then they "settle" in an area and this is where you can take a count. To understand the cycle, you have to understand all of this. And, before this happens, you also have to know the ratio. In the early stages of observation, one should learn where the fish live, when they will be there, how they reproduce and their stages of growth. The next stage is when the baby fish are in a big pile (the kiole), this is what you want to see. The fish size is important to document at each stage of the life cycle. When one is training in how to observe marine life, one should start by observing one species that the observer will encounter all or most of the time, and follow that species through their life cycle. One should commit this knowledge to memory and hold it close, as it is very valuable.

“Ka Holo ‘Ana” – Movement
HMM observes the movement of fish as biological indicators of the health of the habitat. For example, if fish are not present where they are expected to be, this would indicate that there had been a disturbance to the habitat or that they were caught. Kole and uhu don’t really move that much. Kūmū move mainly due to disturbance and displacement. Moi tend to be mobile. They come close to shore to spawn and then spread out.

Knowing the pieces of the puzzle and how they fit together provides important foundational information that allows for sound management and monitoring of a healthy and sustainable ecosystem. Resource managers from the area are able to track various species of fish movement because they know from years of observations and generations of knowledge, where they will or should be and when and remain alert to anomalies.

“Nā Koʻa” – Aggregation
Hawaiian ancestors have observed that fish congregate in areas where there is coral and limu that the fish feed upon. These fish grounds are called koʻa (coral/coral head). HMM has observed where the koʻa are located along the Moʻomomi North Coast and they regularly conduct a fish census at these koʻa to determine species health as indicated by the concentration of fish and the levels of generations present. An important indicator of the health of each species is the number of generations present in the population. This reflects how many fish have survived from previous generations. If there is a gap among the generations, one can foresee the potential for the health of the species to decline. The traditional scale of measuring resource health is how many generations there are in a population. When you have all the generations represented, that is saturation. Monitors keep mental maps of their census for each koʻa.


Fishing Koʻa Shrine in Mokio Preserve.
Photo: D. McGregor

Table 2.3 below outlines proposed monitoring activities for the koʻa of the five species of concern and for the ecosystem along the Moʻomomi North Coast of Molokaʻi.

Table 2.3. Proposed Monitoring Activity

Measure of Success: 1) Stable and healthy population 2) Representation of 7-8 generations		
Indicators	**Monitoring Method**	**Frequency/timing**
Marine Species of Concern		
Lobster: abundance/size/# of generations	Visual census of koʻa	Several times per year
Uhu (large): abundance/size/# of generations	Visual census of preferred habitat	Several times per year
Kumu: abundance/size/# of generations	Visual census of koʻa	Several times per year
Kole: abundance/size/# of generations	Visual census of preferred habitat	Several times per year
Moi: abundance/size/# of generations	Visual census of koʻa	Several times per year
Ecosystem		
Natural cycles, food and habitat availability, sand movement, abundance and location of limu species, and the relationships to lunar and seasonal cycles.	Visual census	Several times per year

Table 2.4 below is a simple example of one fish-tracking assessment tool. The purpose of this particular monitoring table is to chart the movement, lifecycle, health, eating habits and food supply, and population of a species. The stomach contents, can yield information about where a fish has been, the amount and type of food supply available to the fish in an area, the types of diet stressors that exist, developmental stages, and so forth. A scientific tag and recapture program executed in tandem with a program applying traditional Hawaiian ʻike (knowledge) provides an effective collaborative approach to information gathering that bridges both modem and traditional indigenous practices. From this information, a manager may consider the kinds of external or secondary indicators that have an effect on the feeding habits of the species.

Table 2.4. Sample Monitoring Form

Species	Date/Time/ Moon Phase	Place	No. Male	No. Female	Size		Stomach Contents	Other
					Length	Weight		
Species: Different fishes require different attention.								
Date/Time/Moon Phase: This is a measure of when the fish congregate. This will help determine what moon phase is best to monitor certain species. The rate of recurrence will help substantiate your findings.								
Place: Fish tend to visit a certain spot for several reasons. Through much trial and error, over time, aggregation spots can be discovered and then designated by landmarks or committed to memory								
No. Male/Female: The male/ female ratio is important for the success of spawning. The reproductive biology of certain species may require a higher male ratio or female ratio relative to sexual maturity and reproductive potential. Male/ female ratios can also determine spawning disorders due to paucity of one sex over the other.								
Size: Growth to a large size can suggest that the brood stock has good genes and a greater potential to produce stronger offspring. The larger fish have a greater reproductive capacity. Size can also be an indicator of those fish that have grown "smarter," as they have successfully evaded capture in order to survive and grow to a larger size.								
Stomach contents: (Note: see paragraph below table)								
Other: Additional information pertinent to the species.								

Consideration of the type of monitoring form used, the categories indicated on the form, the duration of study of the subject, and so forth, relate to an awareness the manager must have of the area and fishery; and the variations, sometimes subtle, within the environment. An astute manager should be able to anticipate changes to certain conditions, as he/she understands the nature of the area sufficiently to recognize all of the concomitant interactions natural to each species and the environment. For instance, when conditions indicate that a particular species population has declined, the arbitrary and unconditional closing, or kapu, of gathering privileges may not always be the best or only decision. An account of the interactions within the total ecosystem must be taken and the effects upon the rest of the living biota as well as the physical features supporting the ecosystem must be considered. Creating a void in one area can lead to similar problems in another. Rather than a complete shutdown, a manager could consider scaffolding fishing periods, or reducing fishing allowances for a time. A species assessment may determine if a harvest ban may be helpful in the recovery process of threatened species. These types of decisions are informed and purposeful, and based on "what's going on in your place."

Monitoring the activities and condition of natural resources in managed near-shore fisheries is vital to maintaining the health and balance of the area. As expected, a methodical and consistent system of observation would yield significant information about the conditions of living biota and the physical environment over a period of time. With an effective monitoring system in place, interruptions or obstructions to the natural rhythm of an area would be detected, leading

one to seek the explanation for the nature and/or cause of the change, and to recommend the appropriate action to take. Information compiled through observations by resource managers allow for the formulation of questions regarding the quantity and quality of natural resources and supports prudent planning and decision-making outcomes.

A resource manager must have comprehensive knowledge of and experience with the management area in order to recognize the requirements and ideal conditions that support the natural production of the species inhabiting the area. A requisite knowledge of fisheries dynamics drives the type of information a manager knows to look for in a monitoring system. Generally, systematic observations monitoring methods should correlate with specific needs for a species within the fishery. The design of each monitoring phase is modified and augmented on an as-needed basis, and differentiations of approaches are considered in keeping with tabulated results.

The purpose of the monitoring system is to provide a guide to determine a "best practices approach" in relation to a balanced, sustainable ecosystem.

Observing fishers, their gear, fishing locations, the amount harvested, and talking story with them is an important aspect of the monitoring process. If there is a decline in the resources or if the condition of the habitat or the biota are not normal, attention needs to be given to the type of gear used over time and its effect on the resources.

Mental Models

According to the article "The Use of Traditional Hawaiian Knowledge in the Contemporary Management of Marine Resources," "Community-based management in the Moʻomomi area involves observational processes and problem-solving strategies for the purpose of conservation." (Poepoe et al, 2003). The article states, "The system is not articulated in the manner of Western science, but relies instead on mental models. These models foster a practical understanding of local inshore resource dynamics by the fishing community and, thus, lend credibility to unwritten standards for fishing conduct." (Poepoe et al, 2003) A second article published by UNESCO in 2007, "Fishers' Knowledge" states,

> The traditional Hawaiian resource-use system involved measuring and evaluating natural processes to produce representations of the workings of ecosystems. Thus, theoretical constructs of Hawaiian scientific thought are *mental models* that recognize different states or 'frames' (Starfield et al., 1993), capturing the essential aspects of dynamics that may apply to the same ecosystem at different times. However, Hawaiian knowledge relies on memory and does not incorporate the rigorous quantitative estimates or written records of Western science. There was no written Hawaiian language prior to the early nineteenth century (Kuykendall, 1938), so traditional knowledge was orally transmitted from generation to generation through chants, stories and demonstration. (Poepoe et al, 2007)

Of the five species of concern, the 2007 article provides an example of observations acquired about moi in the Moʻomomi area and conservation principles that were voluntarily adopted. This following excerpt from this article is shared to help describe how the use of mental models can

be applied to the monitoring of moi and the four other species of concern in the proposed CBSFA.

Conservation Principles for Moi

Moi typically spawn in *moi holes* west of Moʻomomi Bay. They usually come inshore to spawn from June through August. Sand movement is very important in determining when and where *moi* spawn, because shelter is an important controlling factor in reducing the risk of predation during the spawning period. In the west end of Kawaʻaloa Bay, for example, *moi* move inshore to spawn in an interval when sand has stopped moving but before too much sand has filled the *puka* in the reef. Stable sand leads to higher numbers of *moi* prey (shrimp and crabs). Observation of sand movement and the height of sand waves can give a good indication of when *moi* will move inshore to spawn. As sand waves flatten out, the sand becomes more stable, while steep sand waves indicate the movement of sand.

A mental model of the life history of *moi* is used by Hui community members. Conservation principles and management practices were derived from this model by integrating seasonal movement, spawning aggregation behavior and the relationship of different life history phases to these behavior patterns. These include restrictions on harvest of *pala moi* (hermaphrodites) *or moi* (females), depending on population structure, and restrictions on harvest during the spawning season. Minimizing the disturbance to spawning and nursery habitats is another important conservation practice.

Moi have a readily identifiable aspect of their life history (sex reversal) that has contributed to their decline in Hawai'i: continued overfishing results in relatively few females left in the population around heavily fished areas of the state (Friedlander and Ziemann, 2003). Awareness of the need to protect both immature *moi* and the female breeding stock from overharvest is an example of how Hawaiian resource knowledge can validate Western science, which has 'discovered' this method of conservation and named it as 'slot limits.'

4.e.iv. DAR and NPS

DAR and NPS will monitor fish biomass and benthic habitat cover using the standardized fish and habitat utilization assessment method. Upon successful designation, sampling design and monitoring frequency will be defined through discussions with DAR's biostatistician, and in collaboration with NPS. DAR will work with partners to secure funding and/or technical support to implement monitoring activities.

4.f. Evaluation Measures

A Moʻomomi Konohiki Advisory ʻOhana (MKAO) made up of the homesteader and fishing families of the area is currently being formed with the assistance of the Aha Kiole – Pālāʻau Moku (see Appendix IX). The Aha Kiole will convene the MKAO upon the designation of the CBSFA. The MKAO will adopt internal governance and operating procedures. It will also develop measures to evaluate how the goals and objectives for the CBSFA are fulfilled.

The role of the MKAO will be to interact and communicate effectively with the community regarding the resource management policy recommendations. The MKAO will serve as a liaison

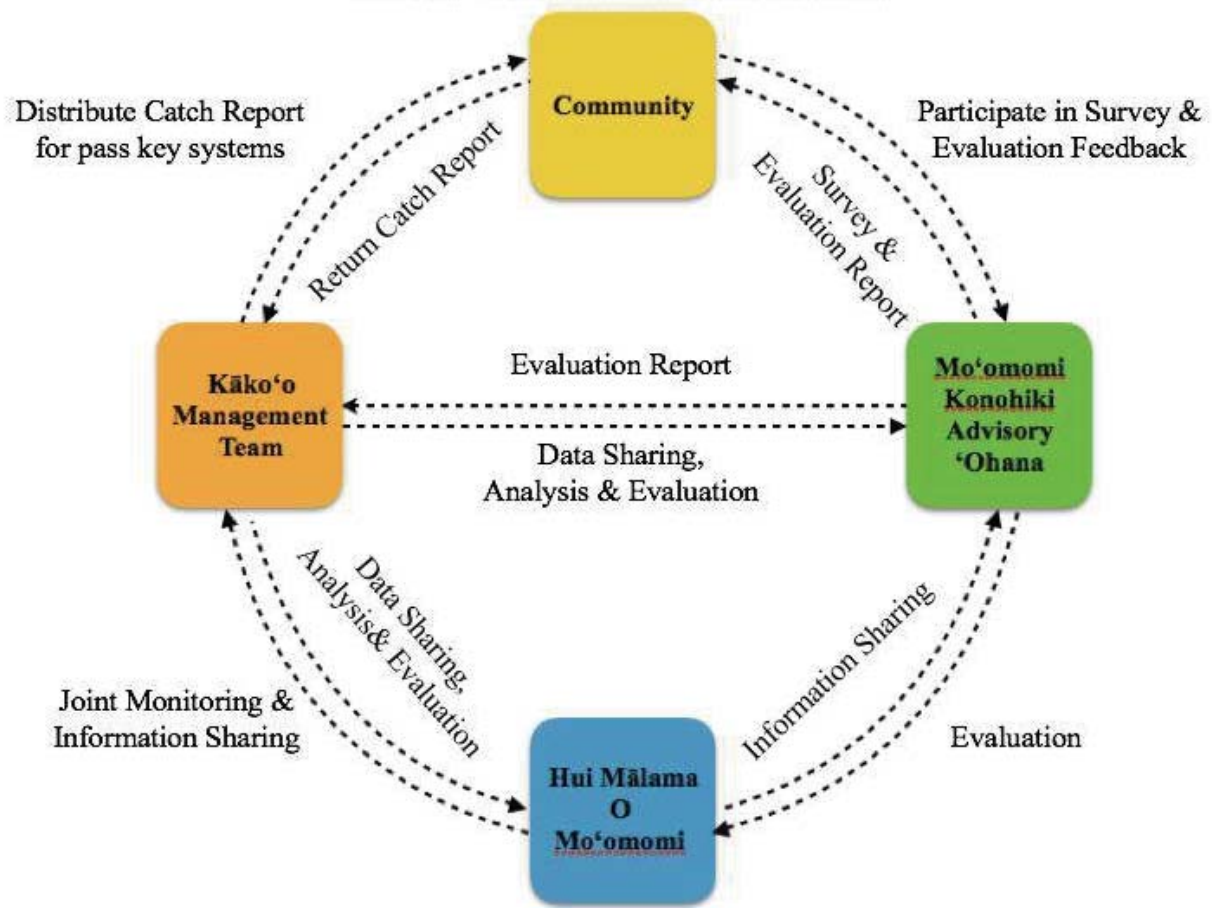
between the HMM and the community by providing feedback to HMM and by reporting and providing outreach to their ʻohana, neighbors, friends and the broader community.

The current HMM support network of government agencies and land owner/steward organizations shall be formalized into a Kakoʻo Management Team (KMT). This team will be made up of representatives from the ʻOhana Council, DHHL, DAR, DOCARE, and other relevant DLNR divisions, MLT, TNC, NPS, Molokaʻi Ranch, OHA and other relevant government agencies and coastal land owners/stewards. The KMT should convene within a year of the CBSFA designation and meet at least once a year. The KMT will discuss and assist with management plan implementation, monitoring information, and address concerns and matters referred to the MKAO and the KMT by the Pālāʻau Moku residents. The KMT will also assist in identifying and providing resources to promote the success of the CBSFA.

HMM recommends that the MKAO and KMT conduct a management plan review and program evaluation five years following CBSFA designation.

Figure 2.7, below, illustrates the flow of monitoring information and evaluation for the proposed CBSFA – among HMM, MKOA, KMT and the community.

Figure 2.7. Co-Management Diagram—Flow of Annual Monitoring and 5-Year Evaluation for the Moʻomomi North Coast of Molokaʻi CBSFA



The specific evaluation measures for each of the identified objectives are provided below in the Draft Work Plan (pg. 91). Overall, the success of the CBSFA will be measured by:

1. The timely adoption of the proposed regulatory solutions and the respect demonstrated for these regulatory solutions by the community.
2. The stability and health of the marine species of concern and all the marine resources in the designated CBSFA, as reflected in indicators such as the size of the population and the number of generations represented within the population of each species.
3. The greatest measure of success will be feedback from the fisher families of the Pālāʻau moku community that their traditional and customary practices of fishing and gathering are reaffirmed, protected and supported by the CBSFA and that the marine resources in the CBSFA continue to provide for their day-to-day subsistence, as well as for their important ʻohana gatherings.

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5. CBSFA Designation Impacts

5.a. Explain How the Proposed Management Activities Will Protect or Advance Traditional and Customary Fishing Practices.

The designation of a CBSFA for the Moʻomomi North Coast of Molokaʻi will formally recognize and acknowledge the stewardship of the marine resources that has been exercised by HMM for the past two decades, a stewardship that is rooted in, and embodies and demonstrates traditional and customary fishing practices. The recognition of this traditional and customary management approach will provide the support for the next generation of resource managers who are beginning to assume the responsibility of stewardship for the marine resources.

The promulgation and enforcement of the proposed regulatory solutions will protect vulnerable and at-risk marine resources from overharvesting; improper fishing and harvest methods; the use of overly efficient extractive gear; and intense and competitive commercial harvest. Signage and educational materials will inform the community about the boundaries of the CBSFA and the regulatory solutions. By contrast, traditional and customary conservative subsistence-based fishing and harvesting methods and practices will be promoted utilizing appropriate gear.

The regulatory solutions will adopt the traditional and customary practice of protecting nursery areas, thereby expanding the recruitment of fishing resources along the Moʻomomi North Coast of Molokaʻi.

The baseline survey of the CBSFA area proposed to be conducted by DAR and NPS will yield information that will assist in validating the future success of the traditional and customary methods of observation, monitoring and management of the marine resources, as information gathered by HMM is periodically shared with DAR, the Moʻomomi Konohiki Advisory ʻOhana,

and the Kākoʻo Management Team. This will continue to build public confidence in the effectiveness of traditional and customary fishing practices.

A common reporting system used by land owner/steward partners with those who get a pass to exercise traditional and customary fishing practices will engage the Molokaʻi community to participate in the process of monitoring and gathering information related to their own traditional and customary fishing practices.

A community-based process of feedback and assessment of HMM monitoring and analysis will assist in assessing the progress of adaptive management in sustaining the resources for traditional and customary fishing practices.

Grants will be secured to train novice fishermen and resource managers in how to carry out traditional resource management methods of observation and information assessment and analysis in order to sustain traditional and customary fishing practices. The HMM will also conduct events such as the Lawaiʻa Camp for Molokaʻi youth to teach about historic levels of abundance; traditional fishing uses; place names; moʻolelo; and traditional practices of caring for marine resources. Efforts will be made to establish scholarships for Molokaʻi youth to receive degrees and training in marine and natural resource environmental management to complement the training in traditional Hawaiian management of the marine resources.

Combined, all of these activities will promote a functional adoptive management and regulatory system, based on ancestral Hawaiian science that will perpetuate traditional and customary fishing practices, while sustaining a healthy marine ecosystem along the north coast of Molokaʻi. Simply stated, the management activities will achieve the recovery of a healthy ecosystem, so that Molokaʻi families will have access to an abundance of ocean resources that can continue to feed their families into the future.

5.b. Explain How Native Hawaiian Subsistence, Culture and Religion Will Benefit from the Proposed Management Activities.

The adoption and implementation of the proposed regulatory solutions is anticipated to lead to the recovery of the five priority species protected by the proposed regulatory solutions - moi, kūmū, kole, uhu and ula - so that these resources will continue to be available as food for the community of families who rely upon the Moʻomomi North Coast of Molokaʻi fisheries. In addition, the protection of the nursery areas along the coast will lead to an increase of marine resources available for subsistence harvest and fishing. The prohibition of improper methods of fishing and the use of overly extractive gear will protect the marine resources from overharvest. All of these measures will sustain and help perpetuate Native Hawaiian subsistence.

Sustaining and perpetuating Native Hawaiian subsistence will reinforce cultural relationships and networks of sharing and mutual support within ʻohana and among neighbors by providing marine resources that can be shared. The ability to harvest marine resources rather than having to purchase these resources at market prices, enables ʻohana to continue to gather to celebrate ʻohana through pāʻina and lūʻau celebrating significant life cycle events - weddings, first-year baby lūʻau, graduations and funerals.

Learning and practicing Hawaiian methods of observation and analysis reinforces and perpetuates ancestral Hawaiian knowledge, which is the foundation of Hawaiian culture. This includes the perpetuation of ancestral knowledge about the moon phases and its effect upon marine resources; ancestral knowledge about the life cycles of diverse fish and marine species; knowledge about fish habits and locations of fish koʻa (aggregation areas) and the associated practice of establishing fishing shrines along the coast that serve as markers for these feeding grounds. As D. Kanewanui, editor of Ka Nupepa Kuokoa wrote in the introduction to the book by Daniel Kahaulelio, *Ka ʻOihana Lawaiʻa: Hawaiian Fishing Traditions*, "Our fishing grounds were sought by the ancestors with great patience, and those spots were revealed to their children, which is how that knowledge was passed down, and it is worthwhile for us to seek and come to know some of those special fishing grounds for our own future benefit." (Kahaulelio, 2006).

While engaging in fishing and gathering activities, practitioners share experiences and gain knowledge that provides continuity between the past and the present building trust and cooperation. They also share a common code of conduct. These shared experiences reinforce beliefs and values that are critical for perpetuation of Hawaiian cultural identity. Subsistence fishing emphasizes group identity and relationships rather than individual economic accomplishment.

Time spent in subsistence fishing cultivates intimacy and harmony with the ocean and environment, reinforcing a strong sense of kinship with nature that is the foundation of Hawaiian spirituality and religion. As mentioned above, spiritually, the scenic, remote, and raw coastal line and coastal area of the Moʻomomi North Coast of Molokaʻi is a natural sanctuary where the natural elements uplift one's soul. The Moʻomomi, Kawaʻaloa, Kawahuna and Keonelele dunes comprise one of the most extensive ancient burial grounds in the Hawaiian Islands. The area is considered to be a leina-a-ka-ʻuhane or, according to the Hawaiian dictionary, leap of the soul, or a place where spirits leap into the nether world. The sanctity of these sacred coastal dues will be further respected and protected with the CBSFA designation.

Sand Dunes of Keonelele. Photo: D. McGregor

5.c. Explain How the Proposed Management Activities will Interfere With the Following Uses.

5.c.i. Navigation

This plan will not affect navigation in the management area because the regulatory solutions do not prohibit vessels from transiting through the CBSFA, nor do they prohibit the non-commercial taking of fish species normally caught by transiting vessels engaged in trolling. Except for the Kawaʻaloa Bay Nursery Area, small vessels will not be impeded from transiting nearshore waters or landing as long as they are not engaged in prohibited fishing activities.

5.c.ii. Fishing

The proposed regulatory solutions would suspend unsustainable, improper and highly extractive methods of fishing that interfere with the sustainable management of marine resources relied upon for subsistence practices. This proposal promotes traditionally grounded pono fishing practices that allow for marine resource replenishment and optimal health to sustain a healthy ecosystem and healthy fish and marine stocks. Ultimately, healthy fish and marine stocks will benefit all fishers—commercial, recreational and subsistence.

It is important to note that this proposal will also have a beneficial impact on Native Hawaiian subsistence fishers because it is founded upon and re-instills traditional values, codes of conduct and methods of resource management and fishing into the practice of caring for and gathering marine resources.

For Molokaʻi residents, this proposal and management plan would also largely formalize a social code of conduct that has been in place for generations within the area. In this light, perhaps the greatest beneficial impact of the formalization of the Moʻomomi North Coast of Molokaʻi CBSFA will be the greater recognition of and compliance with this code of conduct and educational opportunities of the ʻohana values that guide fishing practices for all visitors, residents and non-residents, particularly those from other islands. The potential to educate and share the formalized pono fishing practices has the opportunity lead to increased awareness of how one can fish and gather in ways that allow for resource replenishment and abundance to ensure marine resources can be sustained for current and future generations.

The proposed management measures would NOT prohibit the following fishing activities:

- Most forms of recreational fishing, except for scuba spear fishing and night diving and/or night harvest other than lamalama/night torching.
- Commercial trolling and bottom fishing that typically occur outside of the proposed CBSFA one nautical mile boundary. It is noted that the area from Lae Hoʻolehua to Lae ʻUmeʻumelehelehe is a DLNR Bottomfishing Restricted Area out to .25 nautical miles(BRFA G, Kalaupapa, Molokaʻi).
- Commercial catch of akule and taʻape.
- Recreational/charter fishing operations
- Lay net, which is a customary practice on the south shore of Molokaʻi, is not as commonly used along the rocky nearshore areas of the Moʻomomi North Shore of Molokaʻi and does not pose a threat to the resources. Although lay net is to be prohibited in the Kawaʻaloa Bay Nursery Area, lay net is to be allowed in the rest of the CBSFA, as most of the areas are rocky, nets get damaged and it is not a common practice. In similar habitats at Kalaupapa, the residents lay net only two or at most three times a year (Eric Brown, personal observation).

While some non-commercial and commercial bottomfish and pelagic fishing may now occur within the proposed 1 mile boundary, abundant opportunities for this type of fishing to continue beyond the proposed 1 mile boundary exist. Impacts of CBSFA designation are therefore anticipated to be much smaller on these bottomfish and pelagic fishers than the impact of non-designation is anticipated to have on subsistence fishers, since no such alternative fishing grounds exist for subsistence fishers.

Commercial and noncommercial fishing, including subsistence fishing, that are most likely to be impacted include scuba spear diving and night diving. These unsustainable and highly extractive methods of fishing, directly impact the marine resources, the ecosystem and the associated subsistence and cultural practices within the proposed Moʻomomi North Coast of Molokaʻi CBSFA. Thus, they would be banned.

Commercial harvest of reef species has long been discouraged in the management area since the 1994 Moʻomomi CBSFA Pilot Project. This policy has also been adopted and reinforced by abutting and neighboring landowners throughout the proposed area. There is general acknowledgement and acceptance of this policy by both by the Hoʻolehua fishing community and the outside community.

5.c.iii. Other Recreation

As a non-commercial activity, recreational boating including trolling and deep sea bottom fishing, is not prohibited from regulation under the proposed management plan. Swimming and surfing occur in Moʻomomi Bay and the backshore is used for picnicking and camping. Recreational kayaking occurs within parts of Pelekunu throughout the CBSFA proposed areas, to the west side of the island and occurs predominantly for sightseeing. None of these activities would be regulated or adversely affected by the plan. Only swimming and other ocean recreational activities in Kawaʻaloa Bay would be regulated, and there is currently minimal swimming that occurs in the bay. Thus, the proposed rule banning swimming in the bay will have little impact on current uses.

6. Draft Work Plan

Objective	Activities	Evaluation Measures	Responsible Parties	Estimated Completion Date	Resources Required
GOAL 1: A functional adaptive management and regulatory system, based on ancestral/Hawaiian science allows marine resources to be available to Molokaʻi ʻOhana for subsistence, cultural and religious purposes, while sustaining a healthy and abundant marine ecosystem along the north coast of Molokaʻi					
1.1. Marine resources important to Molokaʻi ʻohana subsistence and cultural practices continue to be available for fishing and gathering as a result of the adoption of rules informed by traditional knowledge and customary fisheries management practices.	1.1.1 HMM works with DLNR staff to finalize management plan and rule package	1.1.1./2./3. # of proposed rules which are informed by traditional knowledge and fishery management practices that are adopted into law; Biomass/abundance of 5 threatened species and special resources is maintained or improved; continued fishing/gathering of marine resources important to Molokaʻi ʻohana subsistence and cultural practices (indicated by catch reports); sustained or improved catch per unit effort for the 5-threatened species and special resources indicated by voluntary catch reports.	HMM and DLNR	January 2017	DLNR staff travel costs for meetings as needed
	1.1.2. Initiate Chapter 91 Administrative Procedures to vet and adopt rules to manage species important to traditional fishing and harvesting in Moʻomomi		DLNR	March 2017	DLNR staff travel costs for meeting attendance
	1.1.3. DOCARE enforces administrative rules within the CBSFA		DOCARE	Ongoing upon adoption of rules	available operating budget for DOCARE Molokaʻi officers
	1.1.4 Subsistence fishing and harvesting of marine resources fulfill the day-to-day subsistence needs of the	The ʻAha Kiole for Pālāʻau Moku conducts a scaled scored survey of the 60 fishing households regarding	ʻAha Kiole, Moʻomomi Konohiki Advisory ʻOhana (MKAO), Kakoʻo	Upon Designation of the CBSFA; 5 years after designation	Members of the ʻAha Kiole in-kind support

	Pālāʻau Moku fisher households as well as providing for important ʻohana gatherings, e.g. birthdays, weddings, graduations, funerals	subsistence fishing and gathering using the 1993 subsistence survey, compared with a survey conducted when the CBSFA is approved and a survey 5 years after approval	Management Team (KMT)		
Objective	**Activities**	**Evaluation Measures**	**Responsible Parties**	**Estimated Completion Date**	**Resources Required**
1.2. CBSFA monitoring observations collected by HMM and partners informs the evaluation of CBSFA management effectiveness and the adaptive management of the CBSFA	1.2.1.HMM collects information using the ancestral/Hawaiian scientific methods and analyses and processes results	1.2.1. Information on the health and recovery of threatened and important marine species collected by HMM; Annual progress reports provided to MKAO and KMT; HMM's observations and analysis shared with DAR every 5 years; # of adaptive measures agreed by MKAO and KMT that were informed by monitoring results provided by HMM.	HMM	Every 5 years after DAR's baseline	HMM
	1.2.2. DAR, NPS and/or other partners with relevant technical expertise conduct fish and habitat utilization assessments to characterize the marine resources and habitat within the CBSFA as an initial large scale	1.2.2. Data on biomass and benthic habitat cover is collected; DAR/NPS monitoring results are discussed with the MKAO and KMT to inform the 5 year management evaluation review.	DAR, NPS and/or designated contractor w/ relevant expertise	Baseline sometime in 2017, prior to 5 year evaluation	DAR Maui Nui or Contractor; NPS; DAR secures funding for its biophysical monitoring

	assessment				
	1.2.3. HMM works with land owners to use and share standardized catch report forms for distribution to and collection from those who access through their lands to engage in subsistence fishing and gathering	1.2.3. # of individuals submitting reports; Data on species caught, size, movement, lifecycle, and eating habits is collected (See Table 2.4. Sample Monitoring); Catch report results are provided to the MKAO and KMT to inform the 5 year management evaluation review	HMM, KMT partners, and subsistence fishers	w/in 3 months of CBSFA Designation	in kind support from landowners granting passes, subsistence fishers, and HMM
Objective	**Activities**	**Evaluation Measures**	**Responsible Parties**	**Estimated Completion Date**	**Resources Required**
1.3. A community - based process for evaluating and adaptively managing the CBSFA is established.	1.3.1. Establish and convene the MKAO (see Appendix IX)	1.3.1. # of MKAO Meetings convened, MKAO has adopted a mission statement, objectives and criteria for best management practices, meeting schedule, and adopted internal governance and operating procedures	Aha kiole o Molokaʻi will help convene the first meeting	After approval of Moʻomomi North Coast of Molokaʻi CBSFA	In kind support from MKAO members
	1.3.2. MKAO members conduct outreach and communicate info re resource management recommendations to community and	1.3.2. # of outreach opportunities provided; communication efforts made; and individuals reached by MKAO	MKAO with support from HMM and KMT	Ongoing, and initiated w/in 1 year of CBSFA designation	in kind support from MKAO and KMT

	provides feedback to HMM				
	1.3.3. Establish and convene KMT to discuss and assist with management plan implementation, review of monitoring info, and address concerns identified by the MKAO	1.3.3. record of partners' attendance in KMT meetings; # KMT meetings held	HMM, MKAO, KMT (incl. DLNR)	w/in 1 year of CBSFA designation	DLNR Maui travel costs for attendance
	1.3.4. MKAO and KMT help conduct a 5 year management evaluation of CBSFA using results from monitoring to inform their recommendations.	1.3.4. Community-based management plan and regulatory recommendations are updated and adapted based on MKAO and KMT's review of HMM's and other partners' monitoring data and input.	HMM, MKAO, KMT	5 years after rule	In kind support of team members to participate, DLNR travel costs for attendance
	1.3.5. DAR/DOCARE provide training to HMM/community volunteers engaged in community/public outreach about rules using the 'Ike Kai and Observation and Incident reporting curriculum.	1.3.5. # of trainings provided, # of community volunteers trained incl. members of HMM and the MKAO; 'Ike Kai curriculum updated by DAR for community use.	Makai Watch Coordinator (1st training only) + DOCARE officers + Maui DAR education specialist, HMM and MKAO volunteers	w/in 6 months of designation	DLNR staff travel costs for attendance

Objective	Activities	Evaluation Measures	Responsible Parties	Estimated Completion Date	Resources Required
GOAL 2: The Molokai community respects and engages in traditional and customary practices of fishing and gathering marine resources for subsistence, cultural and religious purposes along the north coast of Molokaʻi, and the general public acknowledges and respects these traditional land customary practices.					
2.1. The perpetuation of traditional knowledge and marine resource management methods is supported by an increase in the number of learning opportunities for learners from Molokaʻi, neighbor islands, and beyond.	2.1.1. Write grants to fund the provision of learning opportunities for novice fishermen	2.1.1. Funding secured to provide learning opportunities for novice fishermen	KMT	w/in year of proposal submittal	n/a
	2.1.2. Provide training for novice fishermen	2.1.2. # of trainings provided to novice fishermen, # of novice fishermen participating in training	HMM with support from MKAO as needed	upon awarding of grant	secured grant
	2.1.3. Host kūkākūkā w/ fishers to share observations, sustainable fishing methods, and stories	2.1.3. # of Kūkākūkā held to support peer-peer learning, # of fishermen participating in Kūkākūkā	HMM with support from MKAO as needed	Upon awarding of grant	secured grant
	2.1.4. HMM conducts events for Molokaʻi youth to learn about traditional and customary fishing practices and codes of conduct (e.g. lawaiʻa ʻohana camps)	2.1.4. # of cultural learning events provided for youth; total # of youth participating in cultural learning events	MKAO	YEARLY or W/IN A YEAR of designation	grants, camp coordinator, camp leaders
	2.1.5. HMM works with teachers, students, visiting scientists, and government officials to provide learning opportunities related to	2.1.5. # of learning opportunities provided, and # of individuals participating; lessons learned as indicated by participants	MKAO	YEARLY or W/IN A YEAR of designation	TBD

	traditional fisheries management methods and codes of conduct.				
2.2. The number of Molokaʻi youth receiving financial support for obtaining college degrees in relevant environmental programs increases	2.2.1. Help to raise scholarship monies for Molokaʻi youth to enroll in relevant college level environmental programs	2.2.1. # of Molokaʻi youths awarded HMM scholarship support.	KMT and broader community	ongoing	Fundraising activities to establish scholarship program

Objective	Activities	Evaluation Measures	Responsible Parties	Estimated Completion Date	Resources Required
2.3. Increase the number of opportunities for the public to become informed about the CBSFA and its rules by providing a variety of avenues where relevant information is disseminated/can be obtained.	2.3.1. Signage: DLNR creates and installs regulatory signage throughout the area	2.3.1. # signs installed	DAR, with support from DOCARE and HMM	within 1 year of designation	~$5,000 - $10,000 from DAR operating budget
	2.3.2. Media Coverage: generate media coverage and messaging about new rules in local and statewide media outlets	2.3.2. Publications in the *Molokai Dispatch, Honolulu Star Advertiser, Maui News, Ka Wai Ola o OHA*, local new channels, DAR communication networks, and fishing community news networks.	Aha Kiole o Molokaʻi, KMT, DLNR/DAR communication team	upon adoption of rules	n/a
	2.3.3. Develop and disseminate educational materials/information regarding new rules and the CBSFA	2.3.3. DAR website updated with CBSFA rules; fishing regulation book is updated w/ new rules; # of community education/outreach events about rules and estimated # of participants; # of education materials created to raise awareness of rules; # of social media posts.	DAR, HMM, MKAO, KMT, and other supporting partners	upon adoption of rules, and ongoing	printing costs as needed
	2.3.4. DAR and DOCARE support HMM's community-based outreach initiatives to raise awareness of rules	2.3.4. # community outreach events attended by DAR and/or DOCARE; # DLNR staff participating in community-based outreach events	DAR, DOCARE, HMM, with support from MKAO and other partners as needed	ongoing	DLNR Maui travel costs for attendance

7. Draft Budget: Funding and Resources

Budget Item	Total Cost Year 1	Total Cost Year 2	Sources of Potential Funding
Staff Salaries			
Resource Managers and Coordinator (paid/in-kind) -Poʻo Resource Manager -Assistant Resource Managers -Intern Resource Managers	$15,000	$15,000	Grants, donations, in-kind, etc.
Education/Outreach			
Printing Costs	$1,000	$1,000	Same as above
Meetings (food, etc.) (5) Community Outreach (mail outs, advertising, etc.)	$750 $2,000	$750 $2,000	Same as above
Projector	$300	-	Same as above
Monitoring			
Laptop/Desktop Office Supplies (printer, paper, etc.)	$2,200 $2,000	- $2,000	Same as above
Underwater Scooter (3) Dive tanks (15) BC (2) Boat (at least 24')	$1,500 $1,800 $700 -	- - - $35,000 (matching)	Same as above
Camera (ʻāina and kai)	$1,500	-	Same as above
Site Management			
Signage/Maintenance	TBD	TBD	DLNR
Fuel	$2,000	$2,000	Same as above
TOTAL	$30,750	$57,750	

8. Documentation of History of Engagement Process

The current Moʻomomi North Shore of Molokaʻi proposal and management plan provides an update of the April 1995 Proposal to Designate Moʻomomi Community-Based Subsistence Fishing Area, Northwest Coast of Molokaʻi, which had been developed through an extensive

community engagement process. Throughout and during the development of the current proposal, management plan and regulatory recommendations, HMM has conducted numerous meetings, workshops, and educational and outreach activities to provide a space for the community to engage in the development of the proposed regulatory solutions. Please see the Administrative Record for the Moʻomomi North Coast of Molokaʻi CBSFA Proposal for a timeline and more information about the community engagement process from 1993 through 2016.

More recently in 2013, HMM organized two landowner/stewardship meetings organized and at least three lawaiʻa (fisher) meetings facilitated by the ʻAha Kiole O Molokaʻi-Pālāʻau Moku. In the meetings, HMM presented their longitudinal information on the conditions of the fishery along the Moʻomomi North Coast of Molokaʻi, that had been gathered over the previous 21 years. The observations indicated lower populations of the higher sought after species, due to overfishing. Possible regulatory solutions to protect the at-risk specie; to protect the marine resources that community relies upon; and the proposal for a CBSFA were discussed.

In January 2014, DLNR held a public information session at the Mitchell Pauʻole Center in Kaunakakai. Given the concerns raised at the meeting the ʻAha Kiole O Molokaʻi-Pālāʻau Moku worked with representatives of the Hoʻolehua families to develop a survey for the fisher families and those who live in the Pālāʻau moku to share their manaʻo about the CBSFA proposal. In late January and February, families on Molokaʻi affected by the proposal were provided full copies of the CBSFA administrative regulatory solutions and asked to fill out a survey. The Aha Kiole has a reputation for transparency and equal opportunity when conducting surveys. Members of the Aha Kiole went through each street in Hoʻolehua Homestead, Kalae, Kualapuʻu, Kalamaʻula and Puʻuhauʻoli to identify each family of regular users at Moʻomomi. Sixty (60) surveys were passed out to individual ʻohana who are known to use Moʻomomi both regularly and occasionally, including those families who are in opposition to the proposed regulations. Sixty (60) households represents a significant number of the households who use the Moʻomomi area and 15 percent of the Hoʻolehua households. Fifty-five respondents stated that they support the CBSFA proposal, one (1) respondent stated their non-support, and four (4) surveys were not returned.

Two community workshops were held on November 8, 2014 and April 25, 2015 where the community, DAR, and Assistant Professor Malia Akutagawa's University of Hawaiʻi at Mānoa (UHM), William S. Richardson School of Law (WSRSL) Native Hawaiian Rights Clinic students were invited to hold a workshop for the community to review and provide feedback and comments on the proposed regulatory solutions. A presentation to the Ahupuaʻa o Molokaʻi representatives, an association of all the Hawaiian Homesteads on Molokaʻi to share the current proposal and regulatory solutions was held at an Ahupuaʻa o Molokaʻi monthly meeting on April 6, 2016. Additional community workshops and meetings were held in June and April 2016, and August, September, October and November 2015.
Below, is a timeline outlining the efforts made by HMM and its partners to engage the community in the development of the proposed Moʻomomi North Coast of Molokaʻi CBSFA.

TIMELINE OF THE MOʻOMOMI NORTH COAST OF MOLOKAʻI
COMMUNITY-BASED SUBSISTENCE FISHING AREA (CBSFA) PROPOSAL
1993 – 2016

The following timeline details the efforts made by Hui Mālama O Moʻomomi (HMM) to include and engage Hawaiʻi residents in the CBSFA management plan process between 1993 and 2016. This list is not exhaustive.

2016

June 28, 2016	**HMM Board Review Meeting** – Hoʻolehua, Molokaʻi, 6:30-10:30pm. Reviewed and incorporated comments and edits of the proposal and management plan.
June 16, 2016	**Office of Hawaiian Affairs Board of Trustees Meeting** – Kūlana ʻOiwi Hālau. OHA staff presentation by Wayne Tanaka on HMM Moʻomomi Community-Based Subsistence Fishing Area (CBSFA) Proposal.
June 13, 2016	**HMM Board Review Meeting** – Kūlana ʻOiwi, OHA/DHHL Conference Room, 5-10pm. Reviewed and incorporated comments and edits of the proposal and management plan.
April 8, 2016	**Moʻomomi CBSFA Review Team Meeting –** Kūlana ʻŌiwi, DHHL/OHA Conference room, Kaunakakai, Molokaʻi. A gathering of HMM board members, main community kākoʻo who have helped with the rules, management plan, and studies, the agencies from Honolulu, Maui, and Molokaʻi offices, and representatives of the large land owners were convened to review the draft pre-proposal and management plan to finalize it to be re-submitted to DAR. Each individual was asked to submit written comments and brief the document beforehand. *Approximately 30 in attendance.*
April 6, 2016	**Moʻomomi CBSFA Presentation to the Ahupuaʻa o Molokaʻi** – Native Hawaiian Library, Hoʻolehua, Molokaʻi. Shared about the history of CBSFAs, the history of Hawaiian Homesteads, legal protections, and what is being proposed in the management plan. The Ahupuaʻa o Molokaʻi is the name of the association of Hawaiian Homesteaders on Molokaʻi. *Approximately 13 in attendance*.
February 15, 2016	**Moʻomomi Beach Cleanup** – Moʻomomi Beach cleanup along the shoreline. Helpers included immersion schools and the larger Molokaʻi community. *Minimum 30 people in attendance*.
2016	**Distribution of Proposed Rules** – 200 handouts explaining the Moʻomomi North Coast of Molokaʻi proposed rules were distributed at a fishing tournament and periodically around Molokaʻi.

2015

November 2015	**Community Informational Meeting** – Kūlana ʻŌiwi Hall, Kaunakakai, Molokaʻi. Attended by HMM, Lawaiʻa Hui and Lawaiʻa. Some attendees thought the kūmū bag limit was too high, so the bag limit was reduced from five to two. The community appreciated that they would have the

	ability to provide further comments on rules throughout the application process. *20 people in attendance.*
October 15, 2015	**Mo‘omomi CBSFA Meeting for Fishermen** – Held at DHHL Conference Room. Uncle Mac Poepoe shared the proposed rules for Mo‘omomi and asked the community if a bag limit of five per day was good. People shared their mana‘o for the bag limits for all the species. Questions arose about lobster bag limits; will the bag limit be decreased if lobster populations improve? Is it possible to lift rules on lobster? *16-20 people in attendance*.
August/September 2015	**HIA Community Meeting** – Lanikeha meeting
August 26, 2015	**Community Informational Meeting** – HMM and Lawai‘a hosted a community meeting at Kūlana ‘Ōiwi DHHL Conference Room, 5pm. This meeting was to explain the purpose and process behind the proposed CBSFA to people who use Mo‘omomi. Attendees had mixed feelings about implementing a CBSFA and the drafted rules based on perspectives of how bad the resource depletion issue is. Some people left the meeting early. *44 people in attendance*.
April 25, 2015	**CBSFA Community Workshop and Outreach** – Held at Kūlana ‘Ōiwi, Kaunakakai, Moloka‘i, 10-2pm. This was a second phase meeting with the public sector, focusing on sharing mana‘o given by the stakeholders in rulemaking for the management of resources by the community. This is following the first phase meeting where fishermen and families from the Pālā‘au Moku reviewed the proposed CBSFA rule for resource sustainability. Workshop attendees broke out into five groups with a volunteer facilitator and note taker. Each group went over comments and suggestions for Mo‘omomi’s rules and provided clarifications. Volunteers compiled all the suggestions and feedback and reported back to the community as one large group. *42 people in attendance*.
March 25, 2015	**Community Workshop and Outreach** – Held at Kūlana ‘Ōiwi, Kaunakakai, Moloka‘i.

2014

November 8, 2014	**Mo‘omomi Community Workshop** – This workshop was held to invite community members to learn more about Mo‘omomi’s CBSFA proposal and provide comments and feedback on the current version of Mo‘omomi’s rules. The workshop started with an introduction about caring for future generations by law professor Malia Akutagawa and continued with an introduction of the rules by Emma Anders of DAR. The group broke out into five groups with one DAR staff and one law student note taker to go over comments, suggestions, and provide clarifications for and with the community members. The law students compiled all the

	suggestions and feedback and reported back to the community as one large group. DAR and Malia answered further questions. The workshop was advertised in the Molokaʻi Dispatch and by word of mouth. Workshop kōkua by Emma Anders, Erin Zanre, Russell Sparks, David Sakoda (DAR), Malia Akutagawa, Khara Jabola, Heather McVay, Keani Rawlins, Shae Kamakaʻala, Kristen Maize, and Emily Fielding (TNC). Attended by Moku, Lori, and Kaulana Buchanan, Keliʻi Mawae, Russell Kallstrom, Walter and Loretta Ritte, Ty and Pili McComas, Joe and ʻŌpuʻolani Albino, Eric Co, and 30 community members. *Approximately 55 people in attendance*.
January/February 2014	**Aha Kiole o Molokaʻi, Community Survey by Pālāʻau Moku** – 60 surveys passed out and received; Sixty (60) households represents significant number of the households who use the Moʻomomi area. 55 said yes in support; 1 said no; 4 never filled out (these individuals were vocal at the meeting). Provided full copies of CBSFA administrative rules to date and asked for the community's manaʻo.
January 2014	**DLNR Meeting** – Public information session at the Mitchell Pauʻole Center, Kaunakakai, Molokaʻi. Attended by Bill Aila, Frazier McGlvray, Emma Anders, Russell Sparks. Approximately *100 people in attendance*.
2014	**Aha Kiole o Molokaʻi, Pālāʻau Moku Lawaiʻa Meeting** – This meeting was held to bring awareness of how individuals' actions impact the environment and community of Moʻomomi, and to present current issues and solutions addressed by the CBSFA proposal.
2014	**Kākoʻo ʻĀina Award** – TNC honored HMM as a member of the Maui Nui Makai Network for exemplifying how communities can return reefs and fisheries to abundance.

2013

March 11, 2013	**Final Draft Proposal**
March 8, 2013	**Landowner Meeting (2 of 2)** – Attendees were updates of the previous night's meeting among twenty fishers where proposed CBSFA regulations were discussed with special concern for lobster fishing, and there was a general acceptance for a need to sustain marine resources. This meeting also updated proposed regulations and their boundaries, permitting protocol including liability and access, and established an operational budget of $250,000. Attended by Eric Brown, Sly (NPS), Mac Poepoe, Kanoho Helm, Butch Haas, Russell Kallstrom (TNC), Eric Co, Carolyn Darr (DHHL), Shelly Carriera (DHHL), Auntie Joyce Kainoa, and Davianna McGregor. *11 people in attendance*.
January 15, 2013	**Landowner Meeting (1 of 2)** – This meeting explored potential funding partners and sources of revenue for CBSFA implementation and management, in addition to how a permitting process would work as a management tool. All landowner partners would work collaboratively to create a single permit template that could be used for several purposes. The Hui would manage the fishing permits and landowners would retain responsibility to administer land access permits. Catch report data would be necessary to inform stock assessments and the fishery management

	process. Attended by Russell Kallstrom (TNC), Ed Misaki (TNC), Dayton Bicoy (Molokaʻi Land Properties), Dugrey Vanderbilt (Ka ʻOhana ʻO Kalaupapa), Rikki Cooke (MLT), Carolyn Darr (DHHL), Nancy Schmicker (Molokaʻi Land Properties), Mac Poepoe, and Ray Enos (DHHL). *9 people in attendance*.
2013 – present	**Cultural Stewardship Educational Programs** – HMM partnered with Conservation International Hawaiʻi and Tri-Isle Resource Conservation and Development to hold annual summer ʻOhana Lawaiʻa Camps. These annual camps encourage participation of multiple generations to create a space where families can share and learn from one another. Camp curriculum is based on traditional fishing practices, moʻolelo (history) of the area, making fishing tools, learning observation and how to gather, clean, and prepare their catch. The goal of the camp is to perpetuate cultural practices by inspiring ʻohana to mālama ʻāina (care for the land). The participants include Hoʻolehua Homestead families ranging in age from toddlers, children, youth, mākua (adults) and kūpuna (elders) in their seventies. *100 people attended total*.
2013	**Aha Kiole o Molokaʻi, Pālāʻau Moku Lawaiʻa Meeting** – This meeting was held to bring awareness of how individuals' actions impact the environment and community of Moʻomomi, and to present current issues and solutions addressed by the CBSFA proposal.
2013	**Aha Kiole o Molokaʻi, Pālāʻau Moku Lawaiʻa Meeting** – This meeting was held to bring awareness of how individuals' actions impact the environment and community of Moʻomomi, and to present current issues and solutions addressed by the CBSFA proposal.
2013	**Native Hawaiian Advocate of the Year** – The Native Hawaiian Legal Corporation ("NHLC") honored Hui member Mac Poepoe in 2013 with its Native Hawaiian Advocate of the Year Award.
2013	**Umu Kai Award** – The National Oceanic and Atmospheric Administration ("NOAA"), Office of National Marine Sanctuaries Pacific Islands Region honored HMM board member Mac Poepoe for the 2013 Umu Kai Award. This award recognizes the contributions of Native Hawaiian practitioners to modern day fisheries conservation.

1993 – 2012

2010	**Hoʻokahiko Award** – At the 2010 Reef and Ocean Expo, HMM board member Mac Poepoe was recognized for his efforts to protect Moʻomomi and for the development of the Pono Fishing Calendar. The Hoʻokahiko award was established to honor those who are dedicated to passing on Hawaiian traditions.
2007	***The use of traditional knowledge in the contemporary management of a Hawaiian community's marine resources*** by Kelson K. Poepoe, Paul K. Bartram and Alan M. Friedlander, published in Fishers' Knowledge in Fisheries Science and Management, Coastal Management Sourcebooks, pg. 119 (2007) – This article "[e]xplain[s] the practices of the Hoʻolehua homesteaders as adaptations to a harsh environment with limited resources

	for subsistence"; "[d]escribes an unwritten code of conduct of Hui Mālama o Moʻomomi to guide fishing behavior in the community"; "[t]ranslate[s] 'mental models' and management practices of the Hui Mālama o Moʻomomi into written conservation principles"; and "[v]erif[ies] the effectiveness of these models in maintaining healthy local populations."
2006 – 2014	**Publication of Pono Fishing Calendar, Moʻomomi, Molokaʻi** – The publication of HMM's moon phase spawning calendars provided information about monitoring methods, data gathering, analysis and findings, and best practices based on traditional values and codes of conduct. HMM circulated an estimated 4,000 copies of the Pono Fishing Calendar from 2006 through 2014. The calendar has educated a lot of people throughout the state by providing critical information about monitoring marine resources in order to develop management policies that allow for the sustainable harvest of marine resources. For example, HMM published information about the sex and color change behaviors of aʻawa and eʻa (male Hawaiian hogfish), which has focused attention to these fish as indicator species for monitoring and managing resources. The sharing of this locally generated knowledge has raised consciousness about Hawaiian scientific methods and traditional scientific management of marine resources throughout our islands. This has empowered other communities to intentionally monitor and care for marine resources.
2006	**Lifetime Achievement Award** – Hawaii's Living Reef Awards Program awarded HMM board member, Mac Poepoe, the Lifetime Achievement Award.
2002	**Advocated at the legislature with Alan Friedlander** – To implement the CBSFA law.
2001 – 2004	**Native Hawaiian Plant Restoration** – HMM received a U.S. Fish and Wildlife Service ("USFWS") grant to re-vegetate the landscape around the Moʻomomi pavilion and along the coastal area above Moʻomomi Bay with native coastal strand plants such as ʻohai, ʻakoko and pohinahina. This area along the coastline is one of the few somewhat intact sand-dune ecosystems for native coastal plants. This initiative is key in keeping the soil where it belongs and curbing run-off during the rainy season. As a result of the project, some of the lushest and most diverse native strand vegetation in the islands, including several severely endangered plant species, now grow on once-barren land along the Moʻomomi coast.
2001	***The Use of Traditional Hawaiian Knowledge in the Contemporary Management of Marine Resources*** by Kelson K. Poepoe, Paul K. Bartram, and Alan M. Friedlander, published in Putting Fishers' Knowledge to Work: Conference Proceedings, pg. 328 (2001) – This article explains the Moʻomomi community's traditions of consulting nature to identify the times and places appropriate for sustainable fishing and how fishers use gear that causes minimal disruption to the marine resources and the ecosystem. The article details the community's observational and problem-solving strategies to advance conservation

	efforts, the fishers' "code of conduct" on how fish is caught, and the importance that the Hawaiian moon calendar has on monitoring and management of Moʻomomi's resources.
Late 1990s – 2000	**Erosion Control Projects** – After heavy rains, HMM observed that part of the old dirt road leading down to Moʻomomi Bay functioned like a stream bed. Water rushed down the road, eroding the banks and sweeping up soil, depositing muddy water into Moʻomomi Bay, turning it the color of chocolate. As a result, in the late 1990's to the early 2000's, HMM, with the help of community members, closed that dirt road and built berms across it to slow and disperse the flow of storm waters. HMM worked with the community and DHHL to clear and grade a new road that would not result in the same erosion problem. This management project effectively reduced the amount of runoff to the point where the waters of Moʻomomi Bay no longer turn a brownish/red color after a major rain event.
1997 – present	**Ongoing Management of Resources and Facilities at Moʻomomi and Kawaʻaloa Bay** – After the sunset of the pilot project in 1997, HMM has been involved in managing the resources and facilities at Moʻomomi and Kawaʻaloa Bay by: 1) conducting routine beach cleanups; 2) hosting educational groups and visitors; 3) reconstructing and managing the use and upkeep of two DHHL community pavilions; 4) propagating plants and installing berms for erosion control; 5) restoring fencing, lawn, and surrounding areas with grass and native vegetation; 6) installing fence posts to protect fragile coastal vegetation from vehicular damage.
1997 – 2011	**Decline in lobster** – 4/5 Lawaiʻa meetings prior to 2013; talked about CBSFA, canoe races (called by Stacy), etc; had one meeting when Kama blew up; Pālāʻau Lawaiʻa Meeting (Kawika Duvashell, Miki Duvashell, Bill Puleloa, Keith Apo, Larry Aalona; always invite Bobo Alcon, Melody Alcon)
1995	**CBSFA Designation and Management Plan**
March 23, 1995	**Public Hearing on Molokaʻi, Re: Moʻomomi Pilot** – Used draft rules dated 10/28/94. The purpose of this hearing was to provide an opportunity for interested persons to submit testimony on the proposed adoption of the Hawaiʻi Administrative Rules of the Fishery Management Area for the Kawaʻaloa-Moʻomomi Bays Subsistence Fishing Pilot Demonstration Project as mandated but Act 271, Session Laws of Hawaiʻi 1994. Molokaʻi residents voiced concern over being told what to do by the State and didn't like differentiating between subsistence fishing for Hawaiians and recreational fishing for others, since all fishing is for putting food on the table. There were also concerns about fines, permits, commercial fishing within the area, and illegal fishing practices, which targets just a few individuals and not the entire Molokaʻi community. Other attendees pledged support, saying they've observed the depletion of fishes along the northwest coastline of Molokaʻi, and believing that permitting system will provided necessary data to further notate this decline. *26 in attendance*.

1994 – present	**Hawaiian Moon Phases and Fish Spawning Cycles** – At Moʻomomi, members of HMM, under the mentorship of Mac Poepoe, observed the moon phases in relation to fish spawning cycles and developed a system by which to predict when selected fish species annually spawn along the north coast of Molokaʻi. "By observing spawning behavior and sampling fish gonads, community monitors have constructed a calendar identifying the spawning periods of major food fish species." (Poepoe et al., 2004). "By identifying peak spawning periods for important resource species, traditional closures or kapu can be applied so as to not disturb the natural rhythms of these species. Due to their local importance as food items, āholehole (Hawaiian flagtail, Kuhlia sandvicensis), moi (Pacific threadfin, Polydactylus sexfilis), and the red seaweed limu kohu (Asparagopsis taxiformis) were examined more closely and models of resource dynamics were constructed to inform management decisions for Moʻomomi." (Poepoe et al., 2004).
1994 – 1995	**Approached casting club to stop going to Kawaʻaloa and Molokaʻi**
October 21, 1994	**Public Meeting on Oʻahu Re: Moʻomomi Pilot (2 of 2)** – Used draft rules dated 10/10/94.
September 23, 1994	**Public Meeting on Oʻahu Re: Moʻomomi Pilot (1 of 2)** – Used draft rules dated 9/12/94.
September 22, 1994	**Public Meeting on Molokaʻi Re: Moʻomomi Pilot (2 of 2)** – Used draft rules dated 9/12/94.
September 8, 1994	**Public Meeting on Molokaʻi Re: Moʻomomi Pilot (1 of 2)** – Used draft rules dated 9/12/94.
July 1, 1994	**Act 271 (1994)** – Codified as Haw. Rev. Stat. § 188-22.6 and originating as H.B. No. 3446, this statute set forth the statutory authority for the Department of Land and Natural Resources to designate Community-based subsistence fishing areas. The statute also mandated DLNR to establish the Moʻomomi pilot project to protect the fishery from Nihoa Flats to ʻIlio Point on the island of Molokaʻi.
1993 – 2015	**Turtle Nesting Observations** – HMM has observed turtle nesting patterns of the endangered honu (Hawaiian green sea turtle, Chelonia mydas) at Kawaʻaloa Bay for two decades in collaboration with sea turtle expert George Balazs, a marine biologist with the National Marine Fisheries Service ("NMFS"). "According to Balazs, geneticists have found only three genetic varions -- or haplotypes -- of green sea turtles. The third halotype is the most-rare and that's the genetic variation found in the turtles nesting at Moʻomomi." (Cluett, 2012). Observations made by HMM have led to management measures to support the nesting activities of the green sea turtles at Kawaʻaloa, and the proposed CBSFA rules will restrict activities that interfere with the turtles during their nesting season.
1993 – present	**Cultural Stewardship Educational Programs** – HMM conducted summer educational classes from 1993 to 2007, targeting keiki (children) from Kualapuʻu Elementary School who live in the Hoʻolehua Homestead. Through ma ka hana ka ʻike (through doing and working one learns),

HMM hosted classes of 12-14 keiki every year, covering topics that spanned ma uka to ma kai (mountain to sea). The ocean was the main focus of the curriculum with lessons about traditional monitoring, conducting natural resource inventory, assessing how much is being removed and how much can be replenished, ethno-math, and calculating what an allowable take should be. Other topics included the restoration of native vegetation, the importance of protecting restored areas, the damaging effects of erosion and how to control it, archaeological sites and studies, cultural connections to the land, and how land use affects the ocean. The program ended soon after the schools transitioned to a year-long school session. In the late 1990's, in partnership with the Pacific American Foundation and Kamalu Poepoe, HMM created high school level curriculum that focused on the moon cycle and ahupua'a. The curriculum was built over three years and was implemented at Moloka'i High School. *120 people reached per year via curriculum and classes, so approximately 2,760 students reached total over the past 23 years*.

February 1993 **Governor created the Moloka'i Subsistence Task Force** – Co-chaired by DLNR Deputy Dona Hanaiki and Kelson (Mac) Poepoe. The Mo'omomi fishers formed the Hui Mālama O Mo'omomi and developed the proposal to establish a community-based subsistence management area for the northwest coast of Moloka'i, from 'Īlio Point to Nihoa Flats.

See Figure 2.8, on pg. 109 to see the various levels of public outreach conducted from 2013 and 2016. Figure 2.9, on pg. 110 graphically illustrates HMM's public outreach efforts.

Figure 2.8 Levels of HMM Public Outreach Efforts from 2013-2016

Hui Mālama O Mo'omomi (HMM) Public Outreach Efforts 2013 – 2016		
Levels of Outreach	**Number of Meetings, Exchanges, Outreach Efforts (*estimated*)**	**Number of Individuals (*estimated*)**
HMM Member Meetings	3	5 board members + guests
HMM Public Outreach Efforts	14	324[i]
Meetings with Landowners	2	20
Learning & Exchange Opportunities	3 major programs	460[ii]
Publications & Media	9	31,600[iii]
Surveys Distributed	1	60
Informational Flyers Distributed in 2016	1 event, multiple face-to-face outreach efforts	200
TOTALS	**33**	**32,669**

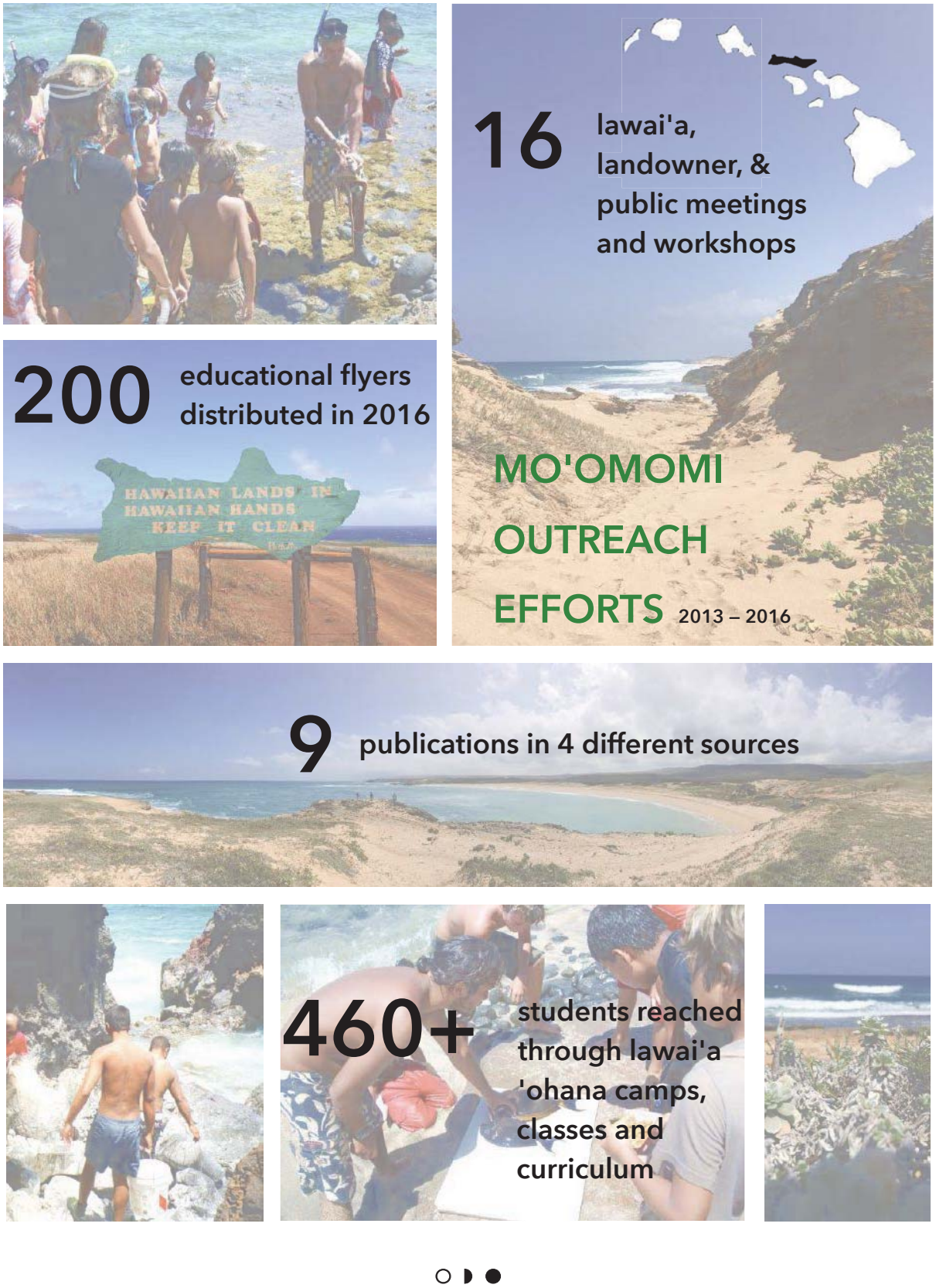
Updated: July 2016

i: HMM Public Outreach Efforts: Attendance for 6 of the 14 outreach efforts are not included in this count.

ii: Learning & Exchange Opportunities: This number indicates the number of students, keiki, mākua, and kūpuna reached by curriculum developed by HMM and implemented between 2013 and 2016. These efforts include lawai‘a ‘ohana camps and curriculum for Moloka‘i High, Intermediate, and Elementary school students. It’s worth noting that these classes have been practiced for the past 23 years, starting in 1993 with approximately 120 students reached every year, resulting in 2,860 students reached total.

iii: Publications & Media: The estimated total number of individuals reached through publications and media is derived from: a) 4 annual printings of the Pono Fishing Calendar at 1,000 copies printed each year; b) an article in *The Maui News* on January 5, 2014 with 19,800 newspapers printed for this issue; and c) 3 articles printed in *The Moloka‘i Dispatch* in May, July, and December of 2014, where 3,800 newspapers were printed and 4,000 website visitations occurred per week. Readership for *The Moloka‘i Dispatch* articles were counted just once, since likely the same audience was reading all 3 articles. Please note that the following were not included in the estimated total for individuals reached: a) Fishing Pono video aired on PBS Hawai'i, aired at the 2012 Maui Film Festival and available to watch online; b) the video, Nā Loea: The Masters | Mac Poepoe: Mālama Mo‘omomi, aired on ‘Ōiwi TV on April 1, 2014 and available to view online; c) 3 peer-reviewed scientific journal articles; and d) 5 news articles about HMM prior to 2013. Note, also not included in this level of outreach are two articles published about HMM and caring for Moloka‘i’s fisheries in *Hana Hou* magazine’s April/May 2009 and August/September 2008 issues. An estimated 110,000 magazines were distributed for each issue, supplying subscribers, bookstores, and every seat on every plane in the Hawaiian Airline fleet with information about HMM. In addition, the estimate of individuals reached through publications and media does not include online views for the videos, *Hana Hou* and *The Maui News* articles available online.

Figure 2.9 Graphic Illustrating HMM's Outreach Efforts From 2013-2016



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Appendix I.
Hui Mālama O Moʻomomi Bylaws

Appendix I. Hui Mālama O Moʻomomi Bylaws

BYLAWS
OF
HUI MĀLAMA ʻO MOʻOMOMI

Drafted September 30, 2013

I. NAME

This organization shall be known as *Hui Mālama ʻo Moʻomomi.*

II. OFFICE

The location of the principal office of this organization shall be at 101-B Puʻukapele Avenue, Hoʻolehua, Molokaʻi, State of Hawaiʻi. Mailing address is P.O Box 173, Kualapuʻu, Hawaiʻi, 96757.

III. PURPOSE

This organization operates exclusively for charitable purposes within the meaning of section 501 (c)(3) of the Internal Revenue code. The objectives of the organization are:

1)

IV. AFFILIATION

Hui Mālama ʻo Moʻomomi is affiliated with E Alu Pū, Kua Ulu ʻAuamo (KUA), and Maui Nui Network (MNN) a subgroup of Community Marine Management Area (CMMA).

V. DIRECTORS

A. POWERS AND SIZE

1. **Powers:** All corporate powers, except as otherwise provided for in these by-laws and the laws of the State of Hawaiʻi, shall be vested in and exercised by the Board of Directors, who shall manage and control the affairs and property of the organization.
2. **Size:** The total number of directors on the board shall consist of no less than five (5) and no more than seven (7).

B. ELECTION

Directors shall be elected by a majority of the votes of the existing directors at the annual meeting and hold office for two years or until the election of their successors.

C. RESIGNATION, REMOVAL, AND VACANCIES

1. **Resignation:** A director of the Board may resign from office providing written notice is given to the Board.
2. **Removal:** Any director may be removed from the Board by a vote of a majority of the existing directors present at any annual or special meeting called for that purpose for conduct detrimental to the interests of the

corporation or for four unexcused absences to meetings preventing the Board to move forward on decisions/actions. A director proposed to be removed shall be entitled to at least ten days written notice of the meeting at which removal is to be voted on and be allowed to appear and be heard by the directors.

3. **Vacancies:** Any vacancy in the Board of Directors may be filled for the unexpired protion of the term by a majority vote of the existing directors serving. A director so elected shall hold office until the next annual meeting and election by the Board.

D. MEETINGS

1. **Annual Meeting:** The Board of Directors shall hold an annual meeting in which elections and other organization business is planned. The newly elected directors shall meet thereafter to organize and transact other business.
2. **Monthly Meetings:** The Board of Directors shall hold monthly meetings to organize and transact organization business.
3. **Special Meeting:** Special meetings of the Board of Directors may be called by the President or Vice-President at the request of any director.

E. QUORUM

The quorum at general and special meetings shall be 3-4 of total serving directors as appropriated by the size of the Board.

F. COMPENSATION

In general, directors shall not receive a salary for their services rendered for the organization. Notwithstanding, the Board of Directors shall have the authority and discretion to contract and compensate any individual director or member redering unusual or exceptional services to the organization.

G. COMMITTEES

The Board of Directors may form committees as it deems necessary.

VII. OFFICERS

A. OFFICERS

The officers of the organization shall be the President, Vice-President, Secretary and Treasurer. The same person may hold any two offices, except those of President and Vice-President.

B. ELECTION, TERM OF OFFICE

The officers shall be elected by the directors at an annual meeting and hold office for two years or until the election of their successors.

C. VACANCIES

In case any office of the organization becomes vacant, the majority of the directors in office, although less than a quorum, may elect an officer to fill the vacancy, and the elected officer shall serve until the next annual meeting.

D. DUTIES

The duties of the officers shall be those normally assigned to the particular office and shall include others that are prescribed by the Board of Directors.

1. **President:** The President shall perform all such duties and exercise such powers and authorities as determined by the Board of Directors including announcemnt of meetings and presiding over all meetings of the Board of Directors.
2. **Vice President:** The Vice President shall perform all such duties incident to the position, as determined by the Board of Directors. Where the President is absent, the Vice-President shall exercise the powers of the President.
3. **Secretary:** The Secretary shall perform all such duties incident to the position, as determined by the Board of Directors, including taking minutes at all meetings, and keep records of all organization business.
4. **Treasurer:** The Treasurer shall perform all such duties incident to the position, as determined by the Board of Directors, including management of all funds of the organization.

VIII. CONTRACTS

The Board of Directors may authorize any officer, director, or employee to enter into a contract or execute and deliver any instrument on behalf of the organization. Unless authorized by the Board of Directors, no person shall have any power or authority to bind the corporation by any contract or engagement, or to pledge its credit, or render it liable pecuniarily for any purpose or amount.

IX. EXECUTION OF INSTRUMENTS

All checks, drafts, notes, deeds, leases, contracts and other instruments shall be signed by such person or persons as designated by the Board of Directors. All monetary transactions drawn from the organization's account requires two board signatures of which will be designated at the annual meeting.

X. INDEMNIFICATION, LIABILITY INSURANCE

A. INDEMNIFICATION

All directors shall be indemnified by the organization against all reasonable costs, expenses and liabilities including legal fees incurred by or imposed in connection with or resulting from any claim, action, suit, proceeding, investigation, or inquiry by reason of the director being or having been a director or employee of the organization at the time of the imposition of such costs or liabilities, except where he or she is adjudged to be liable for willful misconduct, willful neglect, or willful negligence toward the organization. No director shall be held financially responsible for their actions where the exercise of due care is demonstrated.

B. LIABILITY INSURANCE

The organization should purchase and keep in force sufficient liability insurance to cover the reasonably anticipated claims that may be made against the organization, its directors, and employees.

XI. EXEMPT, PROHIBITED ACTIVITIES

A. EXEMPT ACTIVITIES

No director or employee of this organization shall take any action or carry on any activity on behalf of the organization that is not permitted by an organization exempt under section 501 (c)(3) of the Internal Revenue Code and its Regulation, or by an organization contributions to which are deductible under section 170(c)(2) of the Internal Revenue Code.

B. PROHIBITED ACTIVITIES

The organization shall not engage in any act or acts or fail to act if such act or acts or failure to act shall give rise to liability for tax under sections 4941 to 4945, inclusive of Chapter 42 of the Internal Revenue Code of 1954. The organization shall not engage in any act of self-dealing as defined in section 4941(d) of the Internal Revenue Code and Regulations, nor shall it make a "taxable expenditure" as that term is defined in section 4945(d) of the Internal Revenue Code, including expenditures for lobbying, electioneering, and grants to an individual or to any organization or for any purposes other than one specified in section 170(c)(2)(B).

XII. AMENDMENTS, ADOPTION

A. AMMENDMENTS

The by-laws may be amended by a majority vote of the directors at a meeting, provided written notice of the proposed ammendment shall be given to the directors at least ten days prior to the date of such meeting.

B. ADOPTION

The Board of Directors shall adopt the by-laws by affixing their names to the document and by the President and Secretary certifying that the officers in fact adopted the by-laws and that their signatures are authentic.

XIII. DISSOLUTION

When the organization ceases to fulfill its stated purposes, the Board of Directors may declare dissolution of the organization at a membership meeting. The directors present at such a meeting shall vote on the matter. A majority vote (half of voting members plus one) shall be required to dissolve the organization.

Upon dissolution of this organization, assets shall be distributed for one or more exempt purposes within the meaning of section 501 c (3) of the Internal Revenue Code of 1986 (or corresponding section of any future tax code), or shall be distributed to the Federal government, or to a State or Local government, for public purpose. Any such assets not so disposed of shall be disposed by the Circuit Court of the County in which the principal office of the organization is then located, exclusively for such purpose or to such organization or organizations, as said court shall determine, which are organized and oeprated exclusively for such purposes.

XIV. ADOPTION

We the undersigned officers, on behalf of all of the membership, do hereby adopt the foregoing as the amended by-laws of Hui Mālama ʻo Moʻomomi effective as of the date of incorporation of the organization on the ____ day of October, 2013 by a vote of ____ in favor, ____ opposed, ____ absent:

_____	_____
Kanohowailuku Helm, President	Anela Albino, Secretary
_____	_____
David Bush, Treasurer	Kelson Poepoe, Director

Appendix II.
Management Recommendations for Mokio Preserve by Mac Poepoe

Appendix II. Management Recommendations for Mokio Preserve by Mac Poepoe

Management Recommendations for Near-shore Marine Resources of the Coastline of the "Initial Gifted Mokio Lands", Which Shall Balance Subsistence Harvesting of the Resources With Sustainability of the Resources

Kelson Poepoe- Resource Manager, Hui Malama 'o Mo'omomi

2009

Management Recommendation #1- Go back to traditional Hawaiian resource management.

The ancient Hawaiians had an excellent reason for managing their ocean and shoreline resources. They relied on the ocean for their very survival. There were no barges and airplanes bringing supplies in for the population. Since the turn of the 20th century, management of shoreline and ocean resources has been carried out by departmental agencies much removed from any actual doings in or about the ocean, displacing management based on indigenous knowledge. No longer has there been the close connection with the ocean that ancient Hawaiians would have considered a foregone conclusion for anyone associated with its management. There seems to have been no direct accountability for any of the disrupting changes and problems that have been brought on in the name of 'progress' under municipal direction. 'Overfishing by a growing population that no longer recognizes traditional conservation practices has greatly contributed to the decline of inshore fisheries (Lowe, 1996).

If we seek effective resource management we need to look at what a successful model of management in our particular ocean looks like. For lessons of survival in our 'aina, we look first and foremost to our *kupuna*, the ones who sustained resources for over a millennium and could predictably have done so, without modern interference, for the next thousand years. Our *kupuna* were keen observers of nature, and they planned their management strategies around their observations. In *Fishers' Knowledge In Fisheries Science and Management* we find, 'It is traditional for Hawaiians to 'consult nature' so that the methods, times and places of fishing are compatible with the local marine resource rhythms and biological processes' (Poepoe, Bartram, and Friedlander. 2006).

The methodology and intent that supported and defined the *konohiki* system, or traditional resource management system, as applied by our *kupuna* was simply a practical, logical and time-tested process for a successful, long-range, balanced subsistence program.

The kind of *konohiki* system that can be applied today would have to be one that incorporates best traditional practices into a framework that is perceptive of modern regulations and the modern mind-set, and discerns how best to bridge the divergent styles of management into a workable and beneficial program for sustainability. The *konohiki*, or resource manager, would have knowledge of both systems, with an in-depth understanding of the ecology of the managed area, in order to construct a framework that could serve to generate (or regenerate) sufficient supply for the consumers as well as sustainability of the resources.

For the 'Initial Gifted Mokio Lands", a konohiki manager or management team would research and develop the framework for balancing subsistence harvesting and sustainability.

Management Recommendation #2- Develop a mission statement that engages the Hawaiian value of "Malama 'Aina".

Malama 'Aina, as our *kupuna* understood and practiced it, must be embraced in every idea, plan, activity and reflection pertaining to resource management. The ancient Hawaiians did not need a mission statement because the value of *malama 'aina* was incorporated into everything from the time they took their first *ha*, or breath, until they took their last and expired. For us today, a mission statement serves as a guide to continuously redirect stakeholders to the main focus. Questions regarding the appropriateness or suitability of activities initiated or decisions made within the scope of resource management responsibility or community interest will always find guidance in "*Malama 'Aina*", because to care for the '*aina*, from the mountain to the deep sea, is the only way to achieve sustainable productivity.

For the "Initial Gifted Mokio Lands", a mission statement emphasizing "Malama 'Aina" would serve to provide the foundation upon which decisions are appropriately made and objectives clarified in terms of the shared goal of balancing resource usage and sustainability.

Management Recommendation #3- Think ecologically.

Enough time has passed since our *kupuna* cared for and harvested the land that for many, the collective philosophy and mindset have undergone radical changes more apropos to Western capitalist thinking. The spirit of survival has changed from cooperative community enterprise to personal interests for individual gain. When we think in this way, we leave behind generations of teachings to heed natural rhythms and protect what we have. We have been raised, now, to recognize our "rights" to take what we want or need, regardless of the effect on the supply or the environment. Just as damaging to the environment is our indifference to problems we have created by not being more community-minded and ecologically aware. Unfortunately, in too many cases, especially in more populated beach areas, the attitude has seemed to deteriorate into "I going take 'em before somebody else gets it". This attitude has contributed to the decline of our ocean and shoreline resources. Our *kupuna* would have cried in sorrow to see what we have become.

As the inhabitants of a place, we have to retrain ourselves to consider everyone equally who lives in our area and uses the same resources. We have to retrain ourselves to think about what we have now, and what we must do in order to have enough for *everyone* tomorrow.

For the "Initial Gifted Mokio Lands", the call to think ecologically, and to seek ways in which to promote ecology in the community are vital to achieving management success.

Management Recommendation #4- Educate the community to gain buy-in and support.

The success of a shoreline resource management initiative is clearly more realized when the area residents involved are supportive and feel included. Especially in these times, when we are not mandated by Hawaiian laws to follow shoreline management *kapu* or suffer dire consequences, the buy-in of the community is essential to the smooth operation of program objectives. Community should be invited to collaborate, and they should be given an opportunity to share mana'o.

Sometimes in Hawaiian communities there can be misunderstanding or differences of opinion. If the focus is on *malama 'aina* for the future and is grounded in *pono*, the rest of the community will recognize the genuineness of the effort at face value. Educating the people and remaining consistent to a cause that benefits all, including future generations, is one way to help gain community support and buy-in. The efforts to establish a management program:

- must invite the community as partners or members
- must demonstrate equality in opportunity as well as responsibility for all
- must establish fairness and consistency in all aspects of operation when dealing with members

With these guidelines in place, the community is much more apt to respond favorably to initiative ideas and management leadership.

For the "Initial Gifted Mokio Lands", the community support components below could facilitate the plan to establish a cooperative network between resource management and community:

- *Disseminate information about the management program on a timely basis*
- *Plan and announce community meetings for input and feedback*
- *Provide opportunities for involvement and contribution*
- *Offer educational forums for cultural, political and environmental issues related to management area*

Management Recommendation #5- Foster a management program that is place-based.

Every place is unique. Though there may be comparisons and likenesses, the history of a place, its spirituality, biodiversity, heritage, current community composition and other local distinctions all add up to create a unique place unlike any other.

The particular characteristic and landscape of an area and people should be considered when establishing the foundation of a management program. The distinction of bringing place-based thinking into a management framework is that the context is based as much in the locality, where the heart and passion of a community lies, as it is in the general aims and objectives of the program. Belonging to a place brings a powerful sense of responsibility and caring about what happens there. Local knowledge, experience and lore convey significant beliefs and ideas that have contributed to the way places have grown, accepted interaction with others or shown resistance toward outside influence, and how they have cared for what they have.

An example of a place-based project is Hui Malama 'o Mo'omomi's inshore reef management project at Mo'omomi Bay, Moloka'i:

Community self-management of inshore fisheries in and around Mo'omomi Bay is a contemporary version of the traditional konohiki system. It is an example of 'folk management' as characterized by Dyer and McGoodwin (1994). Moral suasion, education, and family and social pressure have become the means to elicit proper behavior rather than the harsh punishments of ancient times.

Traditional knowledge and practice should not be interpreted as static, rigid or non-changing. 'The culture lives on through its practitioners' (Edith Kanaka'ole Foundation, 1995) and cultural activities have a strong sense of 'place'. Tradition, as it exists in the world of contemporary Ho'olehua homesteaders, is an accumulation of knowledge and behavioral norms that have strong roots in culture, local history, and experience, and which are being constantly verified and augmented. It is legitimate in its own right and does not ask to be recast in the

idiom of Western society or verified through methods of contemporary government resource managers. (Poepoe, Bartram, Friedlander, 2006)

These are some of the questions that are addressed when applying place-based measures to a program:

"What does this place speak of?"

"What is it about this place that stirs community feeling?"

"How can a sense of ownership by the people of this place foster malama 'aina?"

"What is our kuleana to this place?"

"How would my kupuna expect me to act in regard to this place?"

"How can I work/ interact effectively with others belonging to my place?"

For the "Initial Gifted Mokio Lands", a place-based philosophy respects the unique make-up of the land and people, and emphasizes the influence local knowledge and experience has on an area.

Management recommendation #6- Establish a locally sanctioned fishing code of conduct.

The excerpt below describing the implementation of a code of conduct by Hui Malama 'o Mo'omomi, from *Fishers' Knowledge in Fisheries Science and Management, by Poepoe, Bartram and Friedlander 2006,* clarifies the idea of contemporary self-management through a code of conduct, as it would apply to Moloka'i near-shore fishing.

The (Hui) continues informal management through internal cultural norms and values that guide and instruct the behavior of the community and that encourage responsible fishing based on individual conscience, social and family pressure, and the training of youth to become 'good marine citizens'. An 'unwritten code of conduct focuses on how fishing should be practiced in and around Mo'omomi Bay to maintain regular biological renewal processes rather than on how much fish should be harvested (Pacific American Foundation/ HMM, 2001).

Establishing a code of conduct may be more difficult in some areas than others. While Hui Malama 'o Mo'omomi had resistance from one or two families who did not want to be restricted in any way from their accustomed fishing, gathering or lodging practices, the entire community pitched in to become more ecologically motivated in their fishing and gathering practices because they realized the mutual benefit that cooperating would create for themselves and their families. A strong factor influencing community support and cooperation is a basic connection with the conduct, protocols and practices of their *kupuna* in regard to resource gathering, a connection much less sensed by many modern Hawaiians more further removed from rural cultural ties.

Memories of the first homesteaders' (grandparents' generation) teachings about survival and sustainable resource use are relatively fresh in the minds of younger generations of homesteaders. Hence, the Ho'olehua community is one of the few places remaining in the Hawaiian Islands where the traditional Hawaiian system still provides a framework for fishery resource use and conservation ('Opu'ulani Albino, *kupuna*).

Soliciting the support from people to engage in a mutually beneficial set of protocols that include an internally monitored code of conduct in heavily populated, urban, non-cultural areas would obviously present more difficulties. Even in rural areas, some people have become accustomed to a particular way of thinking that precludes efforts to become more ecologically attuned. With the 'malama 'aina' value, reverence for place and kupuna, and understanding of 'pono', non-urban Hawaiian communities have a better chance of establishing protocols and a code of conduct that respects nature, themselves and their future fishing and gathering prospects.

For the "Initial Gifted Mokio Lands", establish a code of conduct that is based on cultural values, does not infringe on survival or subsistence needs and is monitored by the community itself. If people believe that there is fairness and consistency they will tend to join in the effort and become a part.

Management Recommendation #7- Conduct an on-going monitoring system that continually assesses and updates information.

Daily observation and recording of the conditions, patterns and occurrences affecting the living biota of an area are essential in providing knowledge of near-shore and offshore resources for management. Consistent and timely observation of the habitats, spawning and feeding patterns of targeted species, the changes and irregularities occurring in the natural rhythms of an area provide information that helps resource managers focus their efforts toward achieving and maintaining a balanced system for subsistence harvesting and sustainability of resources.

Our kupuna wisely relied on the collective knowledge of preceding generations who, by *their* observations, set up a framework unsurpassed in this age in its reliability. Two of the mainstays for consistent and predictable measurement, assessment and comparison of natural rhythms and processes as applied to nearshore activity were the seasons and moon phases. 'The moon calendar is a predictive tool based on awareness of natural cycles and their relationship to fishing and farming. Its wisdom reflects lifetimes of observations and experiences by many Hawaiians in their quest for survival' (Edith Kanaka'ole Foundation, 1995).

Knowledge of natural patterns represented in the moon calendar, combined with a purposeful and methodical collection of data connected to targeted species, the ecosystem and interrelated dynamics, provide the resource manager with efficient and reliable tools to make appropriate operational decisions in keeping with program objectives to establish and maintain a balanced ecosystem.

For the "Initial Gifted Mokio Lands", use observation to become acutely familiar with the area, establish a regular monitoring system for data collection that is consistent with and valuable to plan and program objectives, and establish the moon's patterns as a benchmark for gathering essential information about the targeted area.

Management Recommendation #8- Educate future generations.

Maintaining a viable, balanced resource management system can translate into worthwhile results on many levels, but nowhere is it more evident than as a teaching tool for children and young adults. Hands-on participation by young stakeholders is a natural part of the continuity and passing on of knowledge customary to indigenous people. Too often, pedagogical styles have shifted childrens' learning to a context in which there is no physical, cultural and natural interaction in the learning process. Indigenous Hawaiian learning/ teaching style *involves* the children, their families, and their cultural values in a process of *applying learning,* so that knowledge is internalized. Given the scope of information on a global level that is taught to young people today, certainly it would not be feasible to expect internalization of all of the material presented. But what seems to be missing in the world of indigenous Hawaiian children are opportunities for them to learn in their traditional style- and to 'feel' their learning with the associated ethos of generations past.

With the focus of education on a Western learning model since the turn of the century, the emphasis on Hawaiian values and *'malama 'aina'* seem to have skipped parents' and even grandparents' generations. The recent revitalization of Hawaiian culture in public schools, especially, has reintroduced the positive aspect of 'things Hawaiian' in education. The interest of the new generation of Hawaiians in embracing their cultural roots has had an encouraging effect on the previous generations. There is a pride in their children felt by parents who did not have the cultural opportunities open to their offspring. When learning about how to care for their ocean in their cultural milieu, children are turning around and teaching their own families about 'malama 'aina', and they have willing students in their parents. Families who are not attuned to ecological thinking are being positively influenced with reminders by their own keiki.

Hands-on involvement in an ocean resource management program is a valuable source of indigenous education for our young people. Learning about the resource management of their own place provides an avenue for insuring ecologically-minded practitioners for the future .

For the "Initial Gifted Mokio Lands", set up educational programs that involve children and their families so that the next generation of managers are trained 'on-the job'. Families are more likely to appreciate the resource management effort if their children become a part of the cause.

Recommendations for Developing Monitoring and Survey Systems for Near-shore Marine Resources of the Coastline of the "Initial Gifted Mokio Lands"

Kelson Poepoe- Resource Manager, Hui Malama 'o Mo'omomi

Monitoring System for Key Species

Monitoring is an important component that helps develop and guide management activities and will be the basis for long-term management plans.

Moloka'i Start-up Management Plan- Moloka'i Land Trust 2008

Monitoring the activities and condition of natural resources in managed near-shore fisheries is vital to maintaining the health and balance of the area. As expected, a methodical and consistent system of data collection would serve as a reliable indicator of the conditions of living biota and land features over a period of time. With an effective monitoring system in place, interruptions or obstructions to the natural rhythm of an area would be documented to determine the nature and/or cause of the change, and recommendations for appropriate action would follow. Data-driven information compiled by resource managers allow for the formulation of questions regarding the quantity and quality of natural resources and points to prudent planning and decision-making outcomes.

A resource manager must have comprehensive knowledge and experience of the management zone in order to recognize the requirements and ideal conditions that support the natural production of the species inhabiting an area. A requisite knowledge of fisheries dynamics drives the type of information a manager knows to look for in a monitoring system. Generally, the collection of specific data correlates with specific needs for a species within the fishery. The design of each monitoring phase is modified and augmented on an as-needed basis, and differentiations of approaches are considered in keeping with tabulated results. The purpose of the monitoring system is to provide a guide to determine a "best-practices approach" in relation to a balanced, sustainable ecosystem.

Sample Monitoring Table

Species	Date/Time/ Moon Phase	Place	No. Male	No. Female	Size		Stomach Contents	Other
					Length	Weight		

Species: Different fishes require different attention.
Date/Time/ Moon phase: This is a measure of when the fish congregate. This will help determine what moon phase is best to monitor certain species. The rate of recurrence will help substantiate your findings.
Place: Fish tend to visit a certain spot for several reasons. Through much trial and error over time, many of these spots were discovered and designated by landmarks or committed to memory.
No. Male/Female: The male/ female ratio is important for the success of spawning. The reproductive biology of certain species may require a higher male ratio or female ratio relative to to sexual maturity and reproductive potential. Male/ female ratios can also determine spawning disorders due to paucity of one sex over the other.
Size: Size can suggest that the brood stock has good genes. The bigger they grow, the more that can be reproduced. Size can also indicate that the fish has grown "smarter" in order to evade predators to survive.
Stomach contents: (see paragraph below)
Other: Additional information pertinent to the species.

This is a simple example of one fish-tracking assessment tool. The purpose of this particular monitoring table is to chart the movement, lifecycle, health, eating habits and food supply, and population of a species. The stomach contents, for instance, can give much information about where a fish has been, the amount and type of food supply available to the fish in an area, the types of diet stressors that exist, developmental stages, and so forth. A scientific tag and recapture program executed in tandem with a program applying traditional Hawaiian 'ike (knowledge)

provides an effective collaborative approach to information gathering that bridges both modern and indigenous practices. From this information, a manager may consider the kinds of external or secondary indicators that have an effect on the feeding habits of the species.

Consideration of the type of monitoring table used, the categories indicated in the table, the duration of study of the subject, and so forth, relate to an awareness the manager must have of the area and fishery; and the variations, sometimes subtle, within the environment. An astute manager should be able to *anticipate* changes to certain conditions, as he/she understands the nature of the area sufficiently to recognize all of the concomitant interactions natural to each species and the environment. For instance, when conditions indicate that a particular species population has declined, the arbitrary and unconditional closing, or kapu, of gathering privileges may not always be the best or only decision. An account of the interactions within the total ecosystem must be taken and the effects upon the rest of the living biota as well as the land features supporting the ecosystem must be considered. Creating a void in one area can lead to similar problems in another. Rather than a complete shutdown, a manager could consider scaffolding fishing periods, or reducing fishing allowances for a time. A species assessment may determine if a harvest ban may be helpful in the recovery process of threatened species. These types of decisions are informed and purposeful, and based on "what's going on in your place".

Observing Moon Phases and Seasons (Konohiki knowledge)

The inclusion of indigenous Hawaiian moon and seasonal knowledge as resources for monitoring is essential simply because of the obvious advantages

offered by such a wealth of proven material. It is a significant collection of authentic and verifiable patterns in nature that serve to inform practitioners of the what, when, where, and why when applied to a system of usage and maintenance for fishing and farming practices. Today, we describe reliability in a system as "running like clockwork". In many indigenous cultures, the term for describing reliability would be more in keeping with "running like moonwork", because of the dependability of the moon as a gauge for providing consistent information.

Today's well-known version of the Hawaiian moon calendar, presented in a simple, easy-to-read format by the Prince Kuhio Hawaiian Civic club, and some more recent renderings of Hawaiian moon/season/gathering calendars offer useful tools for integrating the wisdom and efficacy of traditional, fundamental Hawaiian knowledge with modern methods and technology. Hawaiian practitioners still use the calendars, and some are able to augment calendar guidance with "inside" information from their own collection of family hereditary customs and local area experience. Further, certain islands have distinctive names, time-durations and functions relative to moon and seasonal phases that differ from the conventional standard in use at this time.

This is a sample of how the use of traditional Hawaiian moon information might transpire: If the moon has an effect on the fluctuation of the tides and current, and that in turn determines the behavior of the fish and limu growth patterns, then a certain amount of assumptions can be made regarding how environmental processes will play out by the moon's effect. The collection of particular information related to predetermined patterns such as those provided by the traditional Hawaiian moon phases can allow monitoring procedures to become more efficient.

An effective monitoring program will capitalize on both modern and indigenous instruments of data collection and interpretation in order to optimally plan and care for an area.

Recommendations for Administrative Rules and Access

Kelson Poepoe- Hui Malama 'o Mo'omomi

Recommendations for Administrative Rules and Access

Introduction:

Administrative rules should be established as the management plan is developed according to the needs of each project and area. Reviewing the administrative rules of partnering programs adjacent to the Mokio Gifted Lands is recommended as subsistence fishing/ land use administration for projects with comparable objectives can be beneficial and time-saving. The following is a sample of the administrative rules from the Mo'omomi Community-Based Subsistence Fishing Area, which can be used as a basis for establishing the subsistence fishing and access rules for the Mokio Initial Gifted Lands.

Amended Draft Administrative Rules

From Mo'omomi Community-Based Subsistence Fishing Area Proposal for Designation

(Additional comments and suggestions in red)

1 **Definitions-** location, boundary of management area, map

(Description of area and definitions of terms to be decided by management)

2 **Prohibited Activities-** This section refers to near-shore fishing only, not deep-sea, off-shore and land connected activities

(a) No person shall engage in any fishing activity or use of marine life within the management area except as permitted under section XXXX.

(b) All existing regulatory measures contained in Hawaii Revised Statutes (HRS)and Hawaii Administrative Rules, relating to fishing or marine life shall apply in the management area.

3 **Permitted Activities** (activities to be allowed)

-For rescue, monitoring and research purposes only, use of equipment otherwise prohibited in this section

-Transit by boats not engaged in fishing

- Hook and line fishing for deep-sea bottom-fish species (subject to state statutes and administrative rules in force)

- Hook and line, net-fishing for akule (subject to State statutes and administrative rules in force)

- Net fishing for ta'ape (subject to State statutes and administrative rules in force)

- Fishing with SCUBA gear permitted only for akule, ta'ape and lobster net removal and research (subject to State statutes and administrative rules in force)

-Trap and net fishing for kona crab and kuhonu crab (subject to State statutes and administrative rules in force)

- Throw netting permitted only for subsistence

- Hook and line fishing from shore permitted only for subsistence (no competitions are permitted)

- Hand harvesting from shore is permitted only for subsistence

-Diving with spears permitted only in the daytime and only for subsistence (no spearing competitions are permitted)

-Diving for hand harvesting permitted only in the daytime and only for subsistence

- Hand harvesting of 'a'ama crab is permitted at night and only for subsistence (subject to State statutes and administrative rules in force)

-'Opihi collecting permitted from shore only (no diving) and only for subsistence (subject to State statutes and administrative rules in force)

-Harvesting of spiny lobster and slipper lobster permitted by hand and no more than three (3) pieces netting: maximum shall not exceed total of 375 feet in length (no spearing), and only for subsistence (subject to State statutes and administrative rules in force)

4 **Procedures for access** (check-in, reporting)

- To enter the management area by land to engage in permitted activities, fishermen must notify resource managers, check in and receive a gate key. Completion of a catch report will be requested upon check out. Specific access procedures to be determined by management team.

- To enter the management area by boat for any permitted fishing activity which involves vessel anchoring, fishing must be on-island Moloka'i residents and must fish for subsistence purposes only. Management must be notified of their activities and a catch report must be submitted.

- Off-island fishermen are not allowed access except by special permit from management. Recommendation by Hui Malama 'o Mo'omomi.

5 Denial of access privileges

- Access privileges may be revoked for any violation.

6 Penalty

- To be decided by management

Management Objectives

1. Regulate fishing activities that are incompatible with sustainable use of marine resources in the marine waters and submerged lands traditionally utilized as a "community-based fishing area" by the community.

2. Prevent depletion of subsistence fishery resources by managing on the side of caution.

3. Restore customary fishery management practices that are consistent with subsistence uses and values. (Customary refers to behavioral patterns that emerged from traditional roots and have continuous and meaningful links with the past as they adapt to handling contemporary events.)

4. Establish a cooperative management system in which authority and responsibility are shared by the fishing community and the State of Hawaii and there is a fusion of customary management practices with contemporary government regulations. (Decentralization brings management down to the level of the people who have the most detailed understanding of the resource and the greatest long-term interest in its conservation.)

5. Train volunteer resource managers (recruited from the community) to monitor fishing activities, catches, resource conditions and to assist the State of Hawaii in enforcing regulations in the management area.

6. Design and implement an educational program to perpetuate subsistence fishing methods and conservation ethics through initiation of novice fishermen (especially children).

7. Integrate local knowledge of natural history and fishermen's experience with conventional scientific data collection to monitor and manage the fishery.

8. Manage to maintain basic system processes within normal bounds of variation

Fish abundance in the Mo'omomi subsistence fishing area varies considerably. This should not be of concern as long as fish populations fluctuate within the normal bounds of variation and basic system processes are not disrupted. Despite the unpredictability of the biological environment (especially the events that intervene between fish spawning and recruitment), some aspects of inshore fisheries are relatively stable over time.

The more stable parameters and processes include habitat, spawning periods, migration and aggregation patterns. Management emphasis on these processes, rather than on the "maximum sustainable yield" of the fishery, has an additional advantage. It can be directly connected to basic and repetitive biological processes that fishermen personally observe and that

they associate with continuity and sustainability of the fishery. Monitoring relatively stable processes also can generate feedback for adjustments in the management system.

Appendix III.
2011 Mo‘omomi Pono Fishing Calendar

Appendix III. 2011 Mo‘omomi Pono Fishing Calendar

In January,

- *'Ama'ama* peak spawning begins in December and ends in February. Harvesting is *kapu*.
- *'O'io* peak spawning begins in December and lasts several months.
- *Aholehole* females have eggs.

Harvest other species with care.

'Ama'ama

'O'io

Aholehole

Why *Pono* Fishing?

So there are fish for future generations.

Know When to Fish ... Know When to Leave Fish Alone.

Ianuali

January 2011

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
						1 Kane
2 Lono	3 Muku	4 Hilo	5 Hoaka	6 Kukahi	7 Kulua	8 Kukolu
9 Kupau	10 ʻOlekukahi	11 ʻOlekulua	12 ʻOlekukolu	13 ʻOlepau	14 Huna	15 Mohalu
16 Hua	17 Akua	18 Hoku	19 Mahealani	20 Kulu	21 Laʻaukukahi	22 Laʻaukulua
23 Laʻaupau	24 ʻOlekukahi	25 ʻOlekulua	26 ʻClepau	27 Kaloakukahi	28 Kaloakulua	29 Kaloapau
30 Kane	31 Lono	Limit inshore fishing and habitat disturbance during *kapu* periods.	*Kapu - Ku* From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	*Kapu - Hua* From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	*Kapu - Kaloa* From the night of *ʻOlepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	*Kapu - Kane* From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Hoʻoilo - Wet Season

In February,

- *'Ama'ama* peak spawning begins in December and ends in February. Harvesting is *kapu*.
- *Aholehole* males mature. Peak spawning begins in February and lasts several months.
- *Kumu* peak spawning begins in February and lasts several months.

Harvest other species with care.

'Ama'ama

Aholehole

Kumu

Pono Practices:

Learn how to recognize fish spawning. Spawning occurs when both females and males are ready. Females have ripe eggs, and males are milting.

Learn how to distinguish male and female fish by variations in body size, color, and habits.

Examine sex organs (gonads) at different reproductive stages and determine peak spawning times.

Observe *kapu* periods. These times are important for many species to reproduce. Take care not to disrupt these cycles.

Be Pono!
Let Fish Hanau.

Pepeluali

February 2011

Lāpule	Pō'akahi	Pō'alua	Pō'akolu	Pō'ahā	Pō'alima	Pō'aono
		1 Mauli	2 Muku	3 Hilo	4 Hoaka	5 Kukahi
6 Kulua	7 Kukolu	8 Kupau	9 'Olekukahi	10 'Olekulua	11 'Olekukolu	12 'Olepau
13 Huna	14 Mohalu	15 Hua	16 Akua	17 Hoku	18 Mahealani	19 Kulu
20 La'aukukahi	21 La'aukulua	22 La'aupau	23 'Olekukahi	24 'Olekulua	25 'Olepau	26 Kaloakukahi
27 Kaloakulua	28 Kaloapau					
		Limit inshore fishing and habitat disturbance during *kapu* periods.	***Kapu - Ku*** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	***Kapu - Hua*** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	***Kapu - Kaloa*** From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	***Kapu - Kane*** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Ho'oilo - Wet Season

In March,

- *Aholehole* peak spawning begins in February and lasts several months.
- *Kumu* peak spawning begins in February and lasts several months.
- *Kole* can spawn in any month, but March is often a peak spawning time. A *kapu* may be needed so that local *kole* can recover from heavy fishing.

Harvest other species with care.

Aholehole

Kumu

Kole

Pono Practices:

Be *Pono*. Ask permission before fishing in someone else's *ahupua'a*.

Be *Pono*!
Follow the Local Code of Conduct!

Malaki

March 2011

Lāpule	Pō'akahi	Pō'alua	Pō'akolu	Pō'ahā	Pō'alima	Pō'aono
		1 Kane	2 Lono	3 Mauli	4 Muku	5 Hilo
6 Hoaka	7 Kukahi	8 Kulua	9 Kukolu	10 Kupau	11 'Olekukahi	12 'Olekulua
13 'Olekukolu	14 'Olepau	15 Huna	16 Mohalu	17 Hua	18 Akua	19 Hoku
20 Mahealani	21 Kulu	22 La'aukukahi	23 La'aukulua	24 La'aupau	25 'Olekukahi	26 'Olekulua
27 'Olepau	28 Kaloakukahi	29 Kaloakulua	30 Kaloapau	31 Kane		

Limit inshore fishing and habitat disturbance during *kapu* periods.

Kapu - Ku
From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.

Kapu - Hua
From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.

Kapu - Kaloa
From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.

Kapu - Kane
From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Ho'oilo - Wet Season

In April,

- *Aholehole* peak spawning begins in February and lasts several months.
- *Kole* can spawn in any month. A *kapu* may be needed so that local *kole* can recover from heavy fishing.

Harvest other species with care.

Aholehole

Kole

Pono Practices:

Eat *Pono*. Try a variety of fish species, not just your favorite. This will help relieve pressure on prized species.

`Apelila

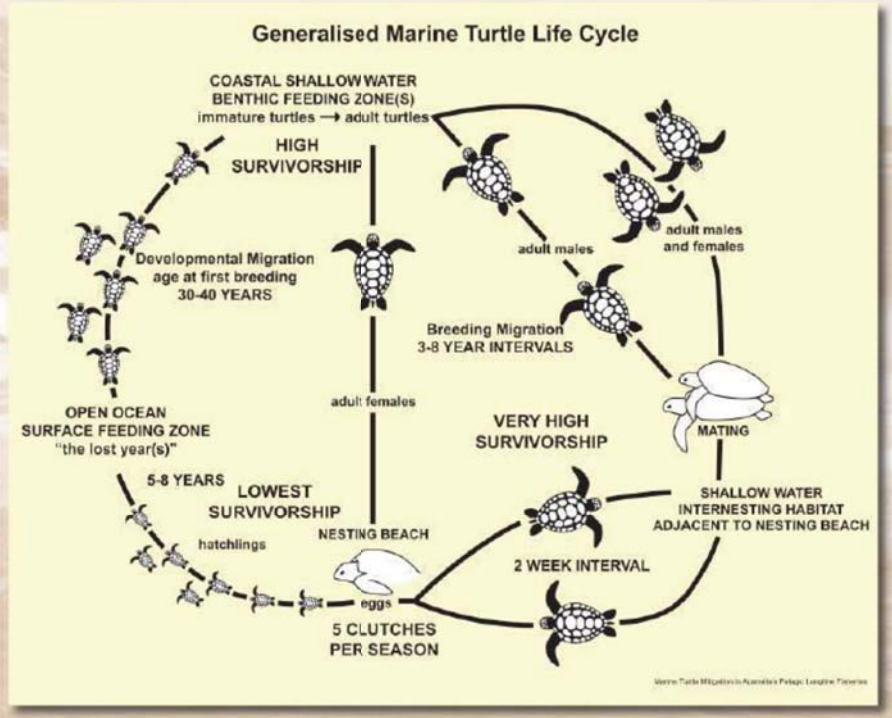
April 2011

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
					1 Lono	2 Mauli
3 Muku	4 Hilo	5 Hoaka	6 Kukahi	7 Kulua	8 Kukolu	9 Kupau
10 ʻOlekukahi	11 ʻOlekulua	12 ʻOlekukolu	13 ʻOlepau	14 Huna	15 Mohalu	16 Hua
17 Akua	18 Hoku	19 Mahealani	20 Kulu	21 Laʻaukukahi	22 Laʻaukulua	23 Laʻaupau
24 ʻOlekukahi	25 ʻOlekulua	26 ʻOlepau	27 Kaloakukahi	28 Kaloakulua	29 Kaloapau	30 Kane
		Limit inshore fishing and habitat disturbance during *kapu* periods.	***Kapu - Ku*** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	***Kapu - Hua*** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	***Kapu - Kaloa*** From the night of *ʻOlepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	***Kapu - Kane*** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Hoʻoilo - Wet Season

Honu (May)

Honu nesting takes place primarily from May through August. Each nesting female comes ashore to lay eggs as many as 7 times, at 11- to 18-day intervals. Females deposit a clutch of 100-120 leathery eggs. The eggs will hatch about 60 days later. It takes 25 to 40 years for Hawaii's *honu* to reach sexual maturity in the wild.



Molokai *honu* nesting population seems isolated from other nesters. These nesters are closely related. Theory is that the Kawa'aloa *honu* population was founded by a pioneer (likely from French Frigate Shoals in the Northwestern Hawaiian Islands) and the hatchlings produced have returned as adult nesters that make up the current population.

At least 7 different turtle nestings were found at Kawa'aloa between 2004 and 2009.

Pono Practices:

Limu provides food and habitat for marine life. Young shoots are the most nutritious for *limu*-eating fish. Larger growths shelter small animals that are eaten by carnivorous fish.

Protect native *limu* habitat from being damaged by storm water and sediment runoff or by invasive alien seaweeds.

During the *huli* (change) from *ho'oilo* (wet season) to *ka'u* (dry season), *limu kohu* on the *papa* (inter-tidal bench) die back from sun exposure. Take what you need.

Be Pono. Take Only What You Need.

May 2011

Mei

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
1 Lono	2 Muku	3 Hilo	4 Hoaka	5 Kukahi	6 Kulua	7 Kukolu
8 Kupau	9 'Olekukahi	10 'Olekulua	11 'Olekukolu	12 'Olepau	13 Huna	14 Mohalu
15 Hua	16 Akua	17 Hoku	18 Mahealani	19 Kulu	20 La'aukukahi	21 La'aukulua
22 La'aupau	23 'Olekukahi	24 'Olekulua	25 'Olepau	26 Kaloakukahi	27 Kaloakulua	28 Kaloapau
29 Kane	30 Lono	31 Mauli				

Limit inshore fishing and habitat disturbance during *kapu* periods.

Kapu - Ku From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.

Kapu - Hua From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.

Kapu - Kaloa From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.

Kapu - Kane From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Ka'u - Dry Season

In June,

- *Moi* peak spawning begins in June and ends usually in August or September. Harvesting is *kapu*.
- *Uhu* peak spawning begins in June and lasts several months. A *kapu* may be needed so that the local *uhu* population can recover.
- *Ula* peak spawning begins in May and ends in August. Harvesting is *kapu*.

Harvest other species with care.

Moi

Uhu

Ula

Pono Practices: Fishing *Moi*

Do not disrupt spawning schools or habitat during peak spawning season.

In some years, spawning season may end as early as August, but in other years, it may continue into September.

During turtle spawning season (May through August), the following are prohibited near Kawa`aloa Bay:

--No camping.
--No night fishing.
--No netting.
--No vehicle driving close to the bay.

June 2011

Iune

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
			1 Muku	2 Hilo	3 Hoaka	4 Kukahi
5 Kulua	6 Kukolu	7 Kupau	8 ʻOlekukahi	9 ʻOlekulua	10 ʻOlekukolu	11 ʻOlepau
12 Huna	13 Mohalu	14 Hua	15 Akua	16 Hoku	17 Mahealani	18 Kulu
19 La'aukukahi	20 La'aukulua	21 La'aupau	22 ʻOlekukahi	23 ʻOlekulua	24 ʻOlepau	25 Kaloakukahi
26 Kaloakulua	27 Kaloapau	28 Kane	29 Lono	30 Muku		
		Limit inshore fishing and habitat disturbance during *kapu* periods.	***Kapu - Ku*** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	***Kapu - Hua*** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	***Kapu - Kaloa*** From the night of *ʻOlepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	***Kapu - Kane*** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Kaʻu - Dry Season

In July and August,

- Peak spawning of *moi, uhu* and *ula* continues. Harvesting of *moi* and *ula* is *kapu*. A *kapu* may be needed so that the local *uhu* population can recover.
- *U'u* peak spawning begins in July and lasts several months.

Harvest other species with care.

Moi

Ula

U'u

Uhu

Pono Practices: Fishing *Uhu*

During spawning season, *uhu* form harems of one male (blue-green) with several females (red).

Female *uhu 'ahu'ula*

Male uhu uliuli

Removing the only male disrupts the harem so there is no reproduction for a year.

Heavy fishing by divers and dive charters is depleting *uhu uliuli* (male) and *uhu 'ahu'ula* (female) off the Mo'omomi coast.

A *kapu* may be needed so the local *uhu* population can recover.

Iulai

July 2011

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
					1 Hilo	2 Hoaka
3 Kukahi	4 Kulua	5 Kukolu	6 Kupau	7 'Olekukahi	8 'Olekulua	9 'Olekukolu
10 'Olepau	11 Huna	12 Mohalu	13 Hua	14 Akua	15 Hoku	16 Mahealani
17 Kulu	18 La'aukukahi	19 La'aukulua	20 La'aupau	21 'Olekukahi	22 'Olekulua	23 'Olepau
24 Kaloakukahi	25 Kaloakulua	26 Kaloapau	27 Kane	28 Lono	29 Mauli	30 Muku
31 Hilo		Limit inshore fishing and habitat disturbance during *kapu* periods.	**Kapu - Ku** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	**Kapu - Hua** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	**Kapu - Kaloa** From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	**Kapu - Kane** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

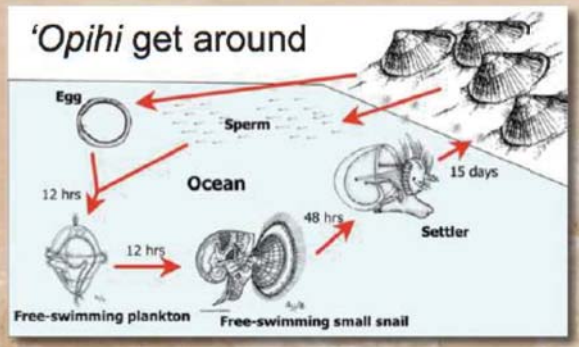
Ka'u - Dry Season

'Opihi (August)

- Black-foot *`opihi* spawn across the State but yellow-foot *`opihi* and *ko`ele* spawning may be more localized.
- Spawning occurs shortly after the new moon (*Muku* to *Kukolu*).
- Black-foot and yellow-foot *'opihi* are sexually mature at 3/4 inch long.
- *Ko'ele* is legal minimum size at 1.25 inches long.
- Sexes are naturally separated.
  Testes: yellow/orange/white. Ovaries: green/brown.

For conservation of *'opihi*

- Rotate areas when collecting *'opihi*. Don't "pound" one place. Never harvest the deeper-dwelling *ko'ele*. Don't sell *'opihi* off island.



Kamali'i 'ike 'ole i ka helu po
Muku Nei, Muku ka malama
Hilo nei, kau ka Hoaka
'Eha Ku, 'Eha 'Ole;
Huna, Mohalu, Hua, Akua,
Hoku, Mahealani, Kulu;
'Ekolu La'au, 'Ekolu 'Ole,
'Ekolu Kaloa;
Kane, Lono, Mauli, Muku.

Children who do not know the
moon phases;
Muku is here, Muku the moon;
Hilo is next, then Hoaka
Then the four nights of Ku;
Followed by
the four nights of 'Ole;
Huna, Mohalu, Hua, and Akua,
Hoku, Mahealani, Kulu;
Then the three nights of La'au;
Three nights of 'Ole;
And the three nights of Kaloa;
Kane, Lono, Mauli, Muku

A traditional chant for children to learn the names of the moon phases.

Pono Fishing is About Proper Timing.

`Aukake

August 2011

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
	1 Hoaka	2 Kukahi	3 Kulua	4 Kukolu	5 Kupau	6 'Olekukahi
7 'Olekulua	8 'Olekukolu	9 'Olepau	10 Huna	11 Mohalu	12 Hua	13 Akua
14 Hoku	15 Mahealani	16 Kulu	17 La'aukukahi	18 La'aukulua	19 La'aupau	20 'Olekukahi
21 'Olekulua	22 'Olepau	23 Kaloakukahi	24 Kaloakulua	25 Kaloapau	26 Kane	27 Lono
28 Muku	29 Hilo	30 Hoaka	31 Kukahi			
		Limit inshore fishing and habitat disturbance during *kapu* periods.	***Kapu - Ku*** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	***Kapu - Hua*** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	***Kapu - Kaloa*** From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	***Kapu - Kane*** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Ka'u - Dry Season

In September,

- *Enenue* older females have eggs.
- *Moi* is open for harvest. *Moi li'i* born a year ago are on the sand inshore.
- *Ula* is open for harvest.

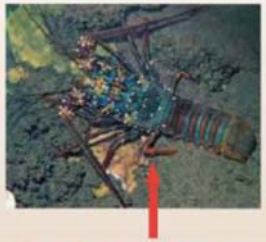
Harvest other species with care.

Enenue

Moi

Ula

Pono Practices:
Harvesting _Ula_
(Hawaiian Spiny Lobster,
Panulirus penicillatus)



End of 5th pair of walking legs are claw shaped (pincher like) on females. This is used to transfer sperm to fertilize eggs.

No more than 6 sections of lay net per fishing group (Moloka'i special gill net rules).

No harvesting during peak summer spawning season.

The State requires release of all female lobsters.

Release lobsters smaller than 1 pound and larger than 4 pounds.

Harvest other species with care.

Kepakemapa

September 2011

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
				1 Kulua	2 Kukolu	3 Kupau
4 'Olekukahi	5 'Olekulua	6 'Olekukolu	7 'Olepau	8 Huna	9 Mohalu	10 Hua
11 Akua	12 Hoku	13 Mahealani	14 Kulu	15 La'aukukahi	16 La'aukulua	17 La'aupau
18 'Olekukahi	19 'Olekulua	20 'Olepau	21 Kaloakukahi	22 Kaloakulua	23 Kaloapau	24 Kane
25 Lono	26 Mauli	27 Muku	28 Hilo	29 Hoaka	30 Kukahi	
		Limit inshore fishing and habitat disturbance during _kapu_ periods.	**_Kapu - Ku_** From the night of _Hilo_ until dawn of _Kulua_ is _Kapu-Ku_, lasting three nights and two days.	**_Kapu - Hua_** From the night of _Mohalu_ until dawn of _Akua_ is _Kapu-Hua_, lasting two nights and one day.	**_Kapu - Kaloa_** From the night of _'Olepau_ until dawn of _Kaloakulua_ is _Kapu-kaloa_, lasting two nights and one day.	**_Kapu - Kane_** From the night of _Kane_ until dawn of _Mauli_ is _Kapu-kane_, lasting two nights and one day.

_Ka'u_ - Dry Season

In October,

- *Enenue* peak spawning begins in October and lasts several months.

Harvest other species with care.

Enenue

Moloka‘i Residents are Connoisseurs of *Enenue*

- When sand moves off the *papa*, tender young shoots of *limu* grow and entice *enenue* inshore to feed.
- Local consumers can detect the area where a particular *enenue* was caught based on its taste.
- *Enenue* tirelessly clean the ocean floor, keeping a balance of various *limu*.
- Prevent damage to *enenue* habitat from soil erosion and runoff due to overgrazing and land development on adjacent hillsides.

Large-Scale Sand Movements Affect Fish Behavior

Large-scale sand movements cause seasonal ecosystem shifts along the Mo'omomi coast.

Marine species shift locations as their habitats fill with sand.

Change in habitat may trigger fish spawning activity.

Sand may bury or expose fish nursery habitat.

'Okakopa

October 2011

Lāpule	Pō'akahi	Pō'alua	Pō'akolu	Pō'ahā	Pō'alima	Pō'aono
						1 Kulua
2 Kukolu	3 Kupau	4 'Olekukahi	5 'Olekulua	6 'Olekukolu	7 'Olepau	8 Huna
9 Mohalu	10 Hua	11 Akua	12 Hoku	13 Mahealani	14 Kulu	15 La'aukukahi
16 La'aukulua	17 La'aupau	18 'Olekukahi	19 'Olekulua	20 'Olepau	21 Kaloakukahi	22 Kaloakulua
23 Kaloapau	24 Kane	25 Lono	26 Muku	27 Hilo	28 Hoaka	29 Kukahi
30 Kulua	31 Kukolu	Limit inshore fishing and habitat disturbance during *kapu* periods.	***Kapu - Ku*** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	***Kapu - Hua*** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	***Kapu - Kaloa*** From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	***Kapu - Kane*** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Ka'u - Dry Season

In November,

- *Enenue* peak spawning begins in October and lasts several months.
- *ʻOʻio* peak spawning begins in November and lasts several months.

Harvest other species with care.

Enenue

ʻOʻio

Pono Practices:

Hui Malama o Mo'omomi manages from the mountain into the sea. Bare land in the *ahupua'a* is the source of soil erosion that can damage fish habitat when it reaches the ocean.

To reduce runoff and its damaging effects on fish habitat, the Hui has closed and re-vegetated many dirt roads with native plants, built berms and stabilized gullies.

Fencing along the Mo'omomi coast discourages all-terrain vehicle operation and directs other vehicles onto a single improved road.

Nowemapa

November 2011

Lāpule	Pō`akahi	Pō`alua	Pō`akolu	Pō`ahā	Pō`alima	Pō`aono
		1 Kupau	2 'Olekukahi	3 'Olekulua	4 'Olekukolu	5 'Olepau
6 Huna	7 Mohalu	8 Hua	9 Akua	10 Hoku	11 Mahealani	12 Kulu
13 La'aukukahi	14 La'aukulua	15 La'aupau	16 'Olekukahi	17 'Olekulua	18 'Olepau	19 Kaloakukahi
20 Kaloakulua	21 Kaloapau	22 Kane	23 Lono	24 Muku	25 Hilo	26 Hoaka
27 Kukahi	28 Kulua	29 Kukolu	30 Kupau			
		Limit inshore fishing and habitat disturbance during *kapu* periods.	***Kapu - Ku*** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	***Kapu - Hua*** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	***Kapu - Kaloa*** From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	***Kapu - Kane*** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Ho'oilo - Wet Season

In December,

- *'Ama'ama* spawning begins in December and ends in February. Harvesting is *kapu*.
- *'O'io* peak spawning begins in November and lasts several months.

Harvest other species with care.

'Ama'ama

'O'io

Limu Kohu

Reproductive spores are trapped in the root mass of *limu kohu*, so leave this part of the plant intact while gathering so the local *limu* population can replenish.

Ho'opomaika (Blessings) to the *Keiki* of Mo'omomi and Moloka'i.

Leave Mo'omomi Bay for *keiki* who are learning to swim and dive and for kupuna who have trouble getting around.

If you are able-bodied, *holoholo* to other fishing grounds.

Be PONO for them.

Kēkēmapa

December 2011

Lāpule	Pō'akahi	Pō'alua	Pō'akolu	Pō'ahā	Pō'alima	Pō'aono
				1 'Olekukahi	2 'Olekulua	3 'Olekukolu
4 'Olepau	5 Huna	6 Mohalu	7 Hua	8 Akua	9 Hoku	10 Mahealani
11 Kulu	12 La'aukukahi	13 La'aukulua	14 La'aupau	15 'Olekukahi	16 'Olekulua	17 'Olepau
18 Kaloakukahi	19 Kaloakulua	20 Kaloapau	21 Kane	22 Lono	23 Mauli	24 Muku
25 Hilo	26 Hoaka	27 Kukahi	28 Kulua	29 Kukolu	30 Kupau	31 'Olekukahi
		Limit inshore fishing and habitat disturbance during *kapu* periods.	***Kapu - Ku*** From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.	***Kapu - Hua*** From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.	***Kapu - Kaloa*** From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.	***Kapu - Kane*** From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.

Ho'oilo - Wet Season

Mahina – the Moon

The moon was very important to the survival of Hawaiians. To the Hawaiian people, the moon was not an astral object that was projected into the sky millions of years ago as a result of a catastrophic event. The moon, *Mahina*, was family. Personified, she was the goddess *Hina*. She gave us the cycle of birth, life, death and rebirth each month—without fail. By her very nature of predictability, she was a reliable source of information that insured survival for generations upon generations. Just as lunar patterns and cycles were distinguished by nightly observations, so were correlating patterns and cycles noted in the sky, land and among living things on earth.

Planting and fishing patterns were developed in alignment with lunar patterns that gave optimum yields. The times for resting fishing grounds or gardens were just as important and also widely known, because of the moon. Hawaiian knowledge of the moon names, functions and rhythms was a common knowledge, shared with all, because the moon was a benevolent provider of time proven, life giving resources and knowledge. As such, great reverence was given to the moon and chants offered in her honor.

From Kamalu Poepoe. *Ka Mahina Ke Kai a me Na Kau*, the moon, the tides and the seasons, Moloka`i, Hawai`i.

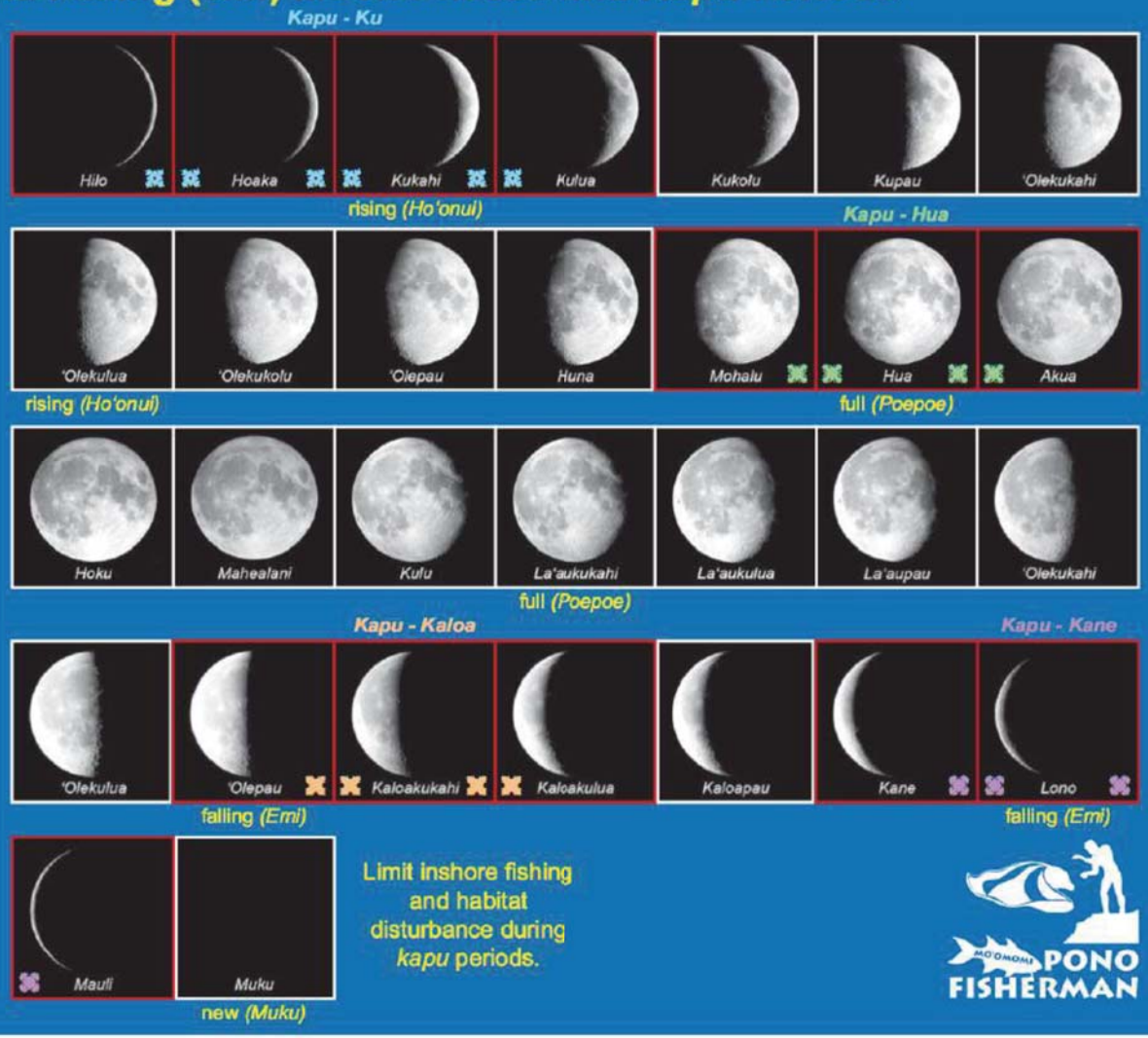
Hawaiian Names for Nights of the Rising (*ho'onui*), Full (*poepoe*), and Falling (*emi*) Moon Phases and *Kapu* Periods

Kapu - Ku
From the night of *Hilo* until dawn of *Kulua* is *Kapu-Ku*, lasting three nights and two days.

Kapu - Hua
From the night of *Mohalu* until dawn of *Akua* is *Kapu-Hua*, lasting two nights and one day.

Kapu - Kaloa
From the night of *'Olepau* until dawn of *Kaloakulua* is *Kapu-kaloa*, lasting two nights and one day.

Kapu - Kane
From the night of *Kane* until dawn of *Mauli* is *Kapu-kane*, lasting two nights and one day.
In months without *Mauli*, this *kapu* ends on the dawn of *Muku*.



Limit inshore fishing and habitat disturbance during *kapu* periods.

MO'OMONI PONO FISHERMAN

Credits

Monitoring and Research
Hui Malama o Mo'omomi, particularly resource manager Mac Poepoe
and assistants Kanohowailuku Helm, La'akea Poepoe, Anela Florendo and Joey Albino

Calendar Design
Paul Bartram, Mac Poepoe, Kanohowailuku Helm, Lindy Helm (Hui)
Dr. Alan Friedlander
Mark Fujimoto, Professional Image - University

Photos
Paul Bartram, Dr. Alan Friedlander, Lindy Helm, Y. Noelani Helm,
Dr. Jack Randall (Bishop Museum), Keoki Stender, J. Watt, Anela Florendo, S. Kehau Tom

Keiki Advice
Kealohanui Helm, Kekumuikawaiokeola Helm, Iokepa Albino, Keaoalono Ross

Honu
Dr. George Balazs
Pacific Whale Foundation. 2006. Sea turtles, a Hawai'i wildlife guide.

`Opihi
S. Kehau Tom, Effects of harvesting pressure on *'opihi* populations at Kalaupapa National Historic Park
Dr. Christopher E. Bird

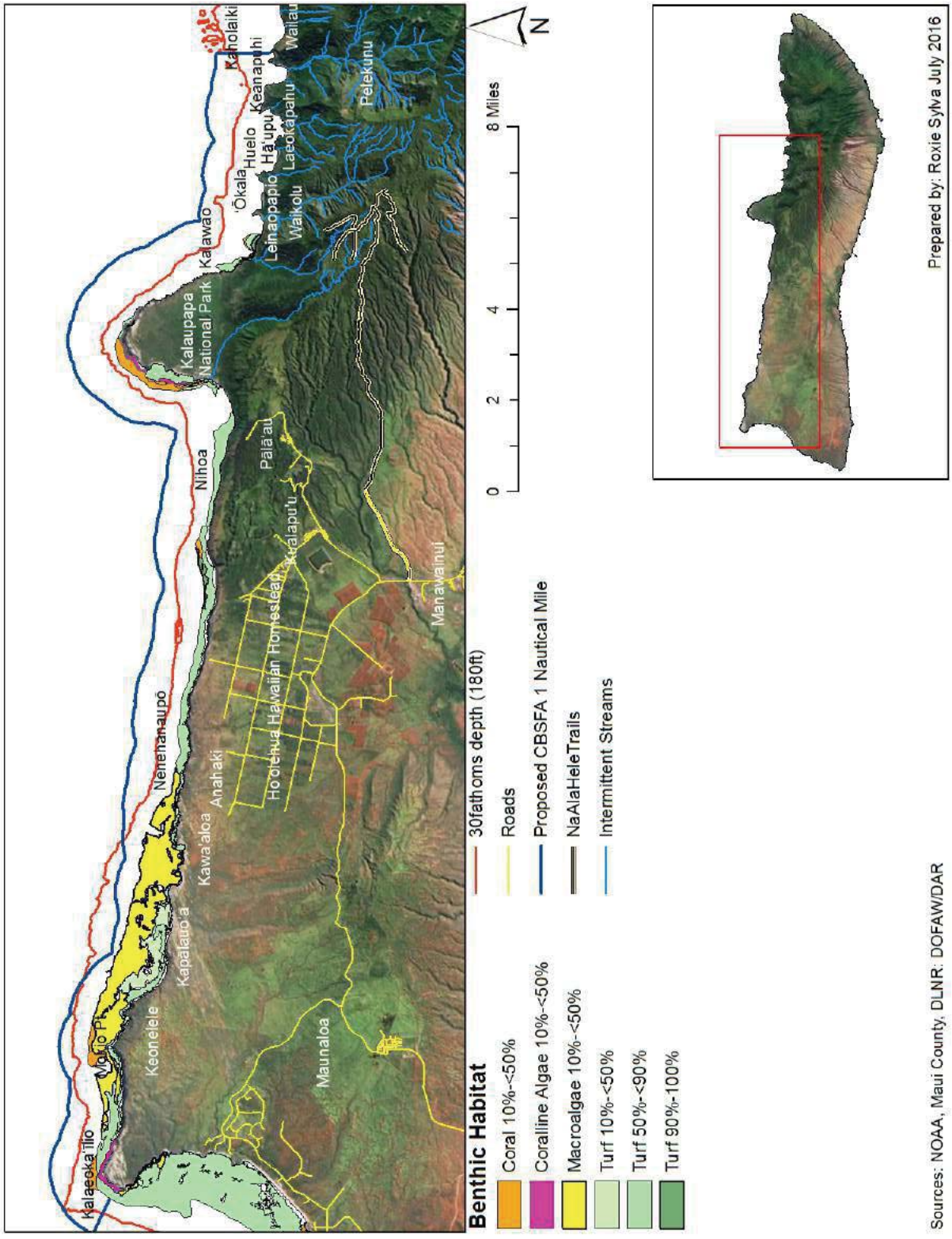
Funding
Western Pacific Fishery Management Council
Duke's Waikiki

Further Reference
'Aha Moku

To download a copy of this calendar, go to **www.ahamoku.org**

Appendix IV.
Benthic Habitat Map

Appendix IV. Benthic Habitat Map for the Mo‘omomi North Coast of Moloka‘i CBSFA



Appendix V.
Kalaupapa Visitor's Rules & Regulations

ATTACHMENT A

Sponsor Responsibilities and Penalties

Visitor permits must be made three (3) State Office business days or more in advance of scheduled visit.

Exceptions to three (3) business day rule is for emergency purposes only as determined by the Administrator.

All guests/visitors must be registered with their full name on the form provided and each form shall be complete with sponsor signature before approval.

All guests/visitors must have identification that includes date of birth and current address.

Visitor passes must be picked up on a state office business day prior to the scheduled visit day if the state office is closed on the visitor arrival date.

Visitor guest list must be brought to the Administration Office the first business day after the visitor's arrival. Visitor passes/tags must be returned the first business day after visitor/guest departure.

All visitor passes/tags must be returned to Administration Office for verification.
Failure to return visitor passes/tags in a timely manner will result in revocation of invitation privileges as follows:

- First failure: will not be allowed to sponsor any guests for 3 months
- Second failure: will not be allowed to sponsor any guests for 6 months
- Third failure: will not be allowed to sponsor any guests for 12-24 months

Additional sanctions may be made at the discretion of the Administrator

Sponsor(s) are responsible for all actions of visitors/guests, including infractions of Kalaupapa rules and regulations.

ATTACHMENT B
INSTRUCTION FOR VISITORS
RULES & REGULATIONS GOVERNING ALL VISITORS
TO KALAUPAPA SETTLEMENT

IF YOU ARE GOING TO BE DRIVING DURING YOUR VISIT IN KALAUPAPA, WE ASK YOU TO USE EXTRA CAUTION SINCE MANY OF OUR RESIDENTS HAVE VISUAL AND HEARING IMPAIRMENTS. ON OCCASION DEER AND WILD BOAR ARE IN THE SETTLEMENT. PLEASE BE CAREFUL AND CAUTIOUS!

SPONSORS:	ONLY RESIDENTS OF KALAUPAPA MAY SPONSOR GUESTS.
GUESTS/VISITORS:	***All visitors must present some type of photo identification upon sign-in at the State Administration Office (i.e., Drivers License, State ID, etc.)*** ***ALL ID's MUST HAVE BIRTH DATE ON THEM.***
REGISTRATION:	Registration at State of Hawaii Administration Office is required of **"ALL"** guests. Guests are required to sign the Department of Health permit to enter the Settlement. Anyone visiting the Settlement without a sponsor and signed permit is TRESPASSING and subject to legal action.
MAXIMUM STAY:	The maximum stay for each guest is limited to seven (7) days and six (6) nights At the Visitor's Quarters. NO VISITOR is allowed to visit Kalaupapa Settlement More than thirteen (13) days in a calendar quarter.
HOSTS/SPONSORS:	Unescorted walking or riding beyond settlement proper is strictly prohibited. Guests must be in the company of their sponsor at all times when outside the airport terminal area and the cattle guards beginning at the road to Kalawao (where the pavement ends and dirt road begins), beyond the cemetery sites near ocean view , and beyond the bridge leading to the trail. *** Visitors are permitted to travel between the bridge cattle guard and trail head for access to sign-in at Administration Office, departure from Settlement property or to meet Sponsors.***
VISITATION OF MINORS:	Children under the age of sixteen (16) are not permitted in Kalaupapa Settlement.
PHOTOGRAPHY	Photographs of patients may not be taken without their written permission. This includes their property. Permits may be picked up at the State of Hawaii Administration Office.
HOSPITAL:	***THERE ARE NO MEDICAL SERVICES AVAILABLE TO VISITORS AT KALAUPAPA.***
RESTROOMS:	Public restrooms are located at the Airport Terminal, the Administration Building, Lion's Club "Ocean View Pavilion", National Park's Kalawao Pavilion And Fuesaina's Bar.

VISITOR's QTRs	Check-In - 2:00 p.m, Check-Out - 12:00 Noon.
FOOD:	There are no restaurants in Kalaupapa so it is necessary for guests to provide their own food, beverages and sundry items. Beer, wine, water, juice, ice-cream, cigarettes, film, single-use cameras, and t-shirts are available at FUESAINA's BAR. Hours are Monday-Saturday, 9:00 a.m. – 11:00 a.m. (no Alcohol served) and 4:00 p.m. to 8:00 p.m. Monday-Wednesdays and Saturdays. Closed Sunday. All visitor trash/garbage must be packed out when visitors leave Kalaupapa. Visitors may purchase a soda, candy or bag of chips per day at the Kalaupapa Store, but shopping for groceries is PROHIBITED. Sponsors must provide for their visitors. The Kalaupapa State Main Kitchen is for patients, state workers, and approved contractors only.
LIBRARY:	The library is open to the public. Please have your sponsor check with the Administration Office if you wish to check out any books or movies. Only patients may remove materials from library.
SPEED LIMITS:	15 MPH Hospital Zone and Unit Home Drives 25 MPH within the Settlement 35 MPH outside the Settlement
HUNTING:	Visitors are NOT PERMITTED to hunt. Visitors are NOT PERMITTED to carry Firearms. Visitors may accompany approved resident hunters after registering with Administration Office.
CAMPING:	Camping is NOT ALLOWED anywhere.
USE OF NATURAL RESOURCES	Visitors of patient residents, visitors of employees, and short-term volunteers may only fish with poles. No NET fishing by any guests will be allowed. State and Federal fish and game rules must be respected. Visitors MAY NOT take any marine life on behalf of patient, employee residents or resident volunteers, or exercise their privileges. Any violations of the Kalaupapa fishing policy or fish and game rules will result in the visitor being declared unwelcome and banned from future visits to Kalaupapa. No fishing equipment or the cleaning of fish is allowed in any building. Harvesting and removal of sea salt is to be under the supervision of sponsor. No diving tanks, or scuba allowed. No surf boarding or boogey boards. No Opihi picking. No pets allowed. No diving off the pier.
NO LITTERING:	Please be respectful of this Makanalua Peninsula. Do your part to maintain the pristine beauty, as a steward for the "aina (land) and all that lives and

grows here.

ATTITUDE: Honor and respect the history of those who once lived here and particularly those who reside here and call this special place "Home".

NO TRESPASSING: Trespassing onto personal property is strictly prohibited. This includes any fruit, vegetable or flower picking.

ANY VIOLATION OF THESE RULES GOVERNING ALL VISITORS WILL RESULT IN DISCIPLINARY ACTION AND SUSPENSION OF VISITATION AND SPONSORSHIP PROVILEGES.

VIOLATIONS OF THE KALAUPAPA FISHING POLICY SHOULD BE REPORTED TO THE KALAUPAPA SETTLEMENT ADMINISTRATOR IMMEDIATELY FOLLLOWING THE ALLEGED VIOLATION. VIOLATIONS OF THE KALAUPAPA FISHING POLICY MAY BE REPORTED UP TO THREE (3) MONTHS AFTER THE ALLEGED DATE OF THE INCIDENT. ANY VIOLATION AFTER THAT TIME WILL NOT BE INVESTIGATED.

REVISED: 01/22/2011

Welcome to Kalaupapa!

Dear Visitor,

You've noticed that Kalaupapa's isolation makes it hard to get here. It also makes trash disposal complicated. Currently, trash is buried in a landfill just outside the settlement. At the end of this year that landfill will be closed—and dealing with our rubbish will get a lot more complicated. Municipal solid waste will be sent out of the settlement by plane.

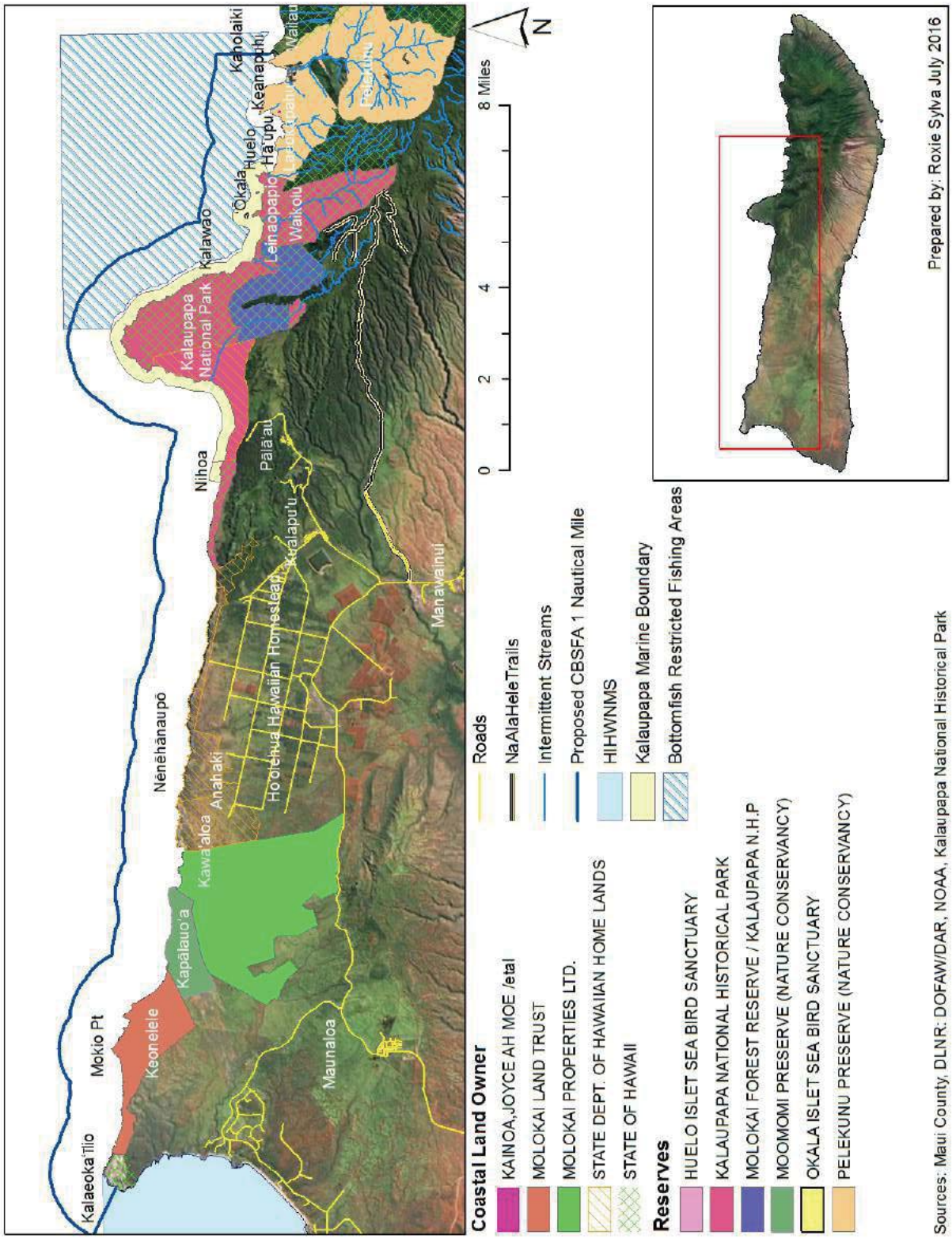
This plan only works if we reduce the amount of trash we throw away. You can help in the following ways:

1. Keep recyclable and compostable material separate from the rubbish. After waste prevention, recycling and composting are our best hope for keeping our trash low—well over half of what most of us throw away could actually be recycled or composted. All food waste can be composted, and aluminum, plastic, glass, steel, paper and cardboard can be recycled—please read and follow the attached guidelines. Recycling and compost containers are picked up by the curb on Monday and Thursday mornings.
2. Be careful about what you bring into the Settlement. Avoid items with too much packaging (i.e. individually wrapped rather than in bulk) or items that are unnecessary (for example, instead of bottled water, make sure each group member brings a reusable water bottle; instead of bringing individual bottles of Gatorade, bring a bulk container of mix). Make sure that everything you bring comes in recyclable packaging.
3. Please use and wash the dishes and utensils provided for you—do not use disposable dishware. Bring reusable coolers instead of Styrofoam, and take them home with you to use again.

Mahalo for your kokua. Enjoy your stay!

Appendix VI.
Map of Existing Reserves for the Mo‘omomi North Coast of Moloka‘i Region

Appendix VI. Map of Existing Reserves for the Mo‘omomi North Coast of Moloka‘i Region



Appendix VII.
Letters of Support

Appendix VII. Letters of Support

Introduction of Molokaʻi Hulu Kūpuna, ʻOpuʻulani Albino and Vanda Hanakahi:

It is well known amongst the people of Molokaʻi, that when they have questions or want to know about Hawaiian cultural practices, they may seek the guidance of the two sisters, ʻOpuʻulani Albino and Vanda Hanakahi, who are among Molokaʻi's distinguished and respected kūpuna.

Louella ʻOpuʻulani Wallace Albino is well-versed in Hawaiian cultural knowledge in general and Molokaʻi knowledge in particular. She is a manaleo (native speaker), having been raised in a Hawaiian speaking family. ʻOpuʻulani has a notable list of accomplishments in promoting Hawaiian culture and language on Molokaʻi:

- First, as a Pūnana Leo o Molokaʻi head teacher, ʻOpuʻulani brought the ʻŌlelo Makuahine back to Molokaʻi after close to 100 years of having non-native speaking schools
- Certified as a Hawaiian Language Immersion Teacher
- Master's Degree in Elementary Education and a Bachelor of Arts degree in Education and Hawaiian Culture
- Longtime organizer and chanter for Ka Molokaʻi Makahiki
- Cultural and Language advisor for the late Kumu Hula John Kaʻimikaua'sHula Hālau Kukunaokalā
- Education Poʻo for the ʻAha Kiole o Molokaʻi, Island of Molokaʻi under the auspices of the statewide Aha Moku Advisory Council
- Instructor for the University of Hawaiʻi Maui College, Molokaʻi Education Center's Hawaiian Language Courses

Vanda Wahinekuipua Wallace Hanakahi, is another of Molokaʻi's living treasures. She, too, has devoted her life as an advocate for revitalizing and maintaining Hawaiian cultural ʻike (knowledge). The following is a list of Vanda's accomplishments in promoting Hawaiian culture and language on Molokaʻi:

- Notable composer of Hawaiian ʻoli and mele
- Longtime organizer and chanter for Ka Molokaʻi Makahiki
- Cultural and Language advisor for the late Kumu Hula, John Kaʻimikaua's Hālau Kukunaokalā
- Cultural advisor for Alu Like, Inc.
- Cultural advisor for The Nature Conservancy Molokaʻi Program
- First Chair for State of Hawaiʻi, Aha Moku Advisory Committee
- Instructor for the University of Hawaiʻi Maui College, Molokaʻi Education Center's Hawaiian Language Courses

June 30, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha mai kāua e Dr. Anderson,

I am in **complete support** of Hui Mālama o Moʻomomi's, Moʻomomi North Coast of Molokaʻi CBSFA management proposal.

My name is ʻOpuʻulani Albino, I am a descendent of the **Makaʻiwi family**, raised by my grandaunt Elena Makaʻiwi, an original homesteader of Hoʻolehua from 1926. I am a lifelong Pālāʻau Moku, Molokaʻi homesteader. Moʻomomi is the ocean area that serves the subsistence needs of Pālāʻau Moku families. I have lived long enough to see the profound declines and changes of Moʻomomi's ocean resources.

One of the key things that I wish to convey to you is that traditional Hawaiian practice, methodology, and especially, codes of conduct, while diminished in some of the families that use the Moʻomomi area, still have a firm place in other recognized fishing families.

The CBSFA management proposal for Moʻomomi contains traditional and generational ʻike Molokaʻi (knowledge of Molokaʻi). This ʻike has and continues to be shared because, for Moʻomomi, there has never been a more important time to do so. The ʻike that Hui Mālama o Moʻomomi, and more specifically Konohiki Kelson "Mac" Poepoe, is sharing, does not come from new conceptions. Rather, this ʻike is time-tested and embodies traditional Hawaiian best practices that help us survive, sustain, and reestablish the abundance that Molokaʻi once knew for our present and future generations. This ʻike pairs both the experiences of Hui Mālama o Moʻomomi in contemporary times and the ancient and unbroken line of lawena kuʻuna lawaiʻa, the ʻike that remains with us from our kūpuna.

Mahalo nui haʻahaʻa,

Louella ʻOpuʻulani Albino

June 30, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

E Dr. Anderson, aloha mai,

My name is Vanda Wahinekuipua Wallace Hanakahi, I am the grandaughter of Elena Wahinehelelaokaiona **MAKA'IWI,** and sister of 'Opu'ulani Albino. We were raised by our Tūtū in Hoʻolehua, Pālāʻau Moku, Molokaʻi.

I **favor, endorse, and support** Hui Mālama o Moʻomomi's efforts to protect and preserve the resources at Moʻomomi with the CBSFA designation proposal and management plan.

As a child, I was raised among kūpuna living at the turn of the last century who spoke Hawaiian and who held and carried forward the profound knowledge of our ancient ancestors. I had the privilege to live and learn amongst the kūpuna who lived the old ways and whose values are boldly respected today. I also witnessed and experienced firsthand, the methods of fishing practitioners, those who understood that the privilege of gathering was never separate from the responsibility of caring for the place that fed us. These methods of resource preservation and sustainability were taught over so many generations of practitioner families on Molokaʻi so as to become innate to our understanding and practice. The fact that there exists such depletion of so many coastal resources in other areas of Hawaiʻi is, I believe, a result of the loss of that understanding and practice.

Hui Malama o Moʻomomi is taking many of the same methods of care and responsibility, applying them, and reteaching them to the next generation. This fills me with hope. I am also happy to see the willingness of many partners, organizations and residents, taking kuleana (responsibility) to care for the resources and support this much needed CBSFA.

I also appreciate the State's interest in exploring better ways to manage and preserve our natural and cultural resources.

Mahalo,

Wahinekuipua Hanakahi

[redacted]

July 14, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

On behalf of the Ho'olehua Homestead Association, this letter is in strong support of the Hui Malama O Mo'omomi's (HMM) Community Based Subsistence Fishing Area (CBSFA) proposal and management plan, extending from Kalaeoka'īlio to Kaholaiki. The Ho'olehua Homestead Association comes under the Ahupua'a o Moloka'i, a 501(c)(3) organization whose members make up representatives from each homestead community on Moloka'i.

The Ho'olehua Homestead Association supports this proposal because it protects our icebox and food that Ho'olehua homesteaders have relied upon since the first families moved to these lands. The management plan will support our Hawaiian way of life and the subsistence lifestyle that is important to all of our homestead 'ohana.

The Ho'olehua Homestead Association also supports HMM's proposal and management plan because it is inline with the original intent and purposes of the Hawaiian Homes Commission Act (HHCA). One of many purposes of HHCA was to rehabilitate and encourage Hawaiians to return to the land and farm and fish to sustain our people and our culture. We humbly request that the State expeditiously process and adopt our community's proposal to designate the Mo'omomi North Coast of Moloka'i CBSFA.

Me ka ha'aha'a,

Mrs. Ochie Bush

Ochie Bush, President
Ho'olehua Homestead Association

June 30, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Honolulu, HI 96819

To Whom It May Concern:

The Hoʻolehua Ag. Association under the 501-c-3 umbrella of the Ahupuaʻa o Molokaʻi, is writing in strong support of the Hui Mālama ʻo Moʻomomi's proposal to designate the North coastal area of Molokaʻi from Kalaeokaʻīlio to Kaholaiki, a Community Based Subsistence Fishing Area (CBSFA). We recognize the long time efforts of Hui Mālama ʻo Moʻomomi in caring for this area and our ocean resources and we know that this area will continue to be protected through a CBSFA.

As Hoʻolehua homesteaders, Moʻomomi is our icebox. We rely on the resources of Moʻomomi to feed our families. We also understand that our "kuleana" (responsibility) is reciprocol; we must also care for the resources and educate others to do so, so that generations after us will still be able to live off of our land and ocean. The CBSFA will allow us to manage and protect our resources and educate others as well.

This initiative to designate the North Coast of Molokaʻi as a CBSFA was one of the first in the State, at least 20 years. In that time, HMM continues to try and manage the area's resources to the best of their ability through education. It is only right that this CBSFA is recognized. We strongly encourage your decision to approve their request.

Mahalo nui for your time and consideration.

me ke aloha,

Kilia W. Purdy-Avelino, Secretary
Hoʻolehua Ag. Association

July 12, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

This letter is submitted on behalf of the ʻAha Kiole O Molokaʻi, Pālāʻau Moku (ʻAha Kiole - Pālāʻau Moku) in strong support of the Hui Malama ʻO Moʻomomi's Community Based Subsistence Fishing Area (CBSFA) proposal and management plan for the Moʻomomi North Coast of Molokaʻi, from Kalaeokaʻīlio to Kaholaiki. The ʻAha Kiole-Pālāʻau Moku is part of the Statewide Aha Moku Advisory Council, housed within the Department of Land and Natural Resources (DLNR).

In January 2014, DLNR held a public information session regarding the proposed CBSFA for the Moʻomomi North Coast of Molokaʻi. The meeting was conducted by DLNR Chair William Ailā, Jr., the prior Division of Aquatic Resources (DAR) Administrator, and DAR staff. At this session, attendees were invited to share their manaʻo about the CBSFA proposal. However, many who supported the CBSFA felt reluctant to share their manaʻo due to the dominance of vocal opposition.

At the meeting, the ʻAha Kiole-Pālāʻau Moku offered to work with representatives of the families in the moku on a process that would provide an opportunity for families to review the proposal and provide manaʻo without public pressure. As a result, the Aha Kiole-Pālāʻau Moku facilitated a Moku wide survey of fishing families as well all others who live within the moku or who showed an interested in providing feedback for the Moʻomomi CBSFA proposal. Everyone had a chance to voice their manaʻo and have it documented so that the community and DLNR could learn what they had to say.

Attached are the survey results that reflect the manaʻo and comments from Pālāʻau moku fishing families, where 53 homestead families expressed their support, with one ʻohana expressing their opposition. The due diligence shown by the ʻAha Kiole-Pālaʻāu Moku in reaching out to the community and the actual feedback received on the CBSFA proposal, provides the foundation for ʻAha Kiole's position of strong support. We hereby formally submit the results of the survey and humbly request that the State expeditiously process and adopt our community's proposal.

Me ka haʻahaʻa,

Kulia Keliʻikuli-Peters
Pālāʻau Moku Representative, ʻAha Kiole o Molokaʻi
[redacted]

Enclosure: ʻAha Kiole Pālāʻau Moku Community Feedback Initiative 2014 (3 pages)

'Aha Kiole Pala'au Moku Community Feedback Initiative 2014
for the Mo'omomi Community Based Subsistence Fishing Area Proposal

Pala'au Moku is gathering feedback first from those fishing families interested in responding and who use the Mo'omomi beach area for gathering, as they are most impacted by this plan. Next will be input gathered from all others associated with or interested in providing feedback for the Mo'omomi CBSFA .plan.

Family	Name	Support		Comments
		Yes	No	
1	Helene Stone	■		I support the CBSFA plan.
2	Nathan Starkey	■		If we don't do it now, our future kids will not have anything.
3	Joseph Albino	■		I support the CBSFA.
4	Chad Puaoi	■		I support the CBSFA plan.
5	Madela 'Ohana	■		Keep the balance. Big ones gotta keep because they produce more eggs. Our people the ones who have to listen and do own monitoring or our grandkids going see "pictures" only.
6	Joseph Mollena	■		I support the CBSFA.
7	Eugene Albino	■		I support the plan. Hui Malama's plan.
8	Laakea Poepoe	■		I support the CBSFA plan.
9	Tubs Kalipi	■		As long as it doesn't infringe. Not for my freezer, only what I and my ohana can eat at one sitting. Not for freezer or sale. I support this CBSFA
10	Ochie Bush	■		I fully support this proposal.
11	Lehua Greenwell	■		We gotta do this to replenish for our keiki.
12	Nate Kaakimaka	■		I support the CBSFA plan. A no brainer.
13	Kalani Han	■		My family supports this proposal for Mo'omomi
14	Bobby Alcain	■		I solely support the CBSFA plan.
15	Anela Albino	■		I have worked alongside Uncle Mac for years and know the plan is an effective way to ensure sustainability of ocean resources for our future. Support!
16	Miller Maioho	■		I support the CBSFA for Moomomi.
17	Ben Florendo	■		We support the CBSFA conservation plan
18	'Opuulani Albino	■		I support the CBSFA plan

'Aha Kiole Pala'au Moku Community Feedback Initiative 2014
for the Mo'omomi Community Based Subsistence Fishing Area Proposal

Pala'au Moku is gathering feedback first from those fishing families interested in responding and who use the Mo'omomi beach area for gathering, as they are most impacted by this plan. Next will be input gathered from all others associated with or interested in providing feedback for the Mo'omomi CBSFA .plan.

19	Kekama Helm	■		Support the Malama "Aina plan- Kako'o!
20	Ihilani Hanakahi	■		I kako'o the CBSFA plan
21	Miriam Corpuz	■		I support this community based subsistence program to attain sustainability with our food source for our future.
22	Joseph Mollena	■		I support the plan for conservation!
23	Kaipo Poepoe	■		I support the CBSFA plan
24	Kulia / Stephen Peters	■		I support this CBSFA proposal wholeheartedly!
25	Henry Keohuloa	■		I support the plan
26	David Bush	■		
27	Kanohowailuku Helm	■		Kako'o
28	Lono Poepoe	■		I support this plan
29	William Wallace	■		I support the CBSFA plan
30	John and Dorothy Quintua	■		I support the CBSFA
31	Kama Han	■		support
32	Laua'e Lee	■		support
33	Adolph Helm	■		I support the intent and purpose of this plan.
34	Marshall Joy	■		This is for the next generation
35	Noelani Joy	■		For our keiki
36	Walter / Loretta Ritte	■		support
37	Micah Buchanan	■		As a representative of my 'ohana we support the Hui Malama o

'Aha Kiole Pala'au Moku Community Feedback Initiative 2014
for the Mo'omomi Community Based Subsistence Fishing Area Proposal

Pala'au Moku is gathering feedback first from those fishing families interested in responding and who use the Mo'omomi beach area for gathering, as they are most impacted by this plan. Next will be input gathered from all others associated with or interested in providing feedback for the Mo'omomi CBSFA .plan.

38	Wayde Lee	■		Mo'omomi management plan for the designated areas listed in this (CBSFA) document. My 'ohana gathers in these areas.
39	William Kekauoha	■		
40	M Briones	■		
41	Lawrence Puailihau	■		
42	Duane Puaoi Dawson	■		
43	Carolyn Bush	■		
44	Matthew Mersberg	■		
45	Mele Hanohano	■		
45	Jerry Sambajon	■		
47	Sol Kahalewai	■		
48	Benito Deluna	■		
49	Nahe Sibayan	■		
50	Godfrey Akaka		■	Attached letter
51	Nainoa Buchanan	■		I support Uncle Mac's effort
52	Kaulana Buchanan	■		I support Uncle Mac's effort
53	Moku Buchanan	■		support
54	Mac Poepoe	■		We need a community effort to manage our area

MALIA K.H. AKUTAGAWA, ESQ.

[redacted]

July 12, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

Re: Letter in strong support of the Hui Malama ʻO Moʻomomi's Community Based Subsistence Fishing Area proposal and management plan from Kalaeokaʻīlio to Kaholaiki

My name is Malia Akutagawa. I am a Native Hawaiian and fisher from Manaʻe, Molokaʻi. I am an Assistant Professor at the Kamakakūokalani Center for Hawaiian Studies and the William S. Richardson School of Law. I write this letter of support in my personal capacity.

I was involved in the early efforts that led to the legislative passage of Act 271 that created the Community Based Subsistence Fishing Area (CBSFA) law. In 1993, I served as the on-island coordinator for the Molokaʻi Subsistence Study which former Governor Waiheʻe commissioned. Our research team conducted random phone surveys, focus group meetings, and district meetings throughout the island to determine how strongly Molokaʻi families rely on foods that they produce, hunt, fish, and gather. We found that the average Molokaʻi family diet is comprised of 28% of subsistence foods. Hawaiian families relied more heavily on a subsistence diet (38% average). The Hawaiian homesteaders of Hoʻolehua were particularly concerned about their depleting fishery along the northwest coast of Molokaʻi which they rely on primarily for food. Overharvesting, the use of improper harvesting methods, and the degradation of subsistence values, customs, methods, and practices were found to be the critical threats to subsistence fishing practices.

It was through the homesteaders' efforts, particularly through the nonprofit Hui Mālama ʻO Moʻomomi, that Act 271 was adopted and codified as Hawaiʻi Revised Statutes, Section 188-22.6. This law imposes imposes special protections on fisheries statewide that "reaffirm[ ] and protect[ ] fishing practices customarily and traditionally exercised for purposes of Hawaiian subsistence, culture, and religion."[1] A two-year pilot project running from 1995 to 1997 was also approved for traditional, subsistence use and management of Moʻomomi and Kawaʻaloa Bays with the expectation that final CBSFA administrative rules would be passed by the State Department of Land and Natural Resources (DLNR).

Two decades have since passed without official CBSFA approval. Despite governmental and administrative delays, Hui Mālama O Moʻomomi continues to work diligently with the State to promulgate customized rules that are founded on konohiki management strategies. These strategies

reflect place-specific environmental needs and conditions and support the continuance of indigenous, subsistence practices. The Hui monitors the marine resources daily, utilizes the Hawaiian moon calendar (its phases and cycles) to track growth and reproduction of key species, and employs indigenous-based mental modeling as a tool for determining cyclic processes and ecosystem health. Konohiki-based management has yielded positive and measurable improvement in fishery health and increased fish biomass. These methods and their successes in restoring fishery health are well-documented in several peer-reviewed scientific journals.[2]

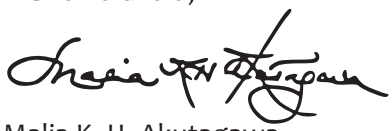
More recently, I was also involved in a project initiated by the Kohala Center to conduct a Health Impact Assessment. We met with the Hoʻolehua Hawaiian Homesteaders who continue to rely on the northwest Molokaʻi fishery as their "ice-box." We asked them what have been the impacts to their community as they wait for the CBSFA rules to pass. Here are some of their responses:

> *The rules would allow us to perpetuate our konohiki and cultural practices.*
>
> *Without rules in place, we will continue to see a depletion of the resources.*
>
> *We will have to reteach the next generation*
>
> *The rules are our legacy. They will ensure that even if the knowledge is lost, the legacy of mālama (care for the resources) will remain.*[3]

Clearly the community wants to continue its legacy of mālama (caring for the resources) so that their keiki (children) and moʻopuna (grandchildren) may enjoy the abundance that comes from a healthy fishery.

For these reasons, I recommend approval of Hui Malama ʻO Moʻomomi's Community Based Subsistence Fishing Area proposal and management plan.

Me ka haʻahaʻa,



Malia K. H. Akutagawa

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[1] Haw. Rev. Stat. § 188-22.6(a).

[2] *See generally* A. Friedlander, K. Poepoe, K. Poepoe, K. Helm, P. Bartram, J. Maragos and I. Abbott, *Application of Hawaiian traditions to community-based fishery management*, in Proceedings 9th Int'l Reef Symp., Bali, Indonesia 813 (2000) [hereinafter Friedlander, et al., *Application of Hawaiian traditions*]; *See generally* Kelson K. Poepoe, Paul K. Bartram, and Alan M. Friedlander, *The Use of Traditional Hawaiian Knowledge in the Contemporary Management of Marine Resources*, in FISHER'S KNOWLEDGE IN FISHERIES SCIENCE AND MANAGEMENT 119 (Nigel Haggan, Barbara Neis and Ian G. Baird, eds. 2007) [hereinafter Poepoe, et al., *The Use of Traditional Hawaiian Knowledge*].

[3] Moʻomomi Health Impact Assessment (HIA) scoping meeting, Lanikeha Commty. Ctr., Molokaʻi, Haw. (Jan. 26, 2015).

Noa Emmett Aluli, M.D.
[redacted]

July 7, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Dear Dr. Anderson,

Aloha kāua. I write this letter to in strong support of the Hui Mālama O Moʻomomi (HMM) proposal and management plan to establish the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki.

I am a primary care physician in family practice at the Molokaʻi Family Health Center since 1976, and a medical director with the Molokaʻi General Hospital since 1995. I am also a Hoʻolehua Homesteader.

Living here on Molokaʻi and treating our families, from kūpuna (elders) to kamaliʻi (children), I understand how important subsistence fishing and gathering is for the health and well-being of our community, especially the Hoʻolehua homesteaders. In the Molokaʻi Diet Study that I designed with other health practitioners, we found that the traditional foods - fish, kalo (taro), ʻuala (sweet potato) and ʻulu (breadfruit) - provides the healthiest diet for our community. A regular diet of fish and marine foods in combination with poi kalo, uala or ulu reduces the risk factors for cardiovascular disease and diabetes.

Prioritizing the health of our Molokaʻi community, especially of our Hoʻolehua homesteaders, the designation of the Moʻomomi North Coast of Molokaʻi as a CBSFA is essential. The proposed rules are simple, clear and make good sense for the perpetuation of the marine resources that our and future generations will continue to depend upon for subsistence. For these reasons I urge you, in your capacity as Administrator for the Division of Aquatic Resources to support the HMM proposal and management and facilitate their adoption by the Board of Land and Natural Resources.

Please contact me at naluli@aloha.net or 808-567-6278 if you have any questions or need additional information.

Sincerely,

Noa Emmett Aluli, M.D.

3 March 3 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha Mr. Anderson,

I write to support the Hui Mālama ʻo Moʻomomi Community Based Subsistence Fishing Area (CBSFA) proposal and management plan from ʻĪlio Point to Kaholaiki Bay. I was raised on Hawaiian homestead land in Hoʻolehua and Moʻomomi was a place where my parents fished, gathered ʻopihi and ʻahukihuki, picked limu, and caught black crab. It was also a place that our family camped during my childhood years. My dad made us pick up rubbish along the beach at Moʻomomi before we could enjoy ourselves and again before we left the beach. As an adult, I helped repatriate iwi kūpuna (ancestral bones) removed from the sand dunes surrounding Moʻomomi. In addition, we repatriated the famous sandstone carvings called Kalaina Wāwae to help restore the cultural integrity of this important place. Indeed, Moʻomomi is important part of who we are.

I support the Moʻomomi CBSFA proposal because it provides placed based solution to address known and controllable threats to our natural resources. The proposed rules provide recommendations and best gathering and management practices for key species that are in need of protection. While we all want to fish at Moʻomomi, we must also be responsible to ensure fish stocks for the future. Hui Mālama ʻo Moʻomomi has helped restore these practices of pono fishing and the CBSFA helps promote this important kuleana. I support the Moʻomomi CBSFA proposal because it is based upon the intricate knowledge and practices of our community of fishermen and ocean gatherers which been learned and passed down over the generations.

For all these reasons, I acknowledge and am in full support of the long standing efforts of the Hui Mālama ʻo Moʻomomi as they seek CBSFA designation on behalf of our community.

He leo wale no,

Edward Halealoha Ayau

[redacted]

KUA'ĀINA ULU 'AUAMO

June 23, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

Kua'āina Ulu 'Auamo (KUA) submits this testimony in strong support of this proposal and management plan presented by the Ho'olehua Hawaiian Homestead and Hui Mālama Mo'omomi (HMM) to adopt place-based regulations and designate the Mo'omomi North Coast of Moloka'i Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeoka'īlio to Kaholaiki. Further, we believe HMM through its decades of leadership and community work and outreach has shown its capacity and accountability as an ideal co-management partner

KUA works to empower communities to improve their quality of life through caring for their environmental heritage together to better Hawai'i and achieve 'āina momona— an abundant, productive ecological system that supports community well-being. We employ a community-driven approach that currently supports three statewide networks: more than 30 mālama 'āina community groups collectively referred to as E Alu Pū (moving forward together), 40 fishpond projects and practitioners called the Hui Mālama Loko I'a, and a new and growing group of limu practitioners and kupuna called the Limu Hui.

One of these cherished communities is in North Moloka'i led by one of our founding organizations HMM. Kupa'āina (native or long term residents of a place) of Moloka'i have advocated and worked hard to care for their resources over the last century. For their fisheries specifically they have done the due diligence; the management, the science and the dialogue on what is needed to co-manage their fishery. Indeed, it is the work of this community that led to the creation of the CBSFA law HRS 188-22.6.

We believe a core change that our community seeks will be through praxis, the exercise of culture, theory and action on the 'āina itself. We believe the necessary environment for this comes about only by working together and building community. The state too, through its people, its employees and its kuleana to the public trust is a part of the community too.

By adopting this proposal and moving these rules forward we believe you are taking a necessary step to affirmatively protect and uphold the rights of our Native Hawaiian community, not just the right to access and exploit natural resources but the concomitant right and obligation of people to mālama (care for) them.

Most importantly, this work is essential not to just uphold state obligations to Hawaiians and the public trust but also to take affirmative steps to uplift and improve our state and the best of all its people, their relations with each other and with the environment.

KUA'ĀINA ULU 'AUAMO

Pūpūkahi i holomua e hoʻokanaka
(Let's unite to better the human condition)

Executive Director

HAROLD K.L. CASTLE
FOUNDATION

Closing the achievement and preparation gaps in public education

Restoring nearshore marine ecosystems

Strengthening Windward Oahu communities

July 7, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

I write this letter in unqualified support of the Hui Malama ʻO Moʻomomi's ("HMM") proposal and management plan to adopt place-based regulations and designate the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki. Professionally, as the Senior Program Officer for Nearshore Marine Management for the Harold Castle Foundation I'm wholly committed to the community-based approach as a vitally important component to the suite of management approaches necessary to sustain our nearshore marine resources in the unique cultural and biological conext of Hawaiʻi. Personally, as a fisher and resident of Molokaʻi, I understand intimately the island's immense value of and reliance on its nearshore marine resources.

As you're well aware, Moʻomomi is broadly recognized as the longest-standing, best known, and most effective community-based marine management site in Hawaiʻi, and as such served as the impetus for CBSFA legislation decades ago. In my 15 years of professional experience in Hawaiʻi, I still have yet to know a more knowledgeable and capable group of traditional practitioners as the HMM, the results from whom speak for themselves—Friedlander et. al have documented levels of abundance and biomass in the area they manage traditionally as being on par with formally designated no take marine management areas. Consequently, both in my personal and proffessional opinion, there is no area more deserving of a CBSFA designation.

The Harold K.L. Castle Foundation is in full support of HMM and the Hoʻolehua Hawaiian Homestead community's initative to protect its natural and cultural resources by designating the Moʻomomi North Coast of Molokaʻi as a CBSFA.

Sincerely,

1197 Auloa Road
Kailua, Hawaiʻi
96734

tel 808-263-7073
fax 808-261-6918
www.castlefoundation.org

Eric Co
Senior Program Officer for Marine Management

PHONE (808) 594-1888 FAX (808) 594-1938

STATE OF HAWAIʻI
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAIʻI 96817

July 1, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Re: Hui Mālama ʻO Moʻomomi Proposal for a Northwest Coast of Molokaʻi Community-Based Subsistence Fishing Area

Aloha mai e Dr. Anderson,

I write to you on behalf of the Administration of the Office of Hawaiian Affairs ("OHA"), to express our **strong support** of the designation of the northwest coast of Molokaʻi as a Community-Based Subsistence Fishing Area ("CBSFA"). OHA believes that the CBSFA proposal received by the Department of Land and Natural Resources ("DLNR") reflects a long-awaited, community-driven management measure, that will not only benefit the nearshore resources of Molokaʻi, but also provide affirmative protection for the cultural practices and subsistence lifestyles of the island's residents.

OHA has consistently supported community-driven CBSFA proposals as a means of protecting the environmental, cultural, and economic interests of our beneficiaries. OHA believes that CBSFAs can ensure the long-term health of the nearshore environment, through the use of Native Hawaiian communities' intimate knowledge of and concern for their ocean "icebox." CBSFAs' promotion of culturally-grounded, place-based harvesting practices also serve to preserve and perpetuate culture, highlight a community's connection to the nearshore area, and convey a sense of respect and responsibility traditionally maintained for the ocean and its resources. Furthermore, CBSFAs' regulation and reservation of nearshore resources for subsistence practices also support the economic self-sufficiency of rural Native Hawaiian families, who often rely on wild-caught marine life as an alternative to purchased food. Accordingly, OHA strongly supports the efforts of the numerous Native Hawaiian subsistence communities, who are now working to establish formal CBSFA designation for their coastal areas.

Notably, the concept of CBSFAs as a formally recognized, community-state co-management model originated on the very island of Molokaʻi. Based on the island residents' substantial

dependence on subsistence fishing practices, as well as their shared maintenance of traditional knowledge and values, the waters of Mo'omomi on Moloka'i's northwest coast was proposed for and eventually designated as the first-ever, "pilot project" CBSFA. The Hui Mālama 'O Mo'omomi ("Hui"), in consultation with other island residents, developed and proposed rules for Mo'omomi that were subsequently adopted over twenty years ago; however, the rules were allowed to "sunset" in just two years, with no subsequent action by the state.

OHA understands that the Hui has now asked the DLNR to once again reinstate CBSFA designation for Mo'omomi along with the entire northwest coast of Moloka'i, following the process established under Hawai'i Revised Statutes ("HRS") Section 188-22.6 and the DLNR's "Community-based Subsistence Fishing Area Designation Procedures Guide." The Hui's submittal evidences their tireless and continuous efforts to monitor and effectively, albeit informally, care for their namesake waters, notwithstanding the state's abandonment of the Mo'omomi CBSFA nearly two decades ago. OHA notes that the Hui's many accomplishments include the adoption of an informal "code of conduct" by many resident fishers, who have agreed amongst themselves to refrain from harvesting practices inconsistent with the sustainability of their resources. The more formal recognition of this code of conduct, through CBSFA designation and the acceptance of the Hui's management plan, will help to guide the harvesting practices of all who wish to partake of Moloka'i's northwest waters, and perpetuate the practices and values that have sustained the island's residents for generations.

As the island where the CBSFA concept originated, and where cultural values and subsistence practices are very much a part of daily life, Moloka'i is a highly appropriate selection for the next designated CBSFA. Given the decades-long commitment and record of success by the Hui in stewarding the lands and waters of Mo'omomi, as well as the substantial buy-in they have garnered with landowners and fishers in adjacent ahupua'a, OHA has great confidence in the long-term success of a CBSFA for the island's northwest coast. The growing pressures that the island's resources will inevitably face – from increasing population levels, to the impacts of climate change, to ever-shifting demographics and values in the state as a whole – indeed counsel more proactive efforts to protect the resources, culture, and lifestyle of our kīpuka island.

Therefore, OHA strongly supports the timely establishment of a Northwest Coast of Moloka'i CBSFA, and respectfully urges the DLNR to work with the Hui in commencing the formal CBSFA designation process as expeditiously as feasible.

Mahalo for the opportunity to provide comments on this measure. Please have your staff contact Wayne Tanaka at 594-1945 or via email at waynet@oha.org with any questions.

'O au iho nō me ka 'oia'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC;wt

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.MauiCounty.us

July 7, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm 330
Honolulu, HI 96813

Aloha e Mr. Anderson:

SUBJECT: **DESIGNATING THE MO'OMOMI NORTH COAST OF MOLOKA'I A COMMUNITY BASED SUBSISTANCE FISHING AREA**

I write this letter in strong support of the Hui Malama 'O Mo'omomi's (HMM) proposal and management plan to adopt place-based regulations and designate the Mo'omomi North Coast of Moloka'i a Community Based Subsistance Fishing Area (CBSFA), stretching from Kalaeoka'i 'Ilio to Kaholaiki. My support for the CBSFA proposal is relative to my status as keiki o ka 'aina o Moloka'i and as a member of Maui County Council, Moloka'i District, I value the teachings of malama 'aina - mauka to makai. Hui Malama 'O Mo'omomi's efforts exemplify commitment and dedication to perpetuate our subsistence lifestyle for today's and tomorrow's generation.

I recognize that the CBSFA proposal embodies the intricate knowledge and fishing practices that have been patiently acquired and passed down by multiple generations including that of the current generations of fishermen.

Regulations are in place to save and protect the whales as well as our Hawaiian monk seals. Throughout the nation there is the mantra, "save the whales." In 1986 a moratorium was established to halt commercial whaling to help recover the dwindling whale population. Hawaiian monk seals are protected under the Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA) and Hawaii State Statutes. The Mo'omomi North Coast of Moloka'i

CBSFA's proposal advocates the need to sustain Moloka'i's subsistence lifestyle and its intent to protect our resources and cultural traditions.

Like the "whale" defenders and "Hawaiian monk seal" protectors, I ask BLNR to support HMM's proposal as a means of provision to feed our families. Mr. Mac Poepoe and his team have patiently implemented substantial evidence of science and data immersing these collections and studies with our traditional techniques to teach and provide.

I partner with HMM and the Ho'olehua Hawaiian Homestead community's initiative to protect its natural and cultural resources by designating the Mo'omomi North Coast of Moloka'i as a CBSFA.

Me ka ha'aha'a,

STACY HELM CRIVELLO
Councilmember
Moloka'i District

SSC:aas

July 7, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

I write this letter in strong support of the Hui Malama O Mo'omomi's (HMM) Community Based Subsistence Fishing Area (CBSFA) proposal and management plan, from Kalaeoka'īlio to Kaholaiki. I am a Kamiloloa/One Ali'i Homesteader, born and raised on Moloka'i where my 'ohana traces its roots at least four generations back. I am a Native Hawaiian subsistence fisherman and have been fishing for over 60 years. I was also elected by my community as the Kawela Moku Representative to the Aha Kiole O Moloka'i. Since 2005, I have been intimately caring for the resources of Ali'i and Kalokoeli fishponds, as a Ka Honua Momona Board Member and volunteer.

I have been involved with and have been continuously supporting Mo'omomi's CBSFA efforts since 1995. My efforts to support Mo'omomi has been through outreach and sharing the cultural values that this effort and the rules embody, with our island community. I recognize that Mo'omomi's CBSFA proposal has been built upon the intricate knowledge and practices passed down by multiple generations past, including that of the current generations of fishermen today.

As a commercial diver for over 20 years, I used to take so much lobster and overfish Mo'omomi. However, after initially learning about HMM's efforts in the early 90s, I realized that I had to change my way of thinking how we are taking fish and change my style. If we continue to follow a system that allows us to fish and take so much, then one day we will understand what we were doing wrong. When we talk about Native Hawaiian gathering rights, we cannot forget that these rights comes with kuleana—the kuleana to mālama and care for the resources and our place for present and future generations. We have to support Mo'omomi's CBSFA efforts because it is really good for our island.

I fully support and am greatful for the long standing efforts of HMM as they continue to care for the natural and cultural resources of Mo'omomi and seek CBSFA designation.

Me ka ha'aha'a,

Mervin Dudoit, Sr.

Dennis & Pamela Fujii
[redacted]

July 7, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, Hawai'i 96813

Aloha e Dr. Anderson,

We are in strong support of this proposal and management plan presented by the Ho'olehua Hawaiian Homestead and Hui Mālama Mo'omomi (HMM) to adopt place-based regulations and designate the Mo'omomi North Coast of Moloka'i Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeoka'īlioto Kaholaiki. HMM's decades of leadership and community work and outreach has shown its capacity and accountability as an ideal co-management partner.

As volunteers since 2012 with the Ewa Limu Project, we believe in its mission to protect the future of limu in the 'Ewa moku and across the pae'aina, to educate and to share the importance of limu with communities. It has been our humble privilege to work closely and learn from kupuna Henry Chang Wo and Wally Ito. The Ewa Limu Project is one of many organizations served by Kua'āina Ulu 'Auamo (KUA).

The KUA network provides the venue for community members to build and form lasting relationships, to share cultural and traditional knowledge and to lend support on issues facing our unique communities. KUA works to empower more than 30 mālama 'āina community groups collectively referred to as E Alu Pū (moving forward together), 40 fishpond projects and practitioners called the Hui Mālama Loko I'a, and a new and growing group of limu practitioners and kupuna called the Limu Hui.

One of these cherished communities is in North Moloka'i led by one of our founding organizations HMM. Kupa'āina (native or long term residents of a place) of Moloka'i have advocated and worked hard to care for their resources over the last century. For their fisheries specifically they have done the due diligence; the management, the science and the dialogue on what is needed to co-manage their fishery. Indeed, it is the work of this community that led to the creation of the CBSFA law HRS 188-22.6.

By adopting this proposal and moving these rules forward we believe YOU are taking a necessary step to protect and uphold the rights of our Native Hawaiian community.

If there is anything else we can do to support this proposal, please feel free to contact us at (808) 255-6207 or at kapiolehua@gmail.com.

Mahalo pumehana,

Dennis H. Fujii

Pamela Lota Fujii

KA HONUA MOMONA
PO Box 482188 Kaunakakai, Hawaii 9674◆Phone: 808.553.8353 Fax: 808.560.1135◆www.kahonuamomona.org

July 15, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

ʻO ka ʻāina nō i hōʻike ʻia ka pono o ka poʻe.
It is the land that reveals the goodness of its people.

Welina me ke aloha,

The proverb above speaks of the profound connection between ʻāina and kānaka. Indeed the health of the land and the health of the people are inextricably linked, one reflecting the other. Over the past year, we have been fortunate to sit with many of our kūpuna and kolekole, or talk story, about the Molokai they recall from their childhoods. Beauty and joy are intertwined with grief as their stories reveal the depletion of resources, diminishing self-reliance, and the loss of a lifestyle based on simplicity, sharing, and sustainability.

Throughout our interviews the themes are consistent, everyone grew their own food, the ocean was their icebox, they took only as much as they needed to feed their families for the day. In the absence of refrigerators, they used paʻakai to dry fish and meat—they never stored a lot, but just enough. And there was *always* enough, plenty to eat, from both the land and the sea. They say today times have changed, "no more the same like before," the abundance of resources is slowly and consistently lessening as we depart from the pono practices of our ancestors.

There is hope for Molokai, and we *can* reclaim the momona that is the inherent state of the land and sea when its people are pono. We see this return to pono most clearly in the sustained efforts of Hui Mālama o Moʻomomi in protecting the marine and coastal resources at Moʻomomi. Indeed it is grassroots efforts such as these that are most effective in stemming the steady decline of Hawaii's resources. Moʻomomi is a beacon for all of Hawaii and the globe, illuminating the pono of returning stewardship of a place to the local people.

Ka Honua Momona would like to express our strong support for the proposal and management plan presented by the Hoʻolehua Hawaiian Homestead and Hui Mālama Moʻomomi (HMM) to adopt place-based regulations and designate the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki.

Me ka mahalo nui,

Kauwila Hanchett

Kauwila Hanchett
Executive Director, Ka Honua Momona

MOLOKA'I LAND TRUST

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

July 7, 2016

Dear Dr. Anderson,

Aloha kāua. I write this letter to affirm and convey the strong support of the Moloka'i Land Trust (MLT) for the proposal and management plan to establish the Mo'omomi North Coast of Moloka'i Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeoka'īlio to Kaholaiki.

The mission of the MLT is to protect and restore the land, natural and cultural resources of Moloka'i, and to promote, educate and perpetuate the unique Native Hawaiian traditions and character of the island for the benefit of the future generations of all Moloka'i, particularly Native Hawaiians.

One of the lands that is owned and managed by MLT is the Mokio Preserve that was donated to us by the Moloka'i Ranch. The Mokio Preserve contains 1,769 acres, including approximately 5 miles of rugged shoreline that runs from Anapuka, on the border of the lands owned by the Department of Land and Natural Resources at 'Īlio Point, to Pu'u Ka'a on the border of the lands owned by The Nature Conservancy as part of the Mo'omomi Preserve. The ocean off of the shoreline of Mokio Preserve would be protected and managed as part of the Mo'omomi North Coast of Moloka'i CBSFA.

Under a 2007 Memorandum of Understanding between Moloka'i Ranch and MLT, MLT was required to continue to provide traditional and customary access to the shoreline of the preserve for subsistence, spiritual and cultural purposes. In 2008, MLT contracted Kelson Mac Poepoe, the resource manager for the Hui Mālamalama 'O Mo'omomi, to survey and provide management recommendations for the near-shore marine resources of the coastline of the Mokio Preserve, which would balance subsistence harvesting of marine resources with the sustainability of the resources. This plan, completed in 2009, provides the basis for the managed system that provides access to the Mokio Preserve by Moloka'i residents. I have provided a copy of the plan and it is included in Appendix V of the Mo'omomi North Coast of Moloka'i CBSFA Proposal and Management Plan.

Ph: (808) 553-5626 Mailing Address: P.O. Box 1884 Kaunakakai, HI 96748 www.molokailandtrust.org

Since the formation of the Moloka'i Land Trust in 2006, we have partnered with Hui Mālama 'O Mo'omomi to work for the establishment of the Mo'omomi North Coast of Moloka'i CBSFA. Our board of directors and staff unanimously and fully support the proposed boundaries, rules and monitoring methods being proposed to allow for continued subsistence harvest of the marine resources from 'Īlio Point through Kaholaiki, while maintaining the sustainability of the resources.

Please contact me at butch@molokailandtrust.org or (808) 553-5626 if you have any questions or need additional information.

Me ka ha'aha'a,

William "Butch" Haase, Executive Director
Moloka'i Land Trust

July 4, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Mr. and Mrs. Adolph Helm
[redacted]

RE: Mo'omomi North Coast of Moloka'i Community Based Subsistence Fishing Area (CBSFA)

Dear Mr. Anderson,

We write this letter in strong support of the Hui Malama 'O Mo'omomi's ("HMM") proposal and management plan to adopt place-based regulations and designate the Mo'omomi North Coast of Moloka'i Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeoka'īlio to Kaholaiki. We live on a 35 acre Hawaiian Homestead lot in Anahaki, an area integrally intertwined and in close proximity to the proposed management area.

As a Hawaiian family we rely and depend on the land and ocean resources to help sustain and nourish us. We believe this proposed management plan will provide our Ohana and others in this community insurance that our future generations can continue to practice our subsistence lifestyle and traditions. Our Ohana, children and grandchildren recognize and fully support the efforts by HMM, CBSFA and others to protect and malama our natural and cultural resources of Mo'omomi and the North Coast of Molokai.

Me ke aloha nui,

Adolph Helm
Corene Helm

Adolph and Corene Helm

[illegible] Helm Ohana
[illegible] Helm

[illegible] Helm & ohana

03/04/2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha Dr. Anderson,

My name is Kekamaikaikamaikalani Helm and I write this letter in strong support of the Hui Malama ‘o Mo‘omomi’s Community Based Subsistence Fishing Area proposal and management plan from ‘Īlio Point to Kaholaiki Bay. I have been a part of Hui Mālama O Mo’omomi since its inception in the mid 90’s. I have witnessed and participated in educational efforts that taught hundreds of children aloha ‘‘āina, mālama ‘‘āina, and kuleana through traditional conservation methods. This knowledge is passed down from generation to generation. The resources and man are interdependent and if one is out of balance so is the other. We need our resources to practice and live as Kanaka Hawai‘i.

My ‘ohana and I also resided in the area and depend on the purposed area to put food on the table. These foods include fish, limu, ‘opihi, pipipi, he’e and many others. This food not only feed us physically but also gives us a deep connection to ke akua and kupuna. It is a need and a must to carefully care for our resources for our future generations and for the survival of a culture in today’s fast moving modern world.

I fully support and am greatful for the long standing efforts of the Hui Malama ‘o Mo‘omomi as they continue to care for the natural and cultural resources of Mo‘omomi and seek CBSFA designation.

Aloha Pumehana,
Kekamaikaikamaikalani Helm

[redacted]

HUI HO'OMALU I KA 'AINA
ADVOCATES FOR NATIVE KNOWLEDGE

June 23, 2016

Bruce Anderson,
Administrator, Division of Aquatic Resources (DAR)
Department of Land and Natural Resources (DLNR)
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha Dr. Anderson,

Our organization supports the proposal of Hui Mālama o Mo'omomi to establish a Community-based Subsistence Fishing Area in North Moloka'i.

The people of this place have generational knowledge and commitment to the resources and have demonstrated their ability to utilize biocultural management strategies. Further, the experience of this effort has provided motivation and guidance to many other communities around Hawaii nei. Hui Ho'omalu i ka 'Āina is very proud to participate in some of this work both in our community and others as a member of Kua 'Āina Ulu Auamo.

The State of Hawaii shares responsibility for these public trust resources and by adopting this proposal and moving these rules forward we believe you are taking a necessary step to affirmatively protect and uphold the rights of our Native Hawaiian community.

Most importantly, this work is essential not to just uphold state obligations to Hawaiians and the public trust but also to take affirmative steps to uplift and improve our state and the best of all its people, their relations with each other and with the environment.

Hui Ho'omalu i ka 'Āina urges the DAR Division of DLNR to move the Mo'omomi CBSFA forward and support the community based resource management partnership between government and the people of our places.

Me ka pono,

Maka'ala Ka'aumoana
Vice Chair

Hui Ho'omalu i ka 'Āina is a taro root organization founded in the early 1980's by traditional practitioners of moku Halele'a to address threats and impacts to the natural and cultural resources of Kaua'i. Founded by farmers and fishermen, weavers and hunters, we seek to provide context for issues related to the ecology of our ahupua'a. The organization is an active advocate for those native things and ways that are disappearing. We are not a nonprofit, we are an activist organization. We do not whine and wait, we act.

POB 1045, Hanalei, Hawaii 96714

KAHANA
KILO KAI PROGRAM

C/O Hoʻāla ʻĀina Kūpono
P.O. Box 300304
Kaʻaʻawa, HI 96730
Contact: Shae Kamakaʻala, shaelene@hawaii.edu

July 15, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

On behalf of the Kahana Kilo Kai Program, I submit this letter in strong support of the Hui Malama O Moʻomomi's (HMM) proposal and management plan to adopt place-based regulations and designate the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), from Kalaeokaʻīlio to Kaholaiki. As the joint co-founder and coordinator for the Kahana Kilo Kai Program, I had the pleasure of learning and working alongside Mac Poepoe and other HMM members for the past several years in law school and through my professional work. I was able to learn and apply the things that I learned about traditionally grounded resource monitoring, resource assessment, and caring for ʻāina (land and sea) as I launched my own grassroots community-based initiative to better care for our fishery in Kahana, Koʻolau Loa, Oʻahu.

As a member of the E Alu Pū network, I represent Oʻahu communities on the E Alu Pū Council, alongside Mac Poepoe. In getting to know Mac and other Moʻomomi resource managers, I began to realize that there are a few to none resource and ecological questions that they do not have answers to—and if not, they will design a project to provide the answers needed. It is this group, along with the community's lawaiʻa and families who depend on the resources for subsistence, that know Moʻomomi's waters, the resource needs, and the community's needs the best. For these reasons, we endorse HMM as the ideal co-management partner.

Most importantly, adopting the community's proposal ensures that the State of Hawaiʻi upholds its trust obligations to Native Hawaiians and the general public. Given this effort has been ongoing for over 20 years, we humbly request that the State expeditiously adopt the community's proposal and designate the Moʻomomi North Coast of as CBSFA.

Lets join hands to bring back abundant fisheries and healthy communities for Moʻomomi and Molokaʻi's current and future generations.

Me ka haʻahaʻa,

Shaelene Kamakaʻala
Kahana Kilo Kai Program Coordinator

July 15, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

I write this letter in strong support of the Hui Malama ʻO Moʻomomi's ("HMM") proposal and management plan to adopt place-based regulations and designate the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki. I was first introduced to Uncle Kelson "Mac" Poepoe in my third year as a student at UH Mānoa. Since that initial introduction, I have been a "student" to the teachings of Uncle Mac and Moʻomoni. I have taken my Hālau Kū Mana Public Charter School students and Paepae o Heʻeia interns and staff to visit and learn from Moʻomomi.

I endorse HMM as a suitable and the most logical CBSFA co-management partner. I recognize that the CBSFA proposal embodies the intricate knowledge and fishing practices that have been patiently acquired and passed down by multiple generations, including that of the current generations of fishermen. I am a sixth generation fisherwoman, fishpond practitioner and native of the Kāneʻohe Bay fishery. I have supported the works of HMM since 1998 and attribute much of my management-style to the teachings of Uncle Mac Poepoe. I strongly believe in community and their ability to steward their own resources.

I recognize the long standing efforts of HMM as they continue to care for the natural and cultural resources of Moʻomomi and the North Coast of Molokaʻi. I, Hiʻilei Kawelo am in full support of HMM and the Hoʻolehua Hawaiian Homestead community's initative to protect its natural and cultural resources by designating the Moʻomomi North Coast of Molokaʻi as a CBSFA.

Me ka haʻahaʻa,

Hiʻilei Kawelo
Kahaluʻu resident, fisherwoman and fishpond practitioner

July 5, 2016

To whom it may concern,

I am writing this letter in support of the Hui Malama O Mo'omomi proposal to establish a community based subsistence fishing area. Mo'omomi had previously relied on traditional community respect to protect their I'a but Hawaiian values have been subsiding due to societal changes. Hawaiians established kapu to ensure sustainability of their resources and there were consequences for violations.

The CBSFA would enable the most qualified stakeholders to manage the fisheries appropriately and ensure future generations access to that vital resource. This effort will promote pono practices and regulate a resource that is beneficial in more ways than just sustenance.

My name is Damien Kenison, I am a lawai'a from Hookena, South Kona and a member of KUPA our non-profit community organization. Our hui with E Alu Pu and KUA have been striving for over a decade to perpetuate our fishing practices by creating a management plan for our traditional fishing area.

My wife's family the Alani and Kaleohano ohana are opelu canoe fishermen and her great grandfather was konohiki here. Since his time the changes in the way people fish have been detrimental to the propagation of our I'a. Our efforts to establish a CBSFA here is in conjunction with other fishing communities who have seen their opihi, a'ama, Manini, akule, and opelu depleted to a point of severe concern.

Please allow this community to assist DLNR protect the I'a for future generations by establishing a conventional kapu system that advocates fishing practices which are sustainable and respectful.

Mahalo,

Damien Kenison

[redacted]

[redacted]

July 5, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

I write this letter in strong support of the Hui Malama ʻO Moʻomomi's ("HMM") proposal and management plan to adopt place-based regulations and designate the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki. I am the nearest Hawaiian Homestead land full-time resident along the Mo'omomi coastline.

I recognize that HMM has been helping to take care of our ocean resources for many years, and hope for continued efforts. As a subsistence practitioner, gathering to feed my family and growing up on homestead land all my life, I believe that the CBSFA is a continued step in the right direction of protecting our ocean resources to provide for future generations.

I recognize the long standing efforts of HMM as they continue to care for the natural and cultural resources of Moʻomomi and the North Coast of Molokaʻi. I am in full support of HMM and the Hoʻolehua Hawaiian Homestead community's initative to protect its natural and cultural resources by designating the Moʻomomi North Coast of Molokaʻi as a CBSFA.

Me ka haʻahaʻa,

Kamanu Keohuloa ʻOhana

Kamanu Keohuloa

PHONE (808) 594-1888 FAX (808) 594-1938

STATE OF HAWAIʻI
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAIʻI 96817

July 7, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha Dr. Bruce Anderson,

I have served as Trustee for the Office of Hawaiian Affairs (OHA) representing the island of Molokaʻi since 1996. In 1994, I was appointed by Governor John Waiheʻe to serve as member of the Molokaʻi Subsistence Task Force. I am native born and raised on Molokaʻi. It was our desire in 1994 to support traditional practices and to empower the community to manage and promote a future connecting our ancestors in all of our decision making.

I write this letter in strong support of the Hui Malama ʻO Moʻomomiʻs ("HMM") proposal and management plan to adopt place-based regulations and designate the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki.

Under the authority of Chapter 10 of the Hawaii Revised Statues, OHA is mandated to better the conditions of both the Native Hawaiians and the Hawaiian Community in general. While OHA's mandate is broad and includes every facet of advocacy from Human Services to Policy making, HMM along with the Hoʻolehua Homestead community have and will provide services as well as education that directly benefits Native Hawaiians as well as the island community of Molokaʻi.

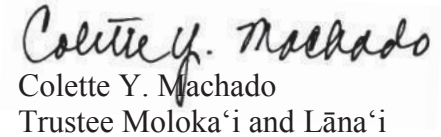
Traditional, community-based fisheries management can only improve current nearshore fisheries management policies. Only local communities that have lived off of the sea, have properly studied the ocean, its cycles and all related natural and unnatural impacts as well as know when is the proper times to harvest, to kapu, to heal, to monitor, to inspect and to take accountings. Native Hawaiians have centuries of knowledge upon which to draw, and

generations to feed and to educate. Not only must they preserve the ecosystem of their nearshore fishery, but the health and culture of the Native Hawaiian Community.

I recognize the efforts of HMM as they continue to care for the natural and cultural resources of Moʻomomi and the North Coast of Molokaʻi. I am in full support of HMM and the Hoʻolehua Hawaiian Homestead community's initative to protect its natural and cultural resources by designating the Moʻomomi North Coast of Molokaʻi as a CBSFA.

In closing, although we were not the first CBSFA designated community, but given our long standing commitment to provide sustenance from our oceans in perpetuity, I have no doubt that our efforts will be the best.

Me ka haʻahaʻa,



Colette Y. Machado
Trustee Molokaʻi and Lānaʻi
Office of Hawaiian Affairs
Phone: 808-594-1941

July 14, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Dr. Anderson,

On behalf of Ke Aukahi Hawaiian Language and Culture Educators on Molokaʻi, this letter is in strong support of the Hui Malama O Moʻomomi's (HMM) Community Based Subsistence Fishing Area (CBSFA) proposal and management plan, extending from Kalaeokaʻīlio to Kaholaiki. Ke Aukahi encompasses *all* of the Hawaiian Medium learning schools: Punana Leo o Moloka'i (preschool level), Ke Kula Kaiapuni o Kualapu'u (elementary level), 'O Hina i ka Mālama (middle and high school levels), and Maui Community College at Molokaʻi (post high school level).

As educators of Hawaiian language and culture on Molokaʻi, we feel a very strong connection to the ʻāina. Of vital concern to each of us is the kuleana to teach and pass on to our children the importance of mālama ʻāina.

As a group, we have begun with the Moʻomomi beach cleanup in February 2016, that included our whole program. It is important to us, our parents, and kūpuna to show our keiki that kuleana is an ongoing process, not a one-time thing. So all involved wanted to make sure that we continue to keep Moʻomomi clean, cared for, and managed so that our keiki have a viable and healthy ecosystem for their futures—as was left by our kūpuna for us on Molokaʻi.

We support community-based management and we believe it is both practical and appropriate as a way to bring revitalization and consistent care to our ʻāina o Moʻomomi. We humbly request that the State expeditiously process and adopt this community's proposal.

Me ka haʻahaʻa,

Nahulu Maioho-	Po'o, Ke Aukahi o Moloka'i, Moloka'i High School- Kumu Hawaiian Language Program imaioho@hawaii.edu
U'ilani Ramos-	Director, Punana Leo o Moloka'i
Uluhani Wai'ale'ale-	Kula Kaiapuni o Kualapu'u, Kumu Papa Malaa'o/ 'Ekahi
Lokelani Han-	Kula Kaiapuni o Kualapu'u- Kumu Papa 'Elua
Ka'ala Camara-	Kula Kaiapuni o Kualapu'u- Kumu Papa 'Ekolu/ 'Eha
Piliana Starkey-	Kula Kaiapuni o Kualapu'u- Kumu Papa 'Elima
Nalani Thielk-	Kula Kaiapuni o Kualapu'u- Kumu Papa 'Eono
Kamalu Poepoe-	Kula Kaiapuni o Kualapu'u- Kumu Ho'omohala Kurikulama
Iolani Kuoha-	'O Hina i ka Mālama- Kumu Kula Waena
Kalei Kawa'a-	'O Hina i ka Mālama- Kumu Kula Ki'eki'e
Kilia Purdy-Avelino-	Kumu MCC Moloka'i Hawaiian Language Program
Kaleo Lenwai-	Kumu (Kakoʻo Kula Kaiapuni)
Opu'ulani Albino-	Kumu 'Olelo Hawai'i Mua (First Moloka'i Kumu)

PROTECT KAHOʻOLAWE 'OHANA
P.O. Box 39
Kaunakakai, Hawai'i 96748

July 7, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Dear Dr. Anderson,

Aloha kāua. On behalf of the Protect Kahoʻolawe ʻOhana (ʻOhana), I write this letter in strong support of the Hui Mālama O Moʻomomi (HMM) proposal and management plan to establish the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki.

The mission of the ʻOhana is to perpetuate aloha ʻāina throughout our islands through cultural, educational, and spiritual activities that heal and revitalize the cultural and natural resources on Kanaloa Kahoʻolawe. Our roots as an ʻOhana for Kanaloa Kahoʻolawe trace back to George Helm and the kūpuna of Molokaʻi.

In 1997, when the ʻOhana conducted a study of contemporary subsistence fishing practices around Kanaloa Kahoʻolawe for the NOAA National Marine Sanctuaries Program, we turned to Uncle Kelson Mac Poepoe and Wayde Lee of Hui Mālama O Moʻomomi to share their expertise in observation, data gathering and development of policies for the management of the waters around the island of Kanaloa Kahoʻolawe, out 2 nautical miles, for subsistence. They generously shared their knowledge and experience. As we continue to manage the marine resources of Kanaloa Kahoʻolawe, Hui Mālama O Moʻomomi resource managers have continued to provide advice and support.

The proposal and management plan to establish the Moʻomomi North Coast of Molokaʻi CBSFA is a model for all communities who seek to sustainably manage their marine resources to support subsistence for present and future generations of Native Hawaiians. We urge you, in your capacity as Administrator for the Division of Aquatic Resources to support the HMM proposal and management and facilitate their adoption by the Board of Land and Natural Resources.

Please contact me at davianna.mcgregor@gmail.com or 808-222-9728 if you have any questions or need additional information.

Sincerely,

Davianna Pōmaikaʻi McGregor
for the Protect Kahoʻolawe ʻOhana

July 7, 2016

Dr. Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha Dr. Anderson,

I write this letter in strong support of the Hui Malama ʻO Moʻomomi's Community Based Subsistence Fishing Area proposal and management plan from Kalaeokaʻīlio to Kaholaiki, submitted on behalf of the Hoʻolehua Hawaiian Homesteaders.

I am a Ho'olehua Homesteader and have supported this effort for some 15 years now. This proposal is criticle to the survival of our homesteaders, our cultural values and way of life. We have two economies on Molokai, subsistence and cash, this proposal will help us protect our subsistence economy which is also protected under Artcle 12 sec. 7 of our State Constitution.

Walter Ritte

Western
Pacific
Regional
Fishery
Management
Council

July 5, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Aloha e Mr. Anderson,

We are in strong support of the Hui Malama ʻO Moʻomomi's Community Based Subsistence Fishing Area (CBSFA) proposal and management plan from Kalaeokaʻīlio to Kaholaiki, submitted on behalf of the Hoʻolehua Hawaiian Homesteaders. The Council has been a supporter of the community-based management of Moʻomomi since the 1990's. The Council often points to Hui Malama ʻO Moʻomomi as an example of what a community might be able to do given the right opportunity and leadership.

Mac Poepoe, in assuming the role of Konohiki at Moʻomomi Bay, is a wealth of knowledge and information on traditional fishing and management practices. He has served as an advisor to the Council, a contractor collecting tissue samples for scientific research and principal investigator in studies of community-based management of fishery resources for the Council and NOAA. His work at Moʻomomi has often been cited as the way community-based management of natural resources should be conducted. He is a much sought-after speaker and presenter on community-based management, traditional fishing practices and seasonal variability. He has assisted scientists to better understanding of resources at Moʻomomi and provided numerous opportunities for case studies on fish spawning, spawning times, lobster biology, algal studies, oceanic processes and the seasonal movement of sand and traditional ecological knowledge. He identified and provided scientists with samples and information of a rare endemic flowering species that was until then not known at Moʻomomi.

As one of the earliest, longest lived community-based fishery management areas in Hawaiʻi we feel the time is long past due that Moʻomomi is given the designation as a Community-based subsistence fishing area. The Western Pacific Regional Fishery Management Council is in full support of Hui Malama ʻO Moʻomomi and the Hoʻolehua Hawaiian Homestead community's initative to protect its natural and cultural resources by designating the Moʻomomi North Coast of Molokaʻi as a CBSFA.

Sincerely,

Kitty M. Simonds
Executive Director

United States Department of the Interior

NATIONAL PARK SERVICE
Kalaupapa National Historical Park
P.O. 2222
Kalaupapa, HI 96742
Tel: 808-567-6802
Fax: 808-567-6729

March 7, 2016

Bruce Anderson, Ph.D.
Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Re: Letter of Support for Hui Malama ʻo Moʻomomi's Community Based Subsistence Fishing Area (CBSFA) proposal and management plan

Dear Dr. Anderson,

This letter is in support of the Hui Malama ʻo Moʻomomi's Community Based Subsistence Fishing Area (CBSFA) proposal and management plan from ʻĪlio Point to Kaholaiki Bay. As a coastal partner along the north shore of Molokaʻi since 1980, Kalaupapa National Historical Park has a keen interest in protecting the marine resources around the park. There is a strong sense of resource stewardship at Kalaupapa, as exemplified by the patient-residents at Kalaupapa that have created community fishing regulations, which integrate well with the proposed CBSFA plan.

We support the Moʻomomi CBSFA proposal because it provides present day and placed based solutions to address known and controllable threats to our resources. The proposed rules provide recommendations and best gathering and management practices for key species that are in need of protection. It is important to preserve this intricate knowledge and practices of the fishers and ocean gatherers that have been handed down from generations past, and the CBSFA provides an excellent framework to ensure the continuation of these cultural traditions and subsistence practices.

Lastly, we support the Moʻomomi CBSFA proposal because it is necessary to ensure the health and abundance of the coastal fishery for future generations. For all these reasons, we recognize and support the long standing efforts of the Hui Malama ʻo Moʻomomi as they seek CBSFA designation on behalf of our local community.

If you have further questions or need additional information, I can be reached by email at Erika_Stein@nps.gov or by phone at (808) 567-6802 ext 1100. Mahalo for the opportunity to provide comments and input on this important community resource stewardship issue.

Regards,

Erika Stein Espaniola
Superintendent

Cc:

Eric Brown, Ph.D.
Marine Ecologist, Kalaupapa National Historical Park

Dr. Sarah Allen
Pacific West Region – Ocean Stewardship Program

Limahuli Garden and Preserve
of the National Tropical Botanical Garden

July 7, 2016

Dr. Bruce Anderson
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm. 330
Honolulu, HI 96813

Re: Support for the Mo`omomi (Moloka`i) Community-based Subsistence Fishing Area, and its proposed management plan

Aloha Dr. Anderson,

Please accept this letter in strong support of the proposal and management plan drafted by the Hoʻolehua Hawaiian Homestead and Hui Mālama Moʻomomi (HMM) to adopt place-based regulations and designate the Moʻomomi North Coast of Molokaʻi Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeokaʻīlio to Kaholaiki.

HMM through its decades of leadership and community work and outreach has shown its capacity and accountability as an ideal co-management partner. Co-management initiatives, such as this, marries the place-based passion possessed by communities with the authority of State; and does so in a way that synergistically harnesses the best of both to truly care for our islands' natural and cultural resources.

We have been involved with similar initiatives on Kaua`i through our long-standing Hā`ena Ahupua`a Program, and have done so in collaboration with other place-based non-profits and various divisions within DLNR—including our own CBSFA which we have worked on with DARʻs support. We have seen the successful results of this approach. Many of us believe that such approaches represent our best hope for the future, and I strongly encourage you to support it as well.

Me ka ha`aha`a a me ka `oia`i`o (With humility and sincerity),

Kawika Winter, Ph.D.
Director, Limahuli Garden and Preserve

Appendix VIII.
Summary Table of Species Addressed by Proposed Regulatory Solutions

Appendix VII. Summary Table of Species Addressed by Moʻomomi North Coast of Molokaʻi CBSFA Proposed Regulatory Solutions

Hawaiian Name	Common Name	Scientific Name	Habitat	Distribution	Key Life History Characteristics	Current Status of Protection	Proposed Species Specific Regulatory Solution*
Ula	Tufted Spiny Lobster	*Panulirus pencillatus*	Caves and crevices	Indo-Pacific and Eastern Pacific		Closed season May - August; Minimum size 3-1/4 inches (carapace length) No spearing, whole only, not mutilated. HAR 13-95, HAR 13-89, HRS 188-57, HRS 188-58	Bag limit of 2 spiny lobster per day; take by hand-harvest, hook, or trap only
	Banded Spiny Lobster	*Panulirus marginatus*	Caves and crevices, at depths down to 600 ft	Endemic to Hawaiʻi			
Uhu pālukaluka	Redlip parrotfish (initial phase – male or female)	*Scarus rubroviola ceus*	Reef	Indo-Pacific and Eastern Pacific	Peak spawning during the summer months	Minimum size 12 inches (statewide, except Maui) HAR 13-95 **Maui rules**: Minimum size 14 inches Bag limit 2 (total all species)	Kapu from April 1 – June 30; Bag limit of 2 uhu pālukaluka or uhu ahuʻula per day
Uhu ahuʻula	Spectacled parrotfish (initial phase – male or female)	*Chlorurus perspicillat us*		Endemic to Hawaiʻi			
Uhu eleʻele	Redlip parrotfish (large male)	*Scarus rubroviola ceus*		Indo-Pacific and Eastern Pacific		Minimum size 12 inches (statewide, except Maui) HAR 13-95 **Maui rules**: Taking prohibited HAR 13-95.1	Kapu year round
Uhu uliuli	Spectacled parrotfish (large male)	*Chlorurus perspicillat us*		Endemic to Hawaiʻi			
Kūmū	Whitesaddle Goatfish	*Parupeneu s porphyreus*	Sand, rock, and reef. At depths of 6-450ft	Endemic to Hawaiʻi	Late winter-early spring spawning	Minimum size 10 inches (statewide except Maui) HAR 13-95	Kapu from January 1 – March 31; Maximum size of 16" fork length; Bag limit of 2 per day
Kole	Goldring Surgeonfish	*Ctenochaet us strigosus*	Reefs, to depths of 371ft	Endemic to Hawaiʻi	Estimated L_{50}: Female – 84mm FL Male – 100mm FL	No regulation	Kapu from April 1 – June 30; Minimum size of 5" fork length; Bag limit of 20 per day
Moi	Pacific Threadfin	*Polydactyl us sexfilis*	Along sandy shores, can range into deeper waters	Indo-Pacific, Western Pacific	Males sexually mature at 7.8-9.8 inches, change sex to female between 11.8-15.7 inches Peak spawning during the summer months	Closed season June - August Minimum size 11 inches Bag limit 15 HAR 13-95	Maximum size of 18" fork length; take by hood-and-line, spear, or throw net only
ʻOpihi makaiaūli	Blackfoot ʻOpihi	*Cellana exarata*	Rocky/ boulder shore, cliff	Endemic to Hawaiʻi		Minimum size 1-1/4 inches (shell diameter), 1/2 inch (meat diameter, if meat only) HAR 13-92	Take by hand harvest only and no take below low-tide mark
ʻOpihi ʻālinalina	Yellowfoot ʻopihi	*Cellana sandwicen sis*					
ʻOpihi kōʻele	Giant ʻopihi	*Cellana talcosa*					

Limu (multiple species)			Rocky shore, wave exposed boulder, sandst-one			(Ogo/limu manauea/*Gracil a ria* spp. only) Prohibited: To take with the holdfast, the part attaching to a rock or other surface; To take when covered with reproductive nodes or bumps. Bag limits: One pound per person per day for home consumption; Ten pounds per day per marine licensee for commercial purposes. No commercial taking on Maui. HAR 13-93	No taking of any limu species with holdfast or roots attached, except during periodic projects to remove invasive limu, as deemed necessary; take by hand-harvest only; Within the Kawaʻaloa Bay Nursery Area, you can also only gather by shoreline from 6am-6pm

*Note: These are the species specific regulations being proposed. Proposed rules that apply to every species within the entire Moʻomomi North Coast of Molokaʻi CBSFA include: no commercial fishing, except for akule and taʻape; no night diving and/or harvesting, with an exception for lamalama (night torching); and no scuba spearfishing (including rebreathers and/or other underwater breathing devices). There are also other proposed rules specific to protect the Kawaʻaloa Bay Nursery Area.

Appendix IX.
Mo‘omomi Konohiki Advisory ‘Ohana Invitation Letter

Appendix IX. Moʻomomi Konohiki Advisory ʻOhana Invitation Letter

In order to engage the community in the process to establish the Moʻomomi North Coast of Molokaʻi CBSFA, the HMM asked the ʻAha Kiole O Molokaʻi - Pālāʻau Moku to help form and convene a Moʻomomi Konohiki Advisory ʻOhana (MKAO). As discussed in the management plan, the kuleana of the council is to:

a) The Aha Kiole - Pālāʻau Moku will facilitate the formation of the MKAO and call together its first meeting.
b) Interact and communicate effectively with the community regarding the resource management policy recommendations.
c) Adopt internal governance and operating procedures.
d) Serve as a liaison between the HMM and the community by providing feedback to HMM and by reporting and providing outreach to their ʻohana, neighbors, friends and the broader community.

In March 2016, the attached letter of invitation to serve on the council was distributed to two representatives from each of ten different families in the Pālāʻau Moku. The 18 persons listed below have agreed to serve on the council. Two persons representing one family declined to participate because they do not support the CBSFA.

At this stage, the ʻAha Kiole - Pālāʻau Moku is planning the first meeting for the council to be convened after the CBSFA proposal and management plan is submitted to the DLNR.

Representatives of 9 Hoʻolehua Families Who Will Serve on the Council:

Loke and Kalani Han
Kekama and Ane Helm
John and Rochelle Borden
Clyde and Kaleo Lenwai
Eddie and Kim Lani
Wayne and Jodie Pua'oi
La'akea and Mahina Poepoe
Eugene and Sandy Albino
Noa Emmett Aluli and Davianna McGregor

KA ʻAHA KIOLE O MOLOKAʻI

HAʻULE KA LEWA, HAʻULE KA LANI, HOʻALE KA LEPO POPOLO

March 17, 2016

To:
From: The ʻAha Kiole o Moloka'i, Pala'au Moku

Subject: Invitation to Serve on the Board of the First Mo'omomi Konohiki Council

Aloha,

Longitudinal studies have determined that Mo'omomi area resources are experiencing species depletion, and usage practices have become inconsistent with the traditional Hawaiian resource management practices that have historically kept Mo'omomi resources available. The Hui Malama o Mo'omomi has identified problem areas and is in the process of becoming proactive at the community level in order to help restore sustainability to area resources. DLNR statewide management procedures have not insured the sustainability of certain species, some of which are critically threatened at this time.

A Community-Based Subsistence Fishing Area Designation (CBSFA) within the Department of Land and Natural Resources is being currently sought as a management tool for self-determination by the community itself, to mitigate Mo'omomi area problems and to promote kuleana best practices by those who live within the area, care the most and know it best.

In an effort to move forward constructively with a best practices management plan for the usage of the Mo'omomi area by residents and visitors, the Hui Malama o Mo'omomi has asked the 'Aha Kiole to facilitate ***the formation of the first Mo'omomi Konohiki Council****. The objective of the group is to evaluate the conditions of coastal species in the area in a timely manner to determine and make recommendations to the community (and State DLNR when appropriate) regarding usage practices that will promote and maintain traditional Hawaiian cultural gathering and ecosystem health and sustainability.*

The Mo'omomi Konohiki Council will receive information mainly from the Hui Malama o Mo'omomi, which has a history of information collection and analysis utilized in longitudinal studies of the Mo'omomi area ecosystem activity and development over a 20+ year span. Additionally, the Hui Malama o Mo'omomi has partnerships with area landowners for the purpose of monitoring and management. The landowners include: DHHL, The Nature Conservancy, Molokai Ranch, National Parks, Molokai Land Trust, and the Joyce Kainoa Family.

Specific functions of the MKC at this point in time would include:

- Developing mission and objectives consistent with Mo'omomi ecosystem care.
- Developing a list of criteria for the making of recommendations by the council.
- Developing operational procedures, leadership roles, and administrative guidelines.
- Determining a system for balancing resident needs with ecosystem requirements.
- Developing a system of communication to and from residents.

As facilitators in this initiative, the 'Aha Kiole would like to insure that the initial group representing the MKC is made up of a broad range of members that are not limited to or influenced by any one interest group, organization or family. Additionally, we are seeking those who may be willing to commit in service to their community, with the ability to understand the intentions and goals that a group such as this would need to be able to move forward, in the interests of the needs of the people of Pala'au Moku and our future families.

This process is groundbreaking as it seeks to be inclusive of community residents in ways that have not been considered by State of Hawaii management past and present. It is new in contemporary times. But it is not new in terms of our traditional past. The konohiki system was abolished as a practice by the Territory of Hawaii. It is time to bring it back, and to show the State of Hawaii that Hawaiian konohiki practices can work to restore what management under the State system has lost.

Me ke aloha,

'Aha Kiole o Moloka'I, Pala'au Moku

Po'o- Moku o Pala'au: Kulia Keli'ikuli-Peters
Po'o- Malama Ho'onui'ike: Taryn Waros
Po'o- Malama Kanawai: Rita Kalahiki
Po'o- Malama Wai: Jeannine Rossa
Po'o- Malama 'Ike: Kalei Kawa'a
Kaleo Lenwai
Po'o- Malama Ho'ona'auao: Uluhani Waialeale
Marshall Joy
Po'o: Pua Alaka'i: Awapuhimele Napoleon-O'Brien
Po'okela Napoleon
Po'o: Malama Honua: Pulama Maioho
Po'o Malama Aukahi 'Olelo: Nahulu Maioho
Po'o: 'Ahupua'a o Naiwa: Lori Buchanan
Po'o- 'Ahupua'a o Kalaupapa: James Espaniola
Po'o- 'Ahupua'a o Kalamaula/ 'Elele OHA::
Gayla Haliniak
Po'o- 'Ahupua'a o Kualapu'u/'Elele DHHL:
Kilia Purdy-Avelino
Justin Avelino

March 17, 2016

To:

From: The ‘Aha Kiole o Moloka’i, Pala’au Moku

Subject: Invitation to Serve on the Board of the First Mo’omomi Konohiki Council

_____ Yes, I am able to serve..

_____ No, I am not able to serve.

Signature:	Print:	Date:
_____	_____	_____
_____	_____	_____

Appendix X.
Proposed Regulatory Solutions Justifications Table

Appendix X. Moʻomomi North Coast of Molokaʻi CBSFA Proposed Regulatory Solutions Justification Table

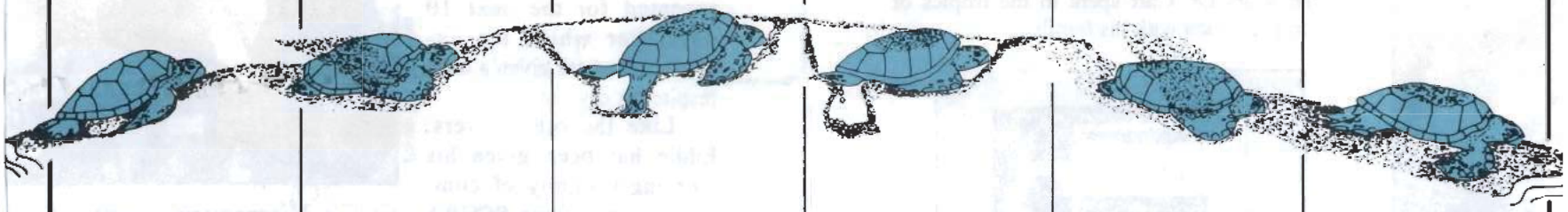
Existing Threats to the Resources or Practices and/or Management Goals & Objectives (if applicable)	Proposed Regulatory Solution	Rationale for Proosed Regulatory Solution (note: see Proposal and Management Plan for and supporting documentation)
BOUNDARIES		
This coastline is a popular gathering and diving area which can be easily fished, leading to a tendency to overharvest; Kalaupapa to Pelekunu serve as important recruitment areas for the Moʻomomi North Coast area.	**The area from Kalaeokaʻilio to Kaholaiki, from the shoreline out to one nautical mile, shall be designated as a CBSFA.**	The community relies on this entire area for subsistence purposes; traditional konohiki fishery boundaries statutorily extended out to 1 mile (See HRS § 187A-23(a)); the 1 mile boundary is inclusive of traditional fishing grounds (koʻa) and would protect reef, bottomfish, and pelagic fishing grouds for subsistence harvest by the Pālāʻau Moku residents.
Disturbance within spawning grounds disrupt, inhibit, and threaten spawning activity for important subsistence species including moi, aholehole, heʻe, lobster and nesting activity for the honu .	**Designate Kawaʻaloa Bay as protected nursery area.**	Kawaʻaloa Bay is one of the only sandy bays within the CBSFA and is semi-protected from wave action, serving as important spawning and juvenile nursery areas for many marine species; Protecting the nursery areas is a critically important management tool to allow for the recovery and regenetation of the marine resources, while supporting overall species and ecosystem health; Disturbance within the nursery area negatively impacts fish behavior, so there is a critical need to minimize disturbance to allow for fish and other a healthy space to regenerate; It is important for CBSFA's to have an iʻa safety zone as doing so maximizes recruitment rates to allow for a well stocked fishery; Every CBSFA should have designated nursery areas with heightened protections.
GENERALLY NOT ALLOWED WITHIN THE CBSFA		
Unchecked commercial use is in direct competition with subsistence fishers and gatherers; commercial practices are inconsistent with subsistence and traditional practices and values.	**No commercial fishing allowed, except for akule and taʻape (recreational/charter fishing operations are NOT included under commercial fishing.)**	The community is interested in protecting the more permanent shoreline species, as well as bottomfish and pelagic species; allowing commercial take defeats the purpose of the CBSFA and conservation practices; commercial fishing for akule is allowed because it is a meso-pelagic species that have a healthy and stable population capable of withstanding commercial and subsistence harvest without depleting stocks; commercial fishing for taʻape is allowed because they tend to gather in big schools and their populations needs to be checked.
Unchecked night fishing allows for raiding activities; no enforcement at night; a lot of species become more vulnerable (fish get blinded when light is shining at them, etc.).	**within the CBSFA boundary area.** **Exceptions: lamalama (night torching) is allowed.**	Important to remove this unsustainable practice when fish are vulnerable.
Scuba spearfishing is highly efficient and extractive and reduces fish populations to low levels and diminishes or eliminates the postive effects of deep water acting as a sanctuary for fish. (Walsh, 2013)	**No scuba spearfishing (including rebreathers and/or other undwater breathing devices).**	Important to remove this unsustainable practice, as was done in the West Hawaiʻi Marine Protected Area
SPECIES BAG LIMITS		
Status of lobster population is threatened, nearing point of extinction; the population is too low; heavy decline in lobster fishery almost to the point of no return; it has happened in parts of other islands, it can happen in the Moʻomomi North Coast if the proper kapu are not in place (ʻIke Maka)	**Ula (spiny lobster) bag limit of 2 per day.**	Prevents excessive harvest by a few fishers; this is plenty enough to feed a family; stricter limits are necessary given that the community has observed a stead level of population decline and a near collapse of the population in recent years with no evidence of recovery to a sustainable level.
Status of uhu population is endangered;population is too low and holes are wiped out.	**Uhu pālukaluka or ahuʻula: bag limit of 2 per day.**	Prevents excessive harvest by a few fishers; critically important species to support healthy coral reef systems; this is plenty enough to feed a family; stricter limits are necessary given the status of overfishing of uhu; consistent with the Maui rules.
Status of kūmū population is threatened to endangered; population never recovered from heavy commercial activities.	**Kūmū: bag limit of 2 per day.**	State regulations are not sufficient; prevents excessive harvest by a few fishers; this is plenty enough to feed a family; stricter limits are necessary given that the community has observed a stead level of population decline and a near collapse of the population, with no evidence of recovery to a sustainable level (note: Maui rules allow only 1 per day).
Status of kole is a steady population decline as observed by HMM monitors (ʻIke Maka); Population size warrant protection	**Kole: bag limit of 20 per day**	There are currently no state regulations for kole, but kapu are necessary as the HMM Monitors havae observed a steady level of population decline (ʻIke Maka); through bag limits, proposed rule prevents excessive harvest by a few fishers; this is plenty enough to feed a family.
SPECIES SIZE LIMITS		
Currently withdrawing more fish than the species can reproduce; There is a need to protect juveniles and broodstock to provide for assurance and allow for a healthy and well stocked population; Fish that grow longer and bigger have quality genes and DNA that are worth protecting (ʻIke Maka)	**Moi: maximum size of 18" fork length**	Allow fish to reach sexual maturity; Need to allow some fish to grow out to be broodstock; Important to protect the broodstock and to keep the brook stock healthy
Same as above	**Kūmū: maximum size of 16" fork length**	Same as above
Currently withdrawing more fish than the species can reproduce; There is a need to protect juveniles to allow for a healthy and well stocked population	**Kole: minimum size 5" fork length**	Allow fish to reach sexual maturity. On the north coast of Molokaʻi HMM members have observed over the past 22 years that mature kole are larger than 5 inches, unlike the kole on the south coast of Molokaʻi which tend to be less than 5 inches.
SPECIES SPAWNING SEASONS		
Currently, withdrawing more fish than the species can reproduce; missing out on the time of spawning for that harem by eliminating the male.	**Uhu eleʻele or uliuli (large blue uhu): Closed year round.**	By protecting the male uhu, you allow for maximum spawning activity within each harem; If male(s) are caught, it takes time for one of the female uhu to change gender; consistent with Maui rules.
Currently no regulation on catching this species during its peak spawning season.	**Uhu pālukaluka or ahuʻula: Kapu from April 1 - June 30**	Kapu necessary to allow fish to reproduce by providing protection during its spawning season and extending into the season of heavy fishing pressure
Same as above	**Kūmū: Kapu from January 1 - March 31**	Same as above
Same as above	**Kole: Kapu from April 1 - June 30**	Same as above
SPECIES-SPECIFIC GEAR RESTRICTIONS		

Species population size warrants gear restriction; More efficient practices promot un-pono fishing and competes with more traditional methods and subsistence fishing	**Moi: take by hook-and-line, spear, or throw net only**	Purpose of CBSFA's is to support and promote traditional fishing methods and subsistence fishing practices; Gear restriction is an effective management tool
Species population size warrants gear restriction; More efficient practices promot un-pono fishing and competes with more traditional methods and subsistence fishing	**Ula (spiny lobster): take by hand-ha**	Same as above
Species population size warrants gear restriction; more efficient practices promote fishing that is not pono and competes with more traditional methods and subsistence fishing	**ʻOpihi: take by hand-harvest only (w/knife is allowed); and no take of ʻopihi below the low-tide mark.**	Same as above. ʻOpihi that grow below the low tide mark are the spawners, providing the source for the ʻopihi to reproduce and have a healthy population.
N/A	**Akule: commercial gathering by surround gill net or bag net methods allowed.**	Akule are a meso-pelagic species that have a healthy and stable population capable of withstanding commercial and subsistence harvest without depleting stocks
Taʻape populations need to be checked; It is an invasive fish within Moʻomomi's CBSFA and outcompetes important subsistence species for food and space .	**Taʻape: commercial gathering by surround gill net or bag net methods allowed.**	Due to the taʻape population size and the way they gather in large schools, it is feasible to use these fishing methods and purpose as a management tool.
Need to promote sustainable limu gathering practices to increase limu viability.	**Limu: No taking with holdfast or roots attached; , except during periodic projects to remove invasive limu as deemed necessary; take by hand-harvest only (w/knife or scissors is allowed).**	Allows for full reproduction; directing ones method of gathering is an effective management tool; purpose of CBSFA's is to support and promote traditional fishing methods and subsistence fishing practices. Provides exception for removal of invasive limu as deemed necessary.
KAWAʻALOA BAY NURSERY AREA		
FISHING AND GATHERING IS PROHIBITED EXCEPT FOR THE FOLLOWING SUBSISTENCE FISHING AND GATHERING PRACTICES ALLOWED WITHIN THE KAWAʻALOA BAY NURSERY AREA		
Kawaʻaloa Bay is an important nursery for all subsistence resources in the proposed CBSFA and all of the marine resources need to be protected; everything at Kawaʻaloa Bay is kapu except for the following listed subsistence fishing practices that have minimal disturbance	**Kawaʻaloa Bay is kapu except for the subsistence fishing and gathering practices listed below that have minimal impact.**	The primary nursery for the Moʻomomi area will be protected while allowing for traditional subsistence activities that have minimal impact on the nursery.
Same as above	**Gather ʻaʻama crab from the shoreline by hand-harvest only.**	It is okay to allow for traditional subsistence activities that cause minimal to no disturbance within the nursery area. ʻAʻama can be gathered during the day or night, as most ʻaʻama are caught at night. As ʻaʻama are on the rocks, gathering them at night would not disturb the turtles whose nesting activity is on the sand.
Same as above	**Gather limu from the shoreline by hand-harvest from 6am-6pm only (note: no taking with holdfast or roots attached), except during periodic projects to remove invasive limu as deemed necessary; .**	Same as above. Provides exception for removal of invasive limu as deemed necessary.
Same as above	**Throw net from 6am-6pm**	Same as above
Same as above	**Hook-and-line using artificial lures only from shoreline from 6am-6pm.**	Same as above; Use of fresh bait is more attractive to turtles, so this rule is to minimize bycatch; bait is allowed on poles shorter than 15 feet because fishers with shorter poles tend to pay better attention to their pole
RECREATIONAL ACTIVITIES NOT ALLOWED WITHIN THE KAWAʻALOA BAY NURSERY AREA		
Disturbance within spawning grounds disrupt, inhibit, and threaten spawning activity for important subsistence species including moi, aholehole, heʻe, lobster and nesting activity for the honu.	**Swimming, surfing, body boarding, snorkeling, diving, operating vessels, or engaging in any other recreational activity is not allowed.**	Need to keep the nusery as minimally disturbed as possible by non-subsistence or fishing practices; akule fishing requires a vessel, so this is an exception to the rule to allow for the effective catching of predators to minimize their presence and promote minimal disturbane and protect the nursery.

Appendix XI.
Turtle Nesting Stages and Disturbance Factors

NESTING STAGE

1 EMERGING FROM SEA	2 DIGGING BODY PIT	3 DIGGING EGG CHAMBER	4 LAYING EGGS	5 COVERING EGGS	6 RETURN TO SEA
The female turtle moves very cautiously up the beach, pausing frequently to look for danger. (15-30 minutes)	The turtle throws sand backwards with great sweeps of her front flippers to form a shallow body pit. The turtle frequently stops to rest and this should not be mistaken for the onset of the next stage. (20-30 minutes)	Back flippers lift and throw sand forward alternately, but not as vigorously as in the previous stage. The back of the turtle's shell rises and falls and moves from side to side (30-50 minutes)	Lying quietly, with periodic sighs and a slight lifting and curling of the back flippers, the female slowly lays about 100 leathery eggs. (20-30 minutes)	Using her back flippers, the female covers the eggs with sand. She then energetically throws sand backwards with her front flippers to cover and disguise the nest area. This stage is difficult to differentiate from Stage 2. (10 minutes)	The turtle moves quickly down the beach to the sea. (10 minutes)



DISTURBANCE FACTOR

VERY HIGH	VERY HIGH	HIGH/MODERATE	LOW	MODERATE/HIGH	HIGH
The slightest light or movement will scare the turtle back to sea. Keep off of the beach crest because your moving silhouette is enough to scare the turtle away. If you see a turtle, immediately stop and crouch to watch. If she continues moving up the beach, wait until you can creep behind her out of sight Keep low. It may take several minutes before she starts moving again. *NO PHOTOGRAPHS*	Any approach closer than 10 meters (30 ft.) or any flash of light will scare the turtle back to the sea. There is a danger of stumbling on a turtle at this stage as the animals are in a body pit at or below beach level. Move cautiously and watch for sprays of sand to pinpoint nesting turtles. Keep low and stay behind the turtle. *NO PHOTOGRAPHS*	You can approach the turtle quietly from behind. Stay about 3 meters (10 ft.) away. Do not touch the turtle or turn on lights. She will rest frequently. Be careful not to mistake the pauses for the onset of egg laying. Wait at least five minutes from when digging stops before approaching to see if laying has started. Keep low and stay behind the turtle. *NO PHOTOGRAPHS*	Once the turtle begins laying eggs, she is less sensitive to disturbance. Do not touch the turtle. Keep low and stay behind the turtle. A small flashlight may be used by your guide to help you see the eggs being laid. The guide will not shine the light on the turtle's head and light will not be used if another turtle is nearby that might be scared away. Use extreme care with flash photography. Always point flashes or lights inland and do not take a picture if there is another turtle within 60 meters (180 ft.). *PHOTOGRAPHS WITH CAUTION. NO FLASHES TOWARD SEA*	The turtle becomes increasingly sensitive to disturbance as she covers the nest. The same rules for flash photography apply as in the previous stage. The best time to take pictures is in the early morning using natural light. *PHOTOGRAPHS WITH CAUTION NO FLASHES TOWARD SEA*	No photographs may be taken at night because of the danger of disturbing other turtles coming in from the sea. In the morning take pictures only if no other turtles are emerging from the sea or nesting on the beach. *DAYLIGHT PHOTOGRAPHS ONLY*