

**Management Plan for the  
Hā'ena Community-Based Subsistence Fishing Area, Kaua'i**



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Division of Aquatic Resources  
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## **ABBREVIATIONS**

CBSFA: Community-Based Subsistence Fishing Area

DAR: Division of Aquatic Resources

DLNR: Department of Land and Natural Resources

BLNR: Board of Land and Natural Resources

DOBOR: Division of Boating and Ocean Recreation

DOCARE: Division of Conservation and Resources Enforcement

HRS: Hawai‘i Revised Statutes

HAR: Hawai‘i Administrative Rules

SLH: Session Laws of Hawai‘i

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## INTRODUCTION TO COMMUNITY-BASED SUBSISTENCE FISHING AREA DESIGNATIONS

In the early 1990s, Governor John Waihe‘e convened a Task Force to determine the importance of subsistence living on Moloka‘i, identify problems affecting subsistence practices, and recommend policies and programs to improve the situation. As a result of the task force’s policy recommendations, the legislature passed Hawai‘i Revised Statutes (HRS) §188-22.6 in 1994 through Act 271, giving the Department of Land and Natural Resources (DLNR) the authority to designate and manage community-based subsistence fishing areas (CBSFAs) to protect and reaffirm fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion. The measure was intended to provide the DLNR with a means to effectuate its duty under Article XII Section 7 of the Hawai‘i State Constitution to “protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua‘a<sup>1</sup> tenants who are descendants of native Hawaiians who inhabited the Hawaiian islands prior to 1778, subject to the right of the State to regulate such rights.” Under HRS §188-22.6, community groups or organizations may propose a CBSFA designation, including a management plan and associated regulatory recommendations, to the DLNR for consideration, and the DLNR may carry out fishery management strategies for these areas by adopting rules in accordance with the administrative rule-making procedures for state agencies outlined in HRS Chapter 91.

The best way to understand CBSFA designation is through the lens of the Hawaiian value of aloha ‘āina, which emphasizes the connection between the environment and communities, whereby if you care for the environment, the environment will care for you. CBSFAs represent an agency-recognized avenue for local community groups to mālama i ke kai (take care of the ocean) by proposing management measures informed by traditional and customary fishing and management practices that were integral to sustaining the health and abundance of marine resources for generations in the Hawaiian Islands. In this way, CBSFA designation represents a collaborative co-management approach to fisheries management that is place-based, community-driven, and culturally rooted.

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<sup>1</sup> The ahupua‘a is most commonly understood as a division of land running from the mountains (mauka) to the sea (makai), often following the natural boundaries of a watershed. The ahupua‘a is representative of the traditional Hawaiian land tenure system which was designed to ensure access to all the resources required for residents’ survival from the ahupua‘a’s different zones including the upland/inland forest zone; agricultural zone; and the coastal zone. From: Minerbi, L. (1999). Indigenous management models and protection of the ahupua‘a. *Social Process in Hawai‘i* (39): 208–225.

Co-management can be defined as any form of collaborative management arrangement involving some degree of shared management roles and responsibilities between the government and local resource users.<sup>2</sup> Such approaches are increasingly recognized as effective strategies for nearshore marine resource management,<sup>3,4,5</sup> and are in line with the DLNR’s mission to “Enhance, protect, conserve and manage Hawaii’s unique and limited natural, cultural and historic resources held in public trust for current and future generations of the people of Hawaii nei, and its visitors, in partnership with others from the public and private sectors.”<sup>6</sup>

Whilst CBSFAs provide a mechanism for community groups to recommend regulations and carry out management activities to support the State’s management of nearshore marine resources (i.e. monitoring, outreach), the DLNR must determine the balance of interests and actions necessary to manage marine resources and protect traditional and customary fishing practices, and is ultimately responsible for designating and adopting and enforcing rules for CBSFAs.<sup>7</sup> DLNR relies on the best available information to inform its management decisions,<sup>8,9</sup> and CBSFAs promote informed management decisions through the integration of the best available western and indigenous observational science and knowledge systems. In addition, CBSFA designations or rules must be adopted in accordance with HRS Chapter 91, which prescribes administrative rule-making procedures for state agencies to ensure due process and consideration of all public interests.

## HĀ’ENA CBSFA BACKGROUND

The ahupua‘a of Hā‘ena is the westernmost land in the *moku* (district) of Halele‘a on the northwest coast of Kaua‘i. The ahupua‘a and its offshore waters, since time immemorial, have been an important subsistence and cultural resource for native Hawaiians and local families (Act 241 Session Laws of Hawai‘i (SLH) 2006).

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<sup>2</sup> Sen, S., and Nielsen, J.R. (1996). Fisheries co-management: a comparative analysis. *Marine Policy* 20(5): p.405–418.

<sup>3</sup> Gutierrez, N.L., Hilborn, R., and Defeo, O. (2011). Leadership, social capital and incentives promote successful fisheries. *Nature* 470 (7334): p.386–389.

<sup>4</sup> Aswani, S. et al. (2012). The way forward with ecosystem-based management in tropical contexts: reconciling with existing management systems. *Marine Policy* 36 (1): p.1–10.

<sup>5</sup> Armitage, D.R. et al. (2009). Adaptive co-management for social–ecological complexity. *Frontiers in Ecology and the Environment* 7(2): p.95–102.

<sup>6</sup> Hawai‘i Department of Land and Natural Resources Mission Statement: <http://dlnr.hawaii.gov/>

<sup>7</sup> Hawai‘i State Constitution Article XII §7; Haw. Rev. Stat. §1-1; *Ka Pa‘akai O Ka ‘Āina v. Land Use Commission*, 94 Haw. 31 (2000); *State v. Pratt*, 127 Haw. 206 (2012)

<sup>8</sup> See *in re Water Use Permit Applications (Waiāhole)*, 94 Hawai‘i 97, 9 P.3d 409 (2000).

<sup>9</sup> See *in re Ashford*, 50 Haw. at 316, 440 P.2d at 77 (1968); and *in re Diamond and Blair v. Craig Dobbin and Wagner Engineering Services, Inc. and BLNR* (2014).

In 1999, descendants of Hā'ena formed a 501(c)3 nonprofit organization entitled Hui Maka'āinana o Makana to perpetuate Hawaiian culture as a way of life through the practice of and participation in ahupua'a-based management in Hā'ena. As part of their ahupua'a-based management efforts, the Hui Maka'āinana o Makana entered into a Memorandum of Understanding with the Division of State Parks in 2000, to restore the *lo'i kalo* (taro terraces) within the Hā'ena State Park and care for the park's cultural sites. To further the Hui's goal of restoring Hawaiian values and stewardship practices through holistic and integrated ahupua'a-based management from ridge to reef, members of the Hā'ena community and the Hui Maka'āinana o Makana successfully petitioned the Hawai'i State Legislature for the ocean waters of the Hā'ena ahupua'a to be designated as a Community-Based Subsistence Fishing Area in 2006.

During interviews with cultural historian Kepa Maly,<sup>10</sup> *kūpuna* (elders) from Hā'ena noted a decline in quality and abundance of fish. Many felt that the changes were caused by the loss of the *konohiki* (overseer) system and *kapu* (laws) that once governed the fishery, which has led to people taking more than they need, in addition to recreational overuse, coastal development, and pollution. The Legislature similarly recognized the importance of Hā'ena's ocean waters as an important subsistence fishery area, and that there has been "adverse impact to the fish stocks and the integrity of coral reef habitats in the area" as a result of the "influx of visitors and a growing problem of indiscriminate fishing" (Act 241 SLH 2006). In response, the Legislature determined that a traditionally managed fishery was needed to maintain the fishery resources of the Hā'ena ahupua'a. Addressing this identified need, Governor Linda Lingle signed Act 241 into law on June 26, 2006, thus establishing a community-based subsistence fishing area for the ahupua'a of Hā'ena under Hawai'i Revised Statutes (HRS) §188-22.9. HRS §188-22.9 creates the authority for the DLNR to consult with the Hā'ena community and other interested parties to establish fishery management rules and a management plan that will maintain a subsistence fishery based on traditional management practices and regulations.

In consultation with the Department of Land and Natural Resources (DLNR) Division of Aquatic Resources (DAR), the Hawai'i Community Stewardship Network (now Kua'āina Ulu 'Auamo (KUA)) provided their expertise to facilitate a comprehensive participatory planning process in collaboration with the Hui Maka'āinana o Makana and Limahuli Gardens and Preserve. Through this process, management recommendations were developed in consultation with a broad base of stakeholders, including Hā'ena residents, ocean users, permitted commercial businesses, and other interested parties. In 2011, after five years of community consultations and compromise, the resultant management recommendations entitled "2011 Community-based Management

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<sup>10</sup> Maly, K. and Maly, O. (2003). *Hana Ka Lima, 'Ai Ka Waha: A collection of historical accounts and oral history interviews with kama'āina residents and fisher-people of lands in the Halele'a-Na Pali Region on the island of Kaua'i*. [Online] <http://uploads.worldlibrary.net/uploads/pdf/elib/collect/maly4/index/assoc/d0.dir/book.pdf>

Proposal for the Hā‘ena CBSFA” (see Appendix M) were submitted to the DLNR for consideration.

Research and interviews with kūpuna and families with ancestral ties to the ahupua‘a of Hā‘ena identified the following customary resource management values and practices as important to restoring the area’s fishery, and have been used to inform management recommendations for the Hā‘ena CBSFA.<sup>11</sup>

1. *Ahupua‘a*: holistic watershed management from mountains to sea.
2. *Kuleana*: rights based on responsibilities, mālama ‘āina/kai. Care for the place that cares for you.
3. *Ho‘omalu*: protection, shelter, minimize disturbance of key habitat areas. Avoid disrupting places important to fish feeding, resting, and spawning to ensure fish continue to return to those places.
4. *Ho‘omaha*: rotate areas of use, let areas rest after harvest to allow stocks to recover. Be flexible and responsive to the condition of the resource.
5. *Lawa Pono*: take only what you need, limit harvest so there’s still fish for next time.
6. *Hō‘ihi*: respect marine resources as beings and maintain respectful relationships with them. Give thanks (i.e. throw first fish back, give offerings)
7. *Mahele*: share what you catch with others. Catch sharing builds community.

In addition, management planning and rule-making for the Hā‘ena CBSFA was informed by the best available science,<sup>11</sup> relevant laws and mandates pertaining to the management of public trust resources and the protection of traditional and customary practices, and recognized best management practices. In accordance with the intent of Hā‘ena’s CBSFA designation under HRS §188-22.9, DAR’s fishing rules that were adopted as Hawai‘i Administrative Rules (HAR) Chapter 13-60.8, and the development of this management plan were also informed by the management recommendations in the “2011 Community-based Management Proposal for the Hā‘ena CBSFA” (see Appendix M), public testimonies and comments submitted to the DLNR, community meetings, and consultations with stakeholders conducted by DLNR staff.

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<sup>11</sup> See Appendix G for research informing Hā‘ena CBSFA management planning

## HĀ'ENA CBSFA MANAGEMENT PLAN PURPOSE

As specified in HAR Chapter 13-60.8, the purpose of this management plan is to inform the adaptive management of marine resources within the Hā'ena CBSFA by providing a framework to assist the Department and the community in working in partnership to collaboratively monitor, evaluate and manage the area (HAR Chapter 13-60.8). This plan outlines the management activities the DLNR, the Hui Maka'āinana o Makana and other interested community volunteers within the Hā'ena CBSFA are undertaking to support implementation of the Hā'ena CBSFA rules (HAR Chapter 13-60.8).

While this CBSFA management plan is intended to encompass the co-management activities to be conducted within the fishing area (HRS §188-22.9, HAR Chapter 13-60.80), it should be noted that the Hā'ena CBSFA is part of a larger community-based effort to restore Hawaiian values and stewardship practices through holistic ahupua'a-based management that recognizes and responds to the connection between land and sea and strives to restore the necessary balance of native species.<sup>12</sup> While ahupua'a management activities implemented outside the CBSFA boundaries are beyond the scope of this management plan, the Hui Maka'āinana o Makana, Limahuli Gardens and Preserve, and/or other community volunteers and interested parties continue to pursue holistic ahupua'a management in collaboration with relevant agencies and parties as needed to achieve their management goals. The DLNR is similarly committed to working in partnership with others from the public and private sectors beyond the activities outlined in this CBSFA management plan, to support integrated, ecosystem-based management approaches that help enhance, protect, conserve and manage Hawaii's public trust for current and future generations.

## HĀ'ENA CBSFA SITE DESCRIPTION

### HISTORICAL DESCRIPTION

Human settlement and subsistence in Hā'ena began with occupation and settlement of Kē'ē Beach sometime before 1000 AD.<sup>13</sup> After 1000 AD, occupation expanded at Kē'ē, as well as inland, utilizing a broader resource base, with further intensification occurring after 1400 AD with the construction of the agricultural fields and *lo'i* (irrigated terraces)<sup>13</sup>. Coastal sand dune and beach settlement is well documented by the Land Commission Awards and in related testimony recorded between 1848 and 1852.<sup>13</sup>

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<sup>12</sup> See Appendix M: 2011 Community-based Management Proposal for the Hā'ena CBSFA

<sup>13</sup> PBR Hawai'i and Associates Inc. (2015). "Draft Environmental Impact Statement." Hā'ena State Park Master Plan. Prepared for the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks. [Online] [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)

Hā'ena was an ideal settlement site because of the healthy fishery, rich alluvial soil, abundant fresh water and proximity to forest resources. Historically habitation and agriculture were centered along the alluvial plain. The lower valleys, or *kula*, were also used for agricultural production, and evidence indicates that Hawaiians used even the upper valleys for agriculture.<sup>14</sup> In addition to *kalo* (taro), Hawaiians grew sweet potatoes, bananas, sugar cane, 'awa, and coconut. Archaeological excavations of Hā'ena's coastal dunes also suggest the importance of nearshore waters as a subsistence fishery for early inhabitants of the ahupua'a. Shell fish and fish bones were predominant findings during excavations, with nearshore fish species better represented than pelagic species.<sup>15</sup>

Hā'ena is filled with many *wahi pana* (storied places) with important cultural sites that are sacred to native Hawaiians and important to the State as a whole. The following highlights a few of the significant sites as described in the 2015 Hā'ena State Park Master Plan:<sup>15</sup>

- **Kē'ē:** As the setting of one of the most famous mo'olelo, Kē'ē holds extreme cultural importance and significance to Native Hawaiians and those who practice hula. Ka Ulu, a heiau dedicated to Paoa, overlooks Kē'ē from atop the cliffs and is Hā'ena's most sacred and significant site. It is where the legendary love affair between Pele and Lohi'au began.
- **Coastal dunes:** Archaeological excavations conducted within the sand dunes indicated the widely distributed presence of at least one and sometimes multiple cultural layers and an array of subsurface feature types (Site No. 30-02-7001). In all excavations, midden analyses suggested, as could be expected, a reliance on marine resources with shell fish and fish bone being well represented and predominant. Near shore fish species were better represented than pelagic species despite the proximity of a reef channel and canoe landing at Kē'ē Beach that gives advantageous access to off-shore waters. Use of the coastal sand dune and beach deposits primarily for settlement purposes, at least during the late prehistoric and early historic period, is supported by the Land Commission Awards and related testimony recorded between 1848 and 1852.<sup>16</sup>
- **Ka Ulu a Paoa Heiau and Ke Ahu a Laka:** A *heiau* (temple) dedicated to the worship and practices of 'aiha'a and hula, including the highest level of the site named Ke Ahu a Laka. Ka Ulu a Paoa translates to "the inspiration and growth of Paoa." Paoa comes from the formal name, "Kauakahiapaoa," who was an ali'i of Hā'ena. He was a very close friend of Lohi'au, as well as a master of hula himself (Kehaulani Kekua, kumu hula and cultural expert from Kaua'i, personal communication, November-December 2010).

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<sup>14</sup> From <http://www.pacificworlds.com/haena/land/areas.cfm>

<sup>15</sup> PBR Hawai'i and Associates Inc. (2015). "Draft Environmental Impact Statement." Hā'ena State Park Master Plan. Prepared for the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks. [Online] [http://oegc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oegc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)

<sup>16</sup> McEldowney, Holly. 2007. "Archaeological and Historical Background." Prepared August 2007.

- **Makana:** Translated as “gift,” Makana is a triangular peak, prominent and unmistakable, overlooking the Hā‘ena State Park. ‘Oahi (firebrands) made up of *hau* (*Hibiscus tiliaceus*) or *pāpala* (*Charpentiera*) wood whose soft core burns before the outer layers, were once thrown from the top of this peak. Under the right conditions, the brands would fall and rise, moving slowly a mile or more over the ocean, leaving a trail of glowing embers. These exhibitions were normally reserved for very special celebrations or sacred ceremonies such as chiefly graduations or visits.

Western contact was slower to reach Hā‘ena due to its remote nature. The 1900 Census recorded seven households in Hā‘ena, all of which were comprised of native Hawaiians. Ten years later, the census recorded fifteen residences, 97% identified as native Hawaiian.<sup>17</sup>

Demographic changes were brought about by the construction in the early 1900s of what is now Hawai‘i Route 560 (listed on the National Register of Historic Places), along what used to be a footpath used by Hawaiians, making it easier for immigrants to reach Hā‘ena. By the 1930s, many areas once used for *kalo* production had been turned to pasture land for cattle. Additional demographic and environmental shifts in Hā‘ena are attributed to the two tsunamis that occurred in 1946 and 1957. These tsunamis flooded agricultural areas including *lo‘i kalo* (taro fields) and fishponds, and they destroyed homes and displaced families. Hā‘ena’s demographic landscape further changed in 1958 after neighboring Hanalei was featured in the film version of *South Pacific*, precipitating waves of tourism and new vacation home construction.

Over the past century, the population of resource users in Hā‘ena has grown from 15 households with 67 total residents in 1910,<sup>17</sup> to 322 households and 431 residents in 2010, of which 22.7% report identifying as native Hawaiian (See Table 1 below).<sup>18</sup>

Table 1. Changing Demographics in Hā‘ena<sup>18</sup>

Demographic Attributes	YEAR		
	1910	2000	2010
Total Population	67	300	431
Native Hawaiian Population	65 (97%)	109 (36%)	98 (23%)
Population Comprised of Other Races	2 (3%)	191 (64%)	333 (77%)
Total Number of Housing Units	n/a	166	332
Households (occupied units)	15	116	166

<sup>17</sup> United States Federal Census, 1910

<sup>18</sup> U.S. Census Bureau. 2010. 2010 Demographic Profile, Hawai‘i, Hā‘ena CDP. Retrieved from: <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>



Today, Hā‘ena is still home to several families who can trace their lineal ties to the area and who continue to practice traditional farming, hunting, and fishing. In addition, new residents (many part-time) have come from around the world to make their home in Hā‘ena, which has also altered the demographic and architectural landscape of Hā‘ena. The 2010 census found that of 50% of the 322 total households recorded were resident households, while 42.5% were listed as seasonal/occasional use properties<sup>18</sup>, many of which are vacation rentals.

Adding to the growing number of resource users in Hā‘ena are the thousands of tourists that make their way the area each day, totaling more than 700,000 visitors per year.<sup>19</sup> Furthermore, the trend in visitor numbers continues to be on the rise, as evidenced by visitor surveys conducted between 1993 and 2013 for the Hā‘ena State Park (See Table 2 below).

Table 2: Visitor Counts to Hā‘ena State Park<sup>19</sup>

Year	Month/ Season	Day of the Week	Visitors per Day	Source	Notes
1993	Off-peak		50 (average)	The Keith Companies 2001	Peak season is during summer months.
1993	August		353 (average)	The Keith Companies 2001	
1998	September	Friday	1,501	DLNR State Parks	
1999			1,700	DLNR via Stepath 2006	
2008	August	Holiday Weekend	1,950 (est.)	ATA 2011	Estimated based on 2.5 persons per vehicle
2010	February	Wednesday	1,247 (est.)	DLNR State Parks	Counts only conducted from 9am-4pm. Estimated based on 2.5 persons per vehicle.
2011	July	Monday	2,028 (761 cars)	UH Hawaiian Studies (informal count)	Measured from 9:00am-6:30pm. Includes 8 on bicycles, 14 hikers, 5 joggers, and 20 pedestrians.

A 2007 survey by State Parks and OmniTrak for the Hawai‘i Tourism Authority (HTA) estimated that annual visitation to Hā‘ena averaged 708,000 visitors, of which approximately

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<sup>19</sup> PBR Hawai‘i and Associates Inc. (2015). “Draft Environmental Impact Statement.” Hā‘ena State Park Master Plan. Prepared for the State of Hawai‘i, Department of Land and Natural Resources, Division of State Parks. [Online] [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)

90% are from out-of-state. In addition, the survey recorded an average of 2,000 visitors per day during the peak summer season, and about 1,000 per day during the non-peak season.<sup>19</sup> Department of Transportation (DOT traffic counts conducted in June 2013 similarly recorded high visitation to Hā'ena, with 6,700 vehicles per counted per day, or roughly 3,350 traveling in each direction, on the stretch of highway just before the County's Hā'ena Beach Park., which is a roughly 55% increase since 2003.<sup>20</sup>

## GEOGRAPHIC LOCATION

The Hā'ena CBSFA is located on the North Shore of Kaua'i, in the moku (district) of Halele'a, within the ahupua'a of Hā'ena. The ahupua'a begins in the center of Naue Bay (22°13'28.00"N, 159°33'13.50"W) and extends approximately 3.5 miles north, past Kē'ē Beach, to the cliffs before Hanakapi'ai, at the boundary between Hā'ena State Park and Na Pali State Park (22°12'42.50"N, 159°35'44.50"W). The Hā'ena Community-Based Subsistence Fishing Area extends along the ahupua'a's 3.5 miles of shoreline, from the high water mark to one mile out (see Figure 1 on the following page).

## MARINE ENVIRONMENT

The ahupua'a of Hā'ena is comprised of two valleys, each with a stream - Mānoa and Limahuli. Limahuli stream drains through Limahuli Valley into the ocean, providing an important freshwater input to Hā'ena's ocean environment.

Reefs along the Kaua'i coast tend to be dominated by the corals *Porites lobata* (lobe coral) and *Pocillopora meandrina* (cauliflower coral). Other common species include *Montipora patula* (sandpaper rice coral), *Montipora flabellata* (blue rice coral), *Leptastrea purpurea* (crust coral) and *Montipora verrucosa* (bracket coral). The coral reef habitat within the Hā'ena CBSFA is characterized by a high percentage of Turf (55.7% of total cover), while scleractinian corals, macroalgae, unconsolidated substrate, and coralline algae are fairly evenly distributed, with cover ranging from 8.8 to 12.6% (see map in Figure 2 below<sup>21</sup>).<sup>22</sup>

Hawai'i's Coral Reef Assessment and Monitoring Program (CRAMP) and other past studies of fish populations in the nearshore waters of the ahupua'a of Hā'ena have identified 80 fish

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<sup>20</sup> State of Hawai'i, Department of Transportation, Highways Division-Kaua'i District (2007,2015). Biennial traffic counts 2003 and 2013.

<sup>21</sup> SWCA Environmental Consultants (2010). "Marine Natural Resources and Recreation Assessment, Hā'ena State Park, Kaua'i, Hawai'i." Draft Environmental Impact Statement, Hā'ena State Park Master Plan. Prepared for PBR Hawai'i for the State of Hawai'i Department of Land and Natural Resources, Division of State Parks. 43p.[Online] [http://oegc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oegc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)

<sup>22</sup> See the Hā'ena Ecological Reef Assessment Reports prepared by the Fisheries Ecology Research Lab in Appendix J and Appendix K.

species, with twice that many recorded seaward of the reef.<sup>21,22</sup> Two lagoon areas, Kēʻē and Makua, have been cited by scientists and fishers alike as providing excellent habitat for juvenile reef fishes.<sup>21,22</sup>

Threatened green sea turtles (*Chelonia mydas*), endangered hawksbill sea turtles (*Eretmochelys imbricata*), endangered monk seals (*Neomonachus schauinslandi*), humpback whales (*Megaptera novaeangliae*), and several dolphin species are present in the ocean waters of Hāʻena's Community-Based Subsistence Fishing Area. In addition, the Hāʻena CBSFA provides habitat for the following sea bird species:

- ʻUaʻu (Hawaiian Petrel, endangered)
- ʻAʻo (Newell's Shearwater, endangered)
- ʻAkē`akē (Band-rumped storm petrel, endangered)
- ʻUa`u kani (Wedge-tailed shearwater)
- Koa`e (Tropic Bird)
- `Ulili (Wandering tattler)

For more information on the marine environment of Hāʻena, see the reports from reef fish assessments conducted between 2011 and 2013 located in Appendix J and Appendix K.

Figure 1. Map of Hā'ena CBSFA

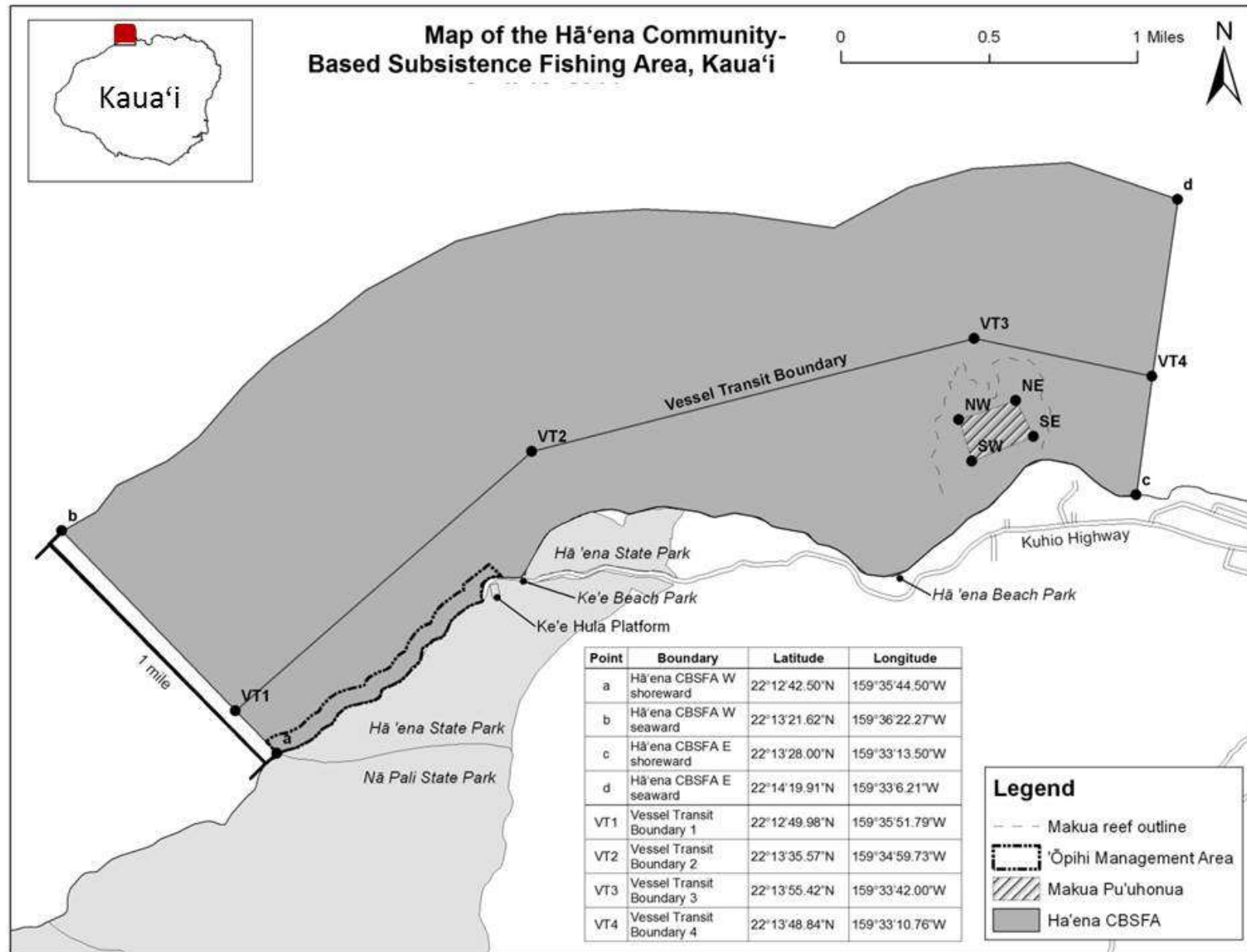
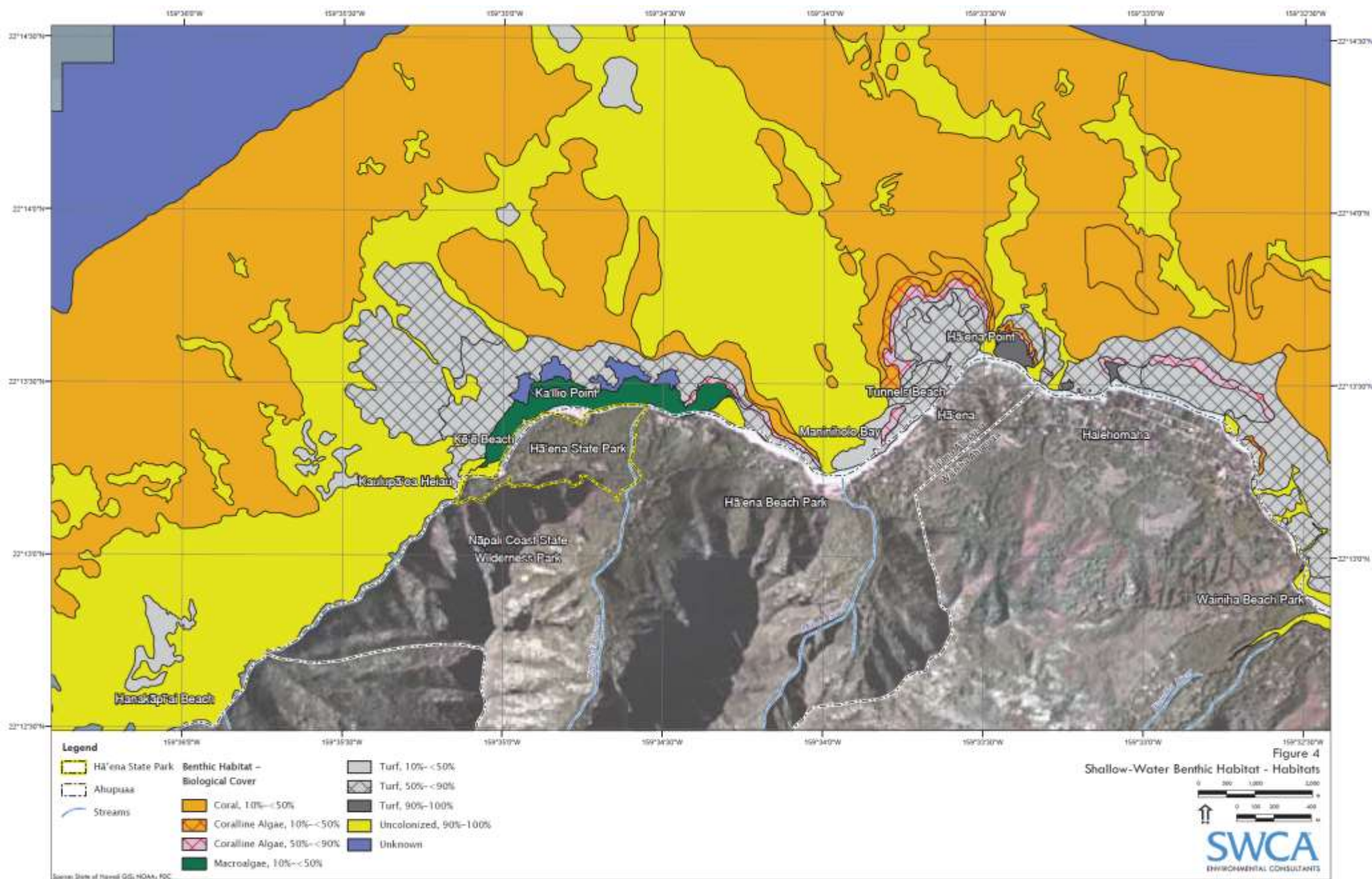




Figure 2. Map of Nearshore Marine Habitat in Hā'ena  
 Map prepared by the National Ocean Service Center for Coastal Monitoring and Assessment for the Hā'ena State Park Master Plan



## **HĀ'ENA CBSFA MANAGEMENT GOALS AND OBJECTIVES**

The management goals for the Hā'ena CBSFA per HAR Chapter 13-60.8 are:

- Sustainably support the consumptive needs of the Hā'ena ahupua'a through culturally-rooted community-based management;
- Ensure the sustainability of nearshore ocean resources in the area through effective management practices;
- Preserve and protect nursery habitat for juvenile reef fishes;
- Recognize and protect customary and traditional native Hawaiian fishing practices that are exercised for subsistence, cultural, and religious purposes in the area; and
- Facilitate the substantive involvement of the community in resource management decisions for the area.

To achieve these goals, the following management objectives will guide management activities:

- Establish rules that reflect traditional fishing and management practices.
- Establish rules to address adverse impacts of tourism and ocean recreation activities on marine resources and associated subsistence practices.
- Increase the abundance of native fish species, limu kohu, he'e, urchins, lobsters, 'ōpihi and other shellfish.
- Increase percent coral cover by reducing human use impacts on coral reef resources.

## **HĀ'ENA CBSFA MANAGEMENT ACTIVITIES**

### **REGULATED ACTIVITIES**

The Department manages fishing and harvesting activities within the Hā'ena CBSFA through regulations set forth in HAR Chapter 13-60.8, effective August 14, 2015 (See Appendix D). Additional county, state and federal laws also apply.

### **SPECIALLY PERMITTED ACTIVITIES**

DLNR issues special activity permits pursuant to HRS §187A-6 to authorize activities otherwise prohibited by law for scientific, educational, management, or propagation purposes. Applications for special activity permits are reviewed by DLNR to ensure that the proposed special activities are consistent with DLNR's management goals and objectives. However, under the authority of HRS §187A-6, the DLNR may issue permits to any person to take aquatic life, possess or use fishing gear, or engage in any feeding, watching, or other such non-consumptive activity related to aquatic resources, otherwise prohibited by law, in any part of the State, for scientific, educational, management, or propagation purposes for up to one year in duration. Under the existing authority of HRS §187A-6, any member of the public can apply for a special activity exemption within the Hā'ena CBSFA by submitting a special activity permit application to DAR.

On October 24, 2014, at their bimonthly meeting, the BLNR adopted the Hā'ena CBSFA rules. At the same meeting, two individuals provided testimony requesting an exemption for the commercial take of invasive species for management purposes. The BLNR instructed DAR staff to explore this possibility under DAR's existing special activity permits authority (HRS §187A-6).

Special activity permit applications related to the removal of invasive species from the Hā'ena CBSFA for management purposes, including subsequent sharing (*mahele*) or sale to avoid waste, will be considered by DAR under conditions prescribed by HRS §187A-6. As part of this process, DAR must also consider applicable constitutional and case law relating to the protection of native Hawaiian rights and practices and the management of public trust resources when determining whether to issue special activity permits.<sup>23</sup>

DAR will evaluate each permit on a case-by-case basis and may impose special permit conditions, as it deems appropriate, based on the activities proposed for exemption. Examples of special conditions that may be considered include distance requirements (e.g., removal of invasive species must occur 500 yards or greater from shore), monitoring requirements, additional reporting requirements, and notice requirements prior to activity commencement.

All special activity permits DAR issues under HRS §187A-6 require approval from the Board of Land and Natural Resources (BLNR) with the exception of relatively minor, non-destructive activities for which the BLNR has delegated approval authority to the DLNR Chairperson. delegated approval authority to the DLNR Chairperson delegated approval authority to the DLNR Chairperson special activity permit activities for which the BLNR has delegated approval authority to the DLNR Chairperson are enumerated in Appendix L.

In addition, all operators of commercial vessels, water craft or water sports equipment must obtain a commercial use permit from Division of Boating and Ocean Recreation (DOBOR) to operate on State ocean waters in accordance with HAR §13-256-3 and §13-256-4. Applicants should submit a completed commercial use questionnaire along with all relevant documentation to their nearest DOBOR district office for review, and any permits issued by DOBOR will be valid for one year. The applicant and approval for such permits shall comply with the applicable provisions stated in HAR §13-231-50 to 13-231-70. More information about the permit application process and required documentation can be found online at: <http://dlnr.hawaii.gov/dobor/commercial-use-permit-qa/#Q8>

A list of commercial activity operators that are authorized to operate in the Hā'ena CBSFA under HAR §13-256-3 and §13-256-4 by DOBOR may be obtained by any member of the public,

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<sup>23</sup> See in re: Public Access Shoreline Hawai'i v. Hawai'i County Planning Commission, 1995; Kukui (Moloka'i), Inc., 2007; and Wai'ola o Moloka'i, 2004.

at any time under the Hawaii Open Records Law HRS § 91-1 by submitting a formal request to the DOBOR district office.

## **METHODS OF ENFORCEMENT**

The following sections provide an overview of activities to enforce and enhance compliance with HAR Chapter 13-60.8 within the Hā‘ena CBSFA.

### ***Division of Conservation and Resources Enforcement***

The DLNR’s Division of Conservation and Resources Enforcement (DOCARE) is responsible for the enforcement of all state laws, rules and regulations related to natural resources conservation and protection. To effectively enforce these rules, including HAR Chapter 13-60.8, 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 conservation and natural resources enforcement.

DOCARE’s roles & responsibilities are further enumerated in HRS §199-3, and additional authorities of the DLNR related to civil natural resource violations and the BLNR’s police powers outlined in HRS §199D and §199-4 respectively.

### ***Makai Watch***

The DLNR Makai Watch Program was established as a means to enhance the management of coastal and near-shore marine resources by providing community members opportunities for direct involvement in the DLNR’s marine resource management activities. Makai Watch volunteers act as ‘eyes and ears’ of DOCARE, similar to Neighborhood Watch efforts, providing a constructive and formal mechanism for communities to support DOCARE’s enforcement of natural resource laws. As of November 22, 2014, the DLNR has officially recognized the State of Hawai‘i Makai Watch Program, and communities identified in the Makai Watch strategy, including Hā‘ena, are pilot sites currently working on achieving compliance with Makai Watch program standards and requirements.

To increase compliance and reduce illegal activities within the Hā‘ena CBSFA, Hā‘ena Makai Watch volunteers will engage in the following Makai Watch program activities:

- *Awareness Raising and Outreach (ARO)*: The primary role of Hā‘ena Makai Watch volunteers is to promote understanding and compliance of marine resource regulations by providing ocean users with useful, site-specific information related to sustainable fishing practices, proper reef etiquette, cultural values and practices and applicable resource regulations within the Hā‘ena CBSFA.  
*Observation and Incident Reporting (OIR)*: While Awareness Raising and Outreach help, poaching and other detrimental activities may continue in some areas. To increase compliance with marine resource laws, volunteers will receive training from DAR and



DOCARE staff to accurately identify violations, and safely observe and report them to DOCARE. These trainings are open to all Makai Watch volunteers, as well as any other interested members of the public.

Makai Watch program strategies, protocols, and training materials can be found online at: <http://dlnr.hawaii.gov/makaiwatch/>

Contact the Hui Maka‘āinana o Makana for more information about Hā‘ena Makai Watch volunteer opportunities at [lawaiapono@gmail.com](mailto:lawaiapono@gmail.com) or [huimakaaainanaomakana99@gmail.com](mailto:huimakaaainanaomakana99@gmail.com).

### ***Environmental Court***

The State of Hawai‘i has established the Environmental Court following passage of Act 218, SLH 2014. The court became operational on July 1, 2015 and is poised to adjudicate all criminal environmental cases statewide. Criminal violations of the Hā‘ena CBSFA rules would be scheduled on the Environmental Court calendar. By specifically focusing on environmental cases, this court will enable more consistent prosecution of natural resource violations. This is only the second such court established in the United States to focus on environmental cases and demonstrates the State’s commitment to protect its natural resources. More information on the environmental court is available online at:

[http://www.courts.state.hi.us/special\\_projects/environmental\\_court.html](http://www.courts.state.hi.us/special_projects/environmental_court.html).

### **EDUCATION AND OUTREACH**

To promote awareness of and enhance compliance with the Hā‘ena CBSFA rules, DLNR’s Division of Aquatic Resources (DAR) will support education and outreach efforts in Hā‘ena as resources and capacity permit. Examples of the outreach efforts include:

1. Develop and install appropriate signage and marker buoys.
2. Provide information and updates about the Hā‘ena CBSFA rules on the DAR website.
3. Update and provide the public with free printed copies of DAR fishing regulations;
4. Support the Hā‘ena community’s CBSFA education and outreach events;
5. Develop education materials and conduct outreach to raise awareness of the Hā‘ena CBSFA rules; and
6. Convene and participate in annual community meetings to provide updates to the public on Hā‘ena CBSFA management activities.

Members of the Hui Maka‘āinana o Makana, Limahuli National Tropical Botanical Garden staff, Makai Watch volunteers, and other interested parties may engage in the following education and outreach activities to support CBSFA management:

1. Develop and disseminate education materials to raise public awareness of CBSFA rules and native Hawaiian cultural values and perspectives.
2. Conduct educational programs for youth and community members that involve kūpuna (elders) and knowledgeable makua (parents) to perpetuate the transmission of historical knowledge and cultural values and practices.
3. Participate in annual DLNR community meetings to provide updates to the public on their stewardship activities within the Hā‘ena CBSFA.

4. Support development of DAR education and outreach materials and implementation of DAR CBSFA outreach initiatives.

## **MONITORING AND EVALUATION PROCESSES**

### ***Monitoring***

Existing studies provide a useful baseline indicator of the status of marine resources within the Hā‘ena CBSFA prior to the adoption of CBSFA rules (See Appendix J and K).

To inform the adaptive management of marine resources within the Hā‘ena CBSFA, The following indicators will be used to assess the status of marine resources within the Hā‘ena CBSFA:

1. Abundance of fish populations by species inside and outside of the makua pu‘uhonua area.
2. Abundance of limu kohu, urchins, and lobsters.
3. ‘Ōpihi abundance within the ‘ōpihi restoration area.
4. Percent coral cover.

DAR and others will seek funding and technical support to monitor the abundance of fish, shellfish, and coral cover in accordance with DAR supported monitoring protocols.

Community-based monitoring methods may include:

- ‘Ōpihi monitoring using the ōpihi rapid assessment method.
- Limu monitoring using the “Our Project in Hawaii’s Intertidal” (OPIHI) method.
- Logs of fish catch, spawning seasons, and lunar cycles.
- Water quality monitoring.

Contact the Hui Maka‘āinana o Makana for more information about volunteer opportunities related to community-based monitoring initiatives in the Hā‘ena CBSFA at [lawaiapono@gmail.com](mailto:lawaiapono@gmail.com) or [huimakaaainanaomakana99@gmail.com](mailto:huimakaaainanaomakana99@gmail.com).

Monitoring will occur in year 1, 3 and year 5, or as capacity and resources permit.

### ***Evaluation and Adaptive Learning***

As part of the adaptive learning process inherent to collaborative management,<sup>24</sup> and in accordance with HAR Chapter 13-60.8-4, DLNR shall hold at least one meeting within the Hā‘ena ahupua‘a at five, ten, and twenty years beginning from the effective date of the chapter, to review the effectiveness of the Hā‘ena CBSFA, revise the management plan as needed, and consider whether the geographic area should be modified. These meetings will be publicly

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<sup>24</sup> Olsson, P., Folke, C., and Berkes, F. (2004). Adaptive comanagement for building resilience in social-ecological systems. *Environmental Management* 34(1): p.75–90.

noticed in at least one newspaper of general circulation at the affected county level. Any proposed management changes will first be subject to the public consultation processes outlined in the “Community-Based Subsistence Fishing Area Designation Procedures Guide,” available online at [http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide\\_v.1.pdf](http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide_v.1.pdf). These public consultation processes will provide opportunities for public discussions before any future regulatory amendments are adopted by the DLNR. If amendments to the Hā‘ena CBSFA rules are proposed, DLNR is required to go through the public consultation processes prescribed by HRS Chapter 91 and the Small Business Regulatory Flexibility Act, HRS Chapter 201M. Combined, these mandates provide a minimum of five public input opportunities before any boundary modification or rule amendments can be adopted. Future submittals to the DLNR related to Hā‘ena CBSFA rule-making will include the most up-to-date version of the management plan as supporting documentation.

## **PROCEDURES FOR RESOLVING USER CONFLICTS**

There is growing evidence that community-based fisheries co-management is an effective way to sustain aquatic resources and the livelihoods of communities depending on them,<sup>25,26</sup> and DLNR views community-based fisheries co-management through CBSFA designation as a constructive and lawful avenue for communities to work with the State to address marine resource management concerns and responsibly steward their resources.

An important component of successful co-management initiatives is the establishment of mechanisms for discussing and resolving conflicts between ocean users.<sup>27,28</sup> As such, this section outlines two pathways for managing conflicts between ocean users should they arise:

### ***Collaborative Resolution***

As appropriate, DLNR may provide an independent avenue for resolving conflicts between ocean resource users within CBSFAs to ensure volunteer and public safety, and promote the effective management of public trust resources. This may include holding meetings to foster communication among disputants, facilitate cooperative problem solving, and/or arbitrate solutions to intractable conflicts between ocean users. If needed, legal action may also be taken.

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<sup>25</sup> Gutierrez, N.L., Hilborn, R., and Defeo, O. (2011). Leadership, social capital and incentives promote successful fisheries. *Nature* 470(7334): p.386–389.

<sup>26</sup> Brown, D., Staples, D., and Funge-smith, S. (2005). Mainstreaming fisheries co-management in the Asia-Pacific. Paper prepared for the In Food and Agriculture Organization of the United Nations (ed). APFIC Regional Workshop on Mainstreaming Fisheries Co-management in Asia-Pacific, Siem Reap, Cambodia.

<sup>27</sup> Ostrom E. (1990). *Governing the commons: the evolution of institutions for collective action*. New York: Cambridge University Press.

<sup>28</sup> Pomeroy, R., Mcconney, P., and Mahon, R. (2003). *Comparative Analysis of Coastal Resource Co-Management in the Caribbean*. Caribbean Conservation Association, Barbados. p.30.

Members of the public are encouraged to contact DAR and/or DOCARE if conflicts arise related to ocean resource management or use within the Hā'ena CBSFA.

### ***Legal Resolution***

The DLNR does not condone the use of threatening or other criminal behaviors by any member of the public, nor does it authorize any member of the public to enforce natural resource laws. Individuals that engage in threatening or other criminal behaviors may be subject to legal action by the appropriate legal authorities.

Anyone who is being harassed or threatened, and feels that a law enforcement response is necessary, should call 9-1-1 to request a police response, especially if the situation is an emergency. The police will respond to 9-1-1 calls, and if necessary, can refer calls to DOCARE.

Violations in natural resources laws should be reported to DOCARE at 643-DLNR.

### **METHODS OF FUNDING**

Funds for management and enforcement of the Hā'ena CBSFA rules will be dependent on legislative appropriation as well as other sources (e.g. contributions). Capacity to implement management activities including monitoring and enforcement may be enhanced by partner agencies, non-governmental organizations and community groups. The following sections identify various methods of funding DLNR may pursue to support effective management of the Hā'ena CBSFA.

#### ***Legislative Funding***

The DLNR requests funds from the Legislature every year to implement programs necessary to manage public trust resources including:

- Permanent positions to support the implementation of the DLNR's mission (e.g., staff/officers to design policies, develop rules, enforce rules, and implement programs)
- Operational costs to support program implementation (e.g., equipment and supplies, outreach materials and events, and meeting coordination)

During the 2015 legislative session, DAR secured funds from the Legislature to support the creation of a temporary civil service CBSFA planner position. This position is intended to provide support and coordination for the Hā'ena CBSFA and other community-based management efforts. Efforts are ongoing to establish this position as a permanent civil service position.

#### ***Partner Collaborations***

DLNR seeks to partner with educational institutions, county, state, and federal agencies, non-governmental organizations (NGOs), private foundations and other relevant donors with priorities that align with the DLNR's programmatic and management priorities, including effective evaluation, monitoring, implementation and enforcement of the Hā'ena CBSFA.

#### ***Support Community-Based Co-Management Efforts***

Committed and responsible community groups and volunteers enhance DLNR's marine resource management efforts. As possible, the DLNR will submit letters of support for funding proposals

and support activities conducted by community groups that are aligned with the resource protection mission of DLNR and management goals of the Hā'ena CBSFA.

### **MANAGEMENT OF OTHER THREATS TO SUBSISTENCE FISHING RESOURCES**

The Hā'ena CBSFA is an important site for subsistence and cultural practices, recreational uses, and tourism. Each year, Hā'ena attracts roughly 2000 visitors a day, which has resulted in adverse impacts to fish stocks and coral reef habitats.<sup>29</sup> Addressing impacts from this high level of recreational use was noted as a primary rationale for the legislature's designation of Hā'ena CBSFA (Act 241, SLH 2006), and the resultant Hā'ena CBSFA statute grants the DLNR the authority to develop rules in consultation with the inhabitants of the ahupua'a of Hā'ena and other interested parties, for any activity that it deems appropriate for the management of public trust resources or the protection for traditional and customary practices (HRS §188-22.9).

In 2011, the inhabitants of the ahupua'a of Hā'ena and other interested parties, including native Hawaiians with ancestral ties to the area and regular non-extractive ocean users of the area, also proposed boating and ocean recreation regulations to the DLNR in conjunction with the fishing rules which were adopted under HAR Chapter §13-60.8-4. These proposed boating and recreation regulations will be adapted into a rule package by the DLNR in accordance with the Guidance for Preparation of CBSFA Proposals that was approved by the BLNR on December 12, 2014, the CBSFA Designation Procedures Guide, and the Chapter 91 administrative rule-making procedures, which include opportunities for public review and comments.

“Guidance for Preparation of Community-based Subsistence Fishing Area Proposals” can be found online at: <http://files.hawaii.gov/dlnr/meeting/submittals/141212/F-3.pdf>

The “CBSFA Designation Procedures Guide” can be found online at: [http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide\\_v.1.pdf](http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide_v.1.pdf)

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<sup>29</sup> PBR Hawai'i and Associates Inc. (2015). “Draft Environmental Impact Statement.” Hā'ena State Park Master Plan. Prepared for the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks. [Online] [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)

## APPENDIX A: Management Plan Framework for the Hā'ena CBSFA

Management Goal	Objectives	Management Activities	Measures of Success
<ul style="list-style-type: none"> <li>Sustainably support the consumptive needs of the Hā'ena ahupua'a through culturally-rooted community-based management.</li> <li>Ensure the sustainability of nearshore ocean resources in the area through effective management practices.</li> <li>Preserve and protect nursery habitat for juvenile reef fishes.</li> <li>Recognize and protect customary and traditional native Hawaiian fishing practices that are exercised for subsistence, cultural, and religious purposes in the area.</li> <li>Facilitate the substantive involvement of the community in resource management decisions for the area.</li> </ul>	<ul style="list-style-type: none"> <li>Establish rules that reflect traditional Hawaiian fishing and management practices.</li> <li>Establish rules to address adverse impacts of tourism and ocean recreation activities on marine resources and associated subsistence practices.</li> <li>Increase the abundance of native fish species, limu kohu, he'e, urchins, lobsters, 'ōpihi and other shellfish.</li> <li>Improve coral reef health by increasing percent coral cover.</li> </ul>	<ul style="list-style-type: none"> <li>Pursue HRS Chapter 91 administrative procedures to establish rules to regulate fishing informed by traditional native Hawaiian fishing and management practices.</li> <li>Pursue HRS Chapter 91 administrative procedures to establish rules to regulate boating and recreation activities informed by traditional native Hawaiian fishing and management practices.</li> <li>Enforce CBSFA rules: DOCARE, Makai Watch, Environmental Court</li> <li>Conduct education and outreach about rules and cultural values and traditional fishing practices.</li> <li>Seek funding and resources to implement for CBSFA management activities.</li> <li>Monitor marine resources</li> <li>Evaluate achievement of management objectives to manage adaptively.</li> </ul>	<ul style="list-style-type: none"> <li>Fishing rules for the Hā'ena CBSFA are adopted (HAR §13-60.8-1, effective August 14, 2015).</li> <li>Boating and recreation rules for the Hā'ena CBSFA are adopted.</li> <li>Increased abundance of fish populations by species inside and outside of the Makua Pu'uhonua Area.</li> <li>Increase the abundance of limu kohu, urchins, lobsters and 'ōpihi.</li> <li>Increased percent coral cover within the Hā'ena CBSFA.</li> </ul>

## APPENDIX B: Frequently Asked CBSFA Questions and Answers

The following section provides clarification and answers to questions related to the Hā'ena CBSFA designation and CBSFAs in general, that emerged during the management planning and rule-making process:

### **How did DLNR determine the Hā'ena CBSFA boundary?**

The Hā'ena CBSFA boundaries are prescribed by the Hā'ena CBSFA authorizing statute (HRS §188-22.9(a)). DLNR is obligated to implement the provisions as stipulated by the Legislature.

### **Why do the Hā'ena CBSFA rules include a clause about expansion?**

The authorizing statute for the Hā'ena CBSFA, HRS §188-22.9(c)(5) requires DLNR to consider a process for expanding the Hā'ena CBSFA into other ahupua'a, and thus is referenced in the DLNR rules (HAR Chapter 13-60.8-4). However, there are no plans to expand the Hā'ena CBSFA at this time. If a boundary expansion were proposed in the future, the public rule-making process for CBSFA designation would be followed, which is outlined in the CBSFA Designation Procedures Guide and HRS Chapter 91, and ensures opportunities for public discussions and input before any amendments are adopted. The CBSFA Designation Procedures Guide is available online at [http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide\\_v.1.pdf](http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide_v.1.pdf)

### **Why do the Hā'ena CBSFA rules establish closed areas?**

Closed (kapu) areas were traditionally used by native Hawaiians to maintain abundant fisheries, and no take areas are similarly recognized as one of a suite of effective management tools the DLNR relies upon today and considers on a case-by-case basis. With respect to Hā'ena, the establishment of no harvesting zones is required by legislative authorizing statute (HRS §188-22.9(c)(4)), with specific boundaries finalized through the DLNR rule-making process. To identify the specific boundaries of the no harvest zone (Makua Pu'u honua) in the Hā'ena CBSFA, DAR relied on expert kama'āina knowledge of customary fishing and management practices,<sup>30</sup> findings from biological and social research studies,<sup>31</sup> and the community's negotiated compromises with regular users of the area. Historical kama'āina accounts identified the Pu'u honua zone as an important nursery habitat for juvenile fish,<sup>30</sup> and numerous ecological assessments of Hā'ena's coral reef habitat and juvenile fish abundance substantiated these historical accounts.<sup>31</sup> Additionally, the community collaborated with graduate researchers to conduct a human use study to understand the type, frequency, and location of different uses,<sup>32</sup>

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<sup>30</sup> See Appendix G for research on the Traditional and Customary Practices of Hā'ena

<sup>31</sup> See Appendix G for research on Human Use, Catch per Unit Effort, and Marine Ecological Assessments

<sup>32</sup> See 2010 Hā'ena CBSFA Human Use Study in Appendix H



and used this information to identify potentially affected ocean users to consult. As a result, community members and potentially affected ocean users, particularly windsurfers, were able to compromise on the Pu‘uhonua boundaries that were ultimately included in DLNR’s Hā‘ena CBSFA rule package.

### **What precedent do the Hā‘ena CBSFA rules establish for management of other areas?**

CBSFA rules adopted in one community do not set the foundation for similar rules to be adopted in others. The Hā‘ena CBSFA is unique in that it was designated by the Hawai‘i State Legislature under HRS §188-22.9 (Act 241, SLH 2006), and as a result, the Hā‘ena CBSFA has specific provisions which are unique unto itself.

Other areas that may be considered for CBSFA designation have their own unique set of needs that will be identified through the management planning and rule-making processes outlined in the CBSFA Designation Procedures Guide, which is available online at [http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide\\_v.1.pdf](http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide_v.1.pdf).

As such, the fisheries management strategies adopted in one area are not necessarily applicable elsewhere, and regulations will differ according to the place-based issues, subsistence needs and cultural practices at each proposed CBSFA site. As detailed in the CBSFA Designation Procedures Guide, there are ample public input opportunities provided throughout any CBSFA designation and rule-making process, at both the state and community level, which permit affected interests to influence communities’ regulatory recommendations and DLNR’s proposed and final rule packages.

### **Is there a sunset clause or process for revising rules?**

There is no sunset clause in the Hā‘ena CBSFA statute, HRS §188-22.9, or administrative rule, HAR Chapter 13-60.8-4. However, DLNR is required to review the effectiveness of the Hā‘ena CBSFA five, ten, and twenty years after initial passage of rules. DLNR also has the authority to amend or repeal rules or to establish emergency rules at any time pursuant to HRS Chapter 91, as it deems appropriate based on the best available information. Any proposed amendment to the Hā‘ena CBSFA rules will be subject to the public consultation and rule-making processes outlined in the CBSFA Designation Procedures Guide and HRS Chapter 91 to ensure opportunities for public discussions and input before any amendments are adopted. The CBSFA Designation Procedures Guide is available online at [http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide\\_v.1.pdf](http://dlnr.hawaii.gov/coralreefs/files/2015/02/CBSFA-Designation-Procedures-Guide_v.1.pdf).

### **Do CBSFAs promote exclusive rights of access and use?**

A common misunderstanding is that CBSFAs grant exclusive fishing rights or rights of access to native Hawaiians or local community residents and exclude other members of the public. In truth, anyone can conduct activities within a CBSFA as long they do so in accordance with the rules established for the area. CBSFAs are not special interest areas, but rather areas with a distinct management purpose. DLNR uses a variety of management tools to accomplish different management objectives, which reflect the DLNR’s different management mandates and distinct place-based management needs. The CBSFA designation is management tool that enables the DLNR to effectuate its obligation to manage public trust resources for native Hawaiian use per Hawai‘i State Constitution Article XII Section 4, and protect the reasonable exercise of customary and traditional rights of native Hawaiian ahupua‘a tenants to



support subsistence, cultural, and religious practices under Hawai'i State Constitution Article XII Section 7.

### **What is the definition of community in the context of CBSFAs?**

In the context of CBSFAs, the term “community” refers a group of individuals who inhabit or have ancestral ties to the ahupua'a and engage in, have knowledge of, or rely on traditional and customary native Hawaiian fishing and gathering practices for native Hawaiian subsistence, culture and religion. This definition of community is consistent with the Legislature's intent that DLNR “carry out fishery management strategies for such areas, through administrative rules adopted pursuant to Chapter 91, for the purpose of reaffirming and protecting fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion.” (see Act 271 (1994); HRS §188-22.6).

In addition to community-based subsistence needs, CBSFA proposals are also required to consider how designation would interfere with existing uses and activities in the area (HRS §188-22.6). Furthermore, DLNR seeks and considers input from affected stakeholders and other interested persons during rule-making in accordance with DAR's CBSFA designation procedures, and as required by HRS Chapter 91. Finally, DLNR must take into consideration its own management mandates and priorities, as well as existing local, state, and federal laws and policies.

A video explaining the term community-based in the context of CBSFAs has been produced by the DLNR and is available at the following link: <https://vimeo.com/135402703>

### **Are members of the public permitted to enforce CBSFA rules?**

DLNR supports responsible community stewardship and views CBSFAs as a constructive, state-authorized avenue for communities to take action to address marine resource concerns and steward their resources by proposing management recommendations to the DLNR based on traditional Hawaiian values and practices.

DLNR does not condone nor authorize members of the public to enforce natural resource laws. Engaging in threatening or other criminal behaviors may be subject to legal action and prosecution, and will be dealt with accordingly by the appropriate legal authorities. Any member of the public who feels harassed, and that a law enforcement response is necessary, should call 9-1-1, and request a police response. Violations in natural resources laws should be reported to DOCARE at 643-DLNR.

Community volunteers that are actively engaged in CBSFA stewardship activities, will be provided a Makai Watch program volunteer training, whether they are an officially designated as a Makai Watch site or not. The purpose of this training is to ensure that community stewards understand that DLNR does not authorize them to enforce natural resource laws, and provide them with field observation guidelines and safety protocols for observing and reporting incidents that ensure their personal safety, and the safety of others.

## APPENDIX C: ACT 241 Establishing the Hā'ena CBSFA

Approved by the Governor

on JUN 26 2006

THE SENATE

TWENTY-THIRD LEGISLATURE,

STATE OF HAWAII

# ACT 241

S.B. NO. 2501  
S.D. 1  
H.D. 1  
C.D. 1

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## A BILL FOR AN ACT

RELATING TO FISHING.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The purpose of this Act is to create and amend  
2   fishing provisions that affect the communities of Ha'ena, Kauai  
3   and Kahului, Maui. Specifically, part I of this Act establishes  
4   a community-based subsistence fishing area for the ahupua'a of  
5   Ha'ena to protect the fish stocks and coral reef habitats.     Part  
6   II of this Act extends the effective date of Act 218, Session  
7   Laws of Hawaii 2005, to allow the department of land and natural  
8   resources time to adopt necessary rules regulating user  
9   conflicts in Kahului harbor.

### PART I

11          SECTION 2. The ahupua'a of Ha'ena is the westernmost land  
12   in the moku of Halele'a on the northwest coast of Kauai. The  
13   public highway ends in this ahupua'a, a land filled with many  
14   wahi pana or storied places, sites that are sacred to native  
15   Hawaiians and important to the whole state. The ahupua'a of  
16   Ha'ena and its offshore waters, since time immemorial, have been  
17   an important subsistence fishery resource for native Hawaiians  
18   and local families of the ahupua'a. However, the beauty of the

1 land and sea and the proximity to the end of the public highway  
2 in the ahupua'a of Ha'ena attract hundreds of thousands of  
3 visitors to the area every year. As a result of this influx of  
4 visitors and a growing problem of indiscriminate fishing  
5 practices, there has been an adverse impact to the fish stocks  
6 and the integrity of the coral reef habitats in the area.

7 The legislature finds that a traditionally managed fishery  
8 wherein the inhabitants of the ahupua'a develop and assist in  
9 development and enforcement of traditional regulations for the  
10 maintenance of the fishery is needed for the ahupua'a of Ha'ena.

11 The purpose of this Act is to establish a community-based  
12 subsistence fishing area in the ahupua'a of Ha'ena.

13 SECTION 3. Chapter 188, Hawaii Revised Statutes, is  
14 amended by adding a new section to part II to be appropriately  
15 designated and to read as follows:

16 **"§188- Ha'ena community-based subsistence fishing area;**  
17 **restrictions; regulations. (a) There is designated the Ha'ena**  
18 **community-based subsistence fishing area on the northwestern**  
19 **coast of Kauai, which shall consist of all state waters and**  
20 **submerged lands bounded by:**

21 **(1) The shoreline of the Ha'ena district;**

1       (2) A line that follows an imaginary extension of the  
2       boundary between Hae'na state park and Na Pali state  
3       park that extends seaward for one mile from the  
4       shoreline;

5       (3) An irregular line one mile offshore that is parallel  
6       to the contours of the shoreline; and

7       (4) A line that follows an imaginary extension of the  
8       boundary between Hae'na and Wainiha, as specified in  
9       the tax map of the county of Kauai, that extends  
10      seaward for one mile from the shoreline.

11      (b) In addition to the provisions of this chapter, the  
12      following uses or activities shall be regulated in the Ha'ena  
13      community-based subsistence fishing area:

14      (1) Any activities with a commercial purpose, as defined  
15      in section 187A-1;

16      (2) The issuance of any commercial marine license, as  
17      defined in section 187A-1

18      (3) The issuance of any aquarium fish permits, pursuant  
19      to section 188-31

20      (4) Fishing with the use of gill nets;

21      (5) Fishing with self-contained underwater breathing  
22      apparatus and spears; and

1 (6) Any other use or activity that the department of land  
2 and natural resources, in consultation with the  
3 inhabitants of the ahupua'a of Ha'ena and other  
4 interested parties, deems appropriate.

5 (c) The department of land and natural resources, as soon  
6 as practical, shall consult with as broad a base as possible,  
7 group of inhabitants of the ahupua'a of Ha'ena and other  
8 interested parties to establish rules for the Ha'ena  
9 community-based subsistence fishing area, to include but not  
10 be limited to:

11 (1) A determination of fishing practices that are  
12 customarily and traditionally exercised for purposes  
13 of native Hawaiian subsistence, culture, and religion  
14 in the fishing area;

15 (2) A management plan recognizing existing marine  
16 activities permitted by the department of land and  
17 natural resources and containing a description of  
18 specific activities to be conducted in the fishing  
19 area, including evaluation and monitoring processes  
20 and methods of funding and enforcement;

21 (3) Limits on the harvest of aquatic life, as those terms  
22 are defined in section 187A-1, in the fishing area;

6       The department of land and natural resources shall adopt  
7 rules pursuant to chapter 91 necessary for the purpose of this  
8 section."

17       The purpose of this part is to extend the effective date of  
18 Act 218, Session Laws of Hawaii 2005, to allow the department  
of  
19 land and natural resources time to adopt necessary rules prior  
20 to June 2007.

34



## **APPENDIX D: Hawai'i Administrative Rules Chapter 13-60.8 for Hā'ena CBSFA**

DEPARTMENT OF LAND AND NATURAL RESOURCES

Adoption of Chapter 13-60.8  
Hawaii Administrative Rules

October 24, 2014

Chapter 13-60.8, Hawaii Administrative Rules,  
entitled "Ha'ena Community-Based Subsistence Fishing Area,  
Kaua'i", is adopted.



HAWAII ADMINISTRATIVE RULES

TITLE 13

DEPARTMENT OF LAND AND NATURAL RESOURCES

SUBTITLE 4 FISHERIES

PART II MARINE FISHERIES MANAGEMENT AREAS

CHAPTER 60.8

HĀ'ENA COMMUNITY-BASED SUBSISTENCE FISHING AREA, KAUA'I

\$13-60.8-1	Purpose
\$13-60.8-2	Definitions
\$13-60.8-3	Boundaries
\$13-60.8-4	Management plan and review
\$13-60.8-5	Permitted and prohibited activities
\$13-60.8-6	Prohibited activities, Makua Pu'uhonua
\$13-60.8-7	Penalty
\$13-60.8-8	Severability

\$13-60.8-1 Purpose. The purpose of this chapter regarding the Hā'ena Community-Based Subsistence Fishing Area is to:

- (1) Sustainably support the consumptive needs of the Hā'ena ahupua'a through culturally-rooted community-based management;
- (2) Ensure the sustainability of nearshore ocean resources in the area through effective management practices, including the establishment of limits on the harvest of aquatic life;
- (3) Establish the Makua Pu'uhonua (Marine Refuge) for the preservation and protection of this nursery habitat for juvenile reef fishes;
- (4) Recognize and protect customary and traditional native Hawaiian fishing

- practices that are exercised for subsistence, cultural, and religious purposes in the area; and
- (5) Facilitate the substantive involvement of the community in resource management decisions for the area through dialogue with community residents and resource users.
- [Eff **AUG 14 2015** ] (Auth: HRS §§188-22.9, 188-53, 190-3) (Imp: HRS §§188-22.9, 188-53, 190-3)

§13-60.8-2 Definitions. As used in this chapter:

"Aquatic life" means any type or species of mammal, fish, amphibian, reptile, mollusk, crustacean, arthropod, invertebrate, coral, or other animal that inhabits the freshwater or marine environment and includes any part, product, egg, or offspring thereof; or freshwater or marine plants, including seeds, roots products, and other parts thereof.

"Area" means the Hā'ena Community-Based Subsistence Fishing Area (Hā'ena CBSFA), as encompassed within the boundaries described in section 13-60.8-3(a).

"Day" means a twenty-four hour period.

"Department" means the department of land and natural resources.

"Deploy" means to place the specified gear in the water, whether in whole or in part.

"Fish" means any species of aquatic life with a backbone, gills, and with limbs that are fins, if any.

"Gill net" means a panel or curtain of net made of various materials, that is suspended vertically in the water with the aid of a net float line that supports the top edge of the net up towards the ocean surface and parallel to a net lead line that keeps the lower edge of the net down towards the ocean bottom. The gill net is usually made of transparent or semi-transparent materials to make the net seem invisible underwater, with mesh openings generally large enough to permit the heads of fish to pass through, ensnaring

them around the gills, fins, spines, or mid-section when they attempt to escape.

"Hand-harvest" means to gather directly with the hands only, and without the use of any net, spear, trap, rake, or any other tool or implement.

"He'e" means any cephalopod mollusk known as *Octopus cyanea*, *Octopus ornatus*, or any recognized synonym.

"Hook-and-line" means a fishing line to which one or more hooks or other tackle are attached. A hook-and-line may include a fishing rod or reel or both to cast and retrieve the line.

"Kūpe'e" means any marine snail known as *Nerita polita* or any recognized synonym.

"Limu" means any marine alga including algae in the intertidal zone.

"Lobster" means any crustacean in the family Palinuridae or in the family Scyllaridae. Lobsters are also known as ula (spiny lobster) or ula pāpapa (slipper lobster).

"Marine life" means any type or species of saltwater fish, shellfish, mollusks, crustaceans, coral, algae, or other marine animals, including any part, product, egg, or offspring thereof; or any type or species of seaweeds or other marine plants or algae, including any part, product, seed, holdfast, or root thereof.

"Noncommercial purposes" means for personal, cultural, recreational, or subsistence use, and not for compensation of any kind, regardless of whether the compensation is received inside or outside of the boundaries of the area.

"Ōpihi" means any mollusk of the genus *Cellana* or any recognized synonym. Ōpihi are also known as kō'ele, 'ālinalina, makaiauli, or limpets.

"Pa'ipa'i net fishing" means a technique of fishing where a person or persons engage or attempt to engage in the act of deploying a gill net in the water in a specific location in a straight line or semi-circular configuration, and a person or persons chase aquatic life into the net.

"Pipipi" means any marine snail known as *Theodoxus neglectus*, *Nerita picea*, *Neripteron neglectum*, or any recognized synonym.

"Pole spear" means a spear consisting of a straight shaft terminating in up to three pointed prongs, and to which up to two elastic bands may be attached. A pole spear is released solely by hand and without the aid of any trigger mechanism as characteristic of a speargun or hinge gun.

"Pūpū" means any marine or terrestrial species belonging to the order Gastropoda or Bivalvia. Unless otherwise specified, as used in this chapter, pūpū refers to the live mollusk as a whole, not just the hard outer shell.

"Scoop net" means a hand net consisting of a bag of mesh material attached to a frame to hold the bag open, which may be attached to a single handle no more than three feet in length.

"Snorkel" means an underwater breathing apparatus consisting of a tube no more than two feet in length, which extends from a person's mouth to the surface of the water, through which a person is able to breathe air using only the lungs and without the aid of a compressor.

"Subsistence" means the customary and traditional native Hawaiian uses of renewable ocean resources for direct personal or family consumption or sharing.

"Surround gill net fishing" means a fishing technique where any person deploys or attempts to deploy a gill net in the water to encircle aquatic life. Aquatic life may entangle within the net mesh as the aquatic life swim or move into the net. Surround gill net fishing involves a closed net configuration, a moving net, a person or persons chasing aquatic life into the net, and only entangled aquatic life are captured.

"Take" means to fish for, catch, injure, kill, remove, capture, confine, or harvest, or to attempt to fish for, catch, injure, kill, remove, capture, confine, or harvest.

"Throw net" means a circular net with a weighted outer perimeter designed to be deployed by manually

casting or throwing the net over fish or other aquatic life.

"Underwater breathing apparatus" means any apparatus that allows a person to breathe while below the surface of the water.

"Urchin" means any invertebrate in the class Echinoidea. Urchins are also known as wana, hālula, hā'uke'uke, hāwa'e, 'ina, or sea urchin.

"Vessel" means any craft used or capable of being used as a means of transportation on or in the water.  
[Eff **AUG 14 2015** ] (Auth: HRS §§187A-5, 188-22.9, 188-53, 190-3) (Imp: HRS §§187A-5, 188-22.9, 190-3)

§13-60.8-3 Boundaries. (a) The Hā'ena Community-Based Subsistence Fishing Area includes that portion of the northwestern coast of Kaua'i consisting of all State waters and submerged lands bounded by a line drawn along the shoreline; a straight line that extends seaward from the shoreline at the boundary between Hā'ena State Park and Na Pali State Park, as drawn through the points 22°12'42.50"N, 159°35'44.50"W and 22°13'21.62"N, 159°36'22.27"W; a line that follows the contours of the shoreline at a distance of one mile seaward from the shoreline; and a straight line that extends seaward from the shoreline at the boundary between Hā'ena and Wainiha, as drawn through the points 22°13'28.00"N, 159°33'13.50"W and 22°14'19.91"N, 159°33'6.21"W; as shown on Exhibit A entitled "Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i", dated 4/16/14, located at the end of this chapter.

(b) The following subzones are established within the Hā'ena Community-Based Subsistence Fishing Area:

- (1) The "Ōpihi Management Area," which includes all State waters and submerged lands within 300 feet from the shoreline between a line that extends seaward from the shoreline at the boundary between Hā'ena State Park and Nā

Pali State Park, as drawn through the points 22°12'42.50"N, 159°35'44.50"W and 22°13'21.62"N, 159°36'22.27"W; and a line that extends seaward from the shoreline at the western edge of Kē'e Beach, as drawn through the points 22°13'13.61"N, 159°35'5.11"W and 22°13'15.75"N, 159°35'7.34"W; as shown on Exhibit B entitled "Map of the 'Ōpihi Management Area", dated 4/16/14, located at the end of this chapter;

- (2) The "Makua Pu'uhonua," which includes all State waters and submerged lands located within the fringing reef of Makua lagoon, bounded by a line drawn starting from a point located at 22°13'33.88"N, 159°33'42.41"W, to a point located at 22°13'41.15"N, 159°33'44.67"W; then to a point located at 22°13'44.57"N, 159°33'34.71"W; then to a point located at 22°13'38.26"N, 159°33'31.56"W; then back to the starting point; as shown on Exhibit C entitled "Map of the Makua Pu'uhonua", dated 4/16/14, located at the end of this chapter;
- (3) The "Vessel Transit Boundary," which includes all State waters and submerged lands bounded by a line drawn starting from the shoreline at the boundary between Hā'ena State Park and Na Pali State Park, located at 22°12'42.50"N, 159°35'44.50"W, to a point approximately 1,000 feet seaward, located at 22°12'49.98"N, 159°35'51.79"W; then eastward to a point approximately 1,300 feet from shore, located at 22°13'35.57"N, 159°34'59.73"W; then to a point approximately 2,300 feet from shore, located at 22°13'55.42"N, 159°33'42.00"W; then to a point located approximately 2,100 feet from shore, located at 22°13'48.84"N, 159°33'10.76"W; then to a point on the shoreline at the boundary between Hā'ena and

Wainiha, located at 22°13'28.00"N, 159°33'13.50"W; as identified in the map shown on Exhibit A entitled "Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i", dated 4/16/14, located at the end of this chapter;

(c) For the purposes of this chapter, the shoreline shall be determined by the upper reaches of the wash of the waves on shore. Should there be a stream or river flowing into the ocean, the shoreline shall be determined by an imaginary straight line drawn between the upper reaches of the wash of the waves on either side of the stream or river. [Eff **AUG 14 2015** ] (Auth: HRS §§188-22.9, 188-53, 190-3) (Imp: HRS §§187A-1.5, 188-22.9, 190-3)

§13-60.8-4 Management plan and review. (a) The department shall consult with inhabitants of the Hā'ena ahupua'a and other interested parties to provide for a management plan, which describes:

- (1) Existing marine activities permitted by the department within the area;
- (2) Specific activities to be conducted in the area;
- (3) Processes for community-based monitoring and evaluation of the area; and
- (4) Methods of funding and enforcement.

The management plan shall serve as a framework to assist the department and the community in monitoring, evaluating, and managing the area.

(b) Five, ten, and twenty years beginning from the effective date of this chapter, the department shall hold at least one meeting within the Hā'ena ahupua'a to:

- (1) Review the effectiveness of the Hā'ena Community-Based Subsistence Fishing Area;
- (2) Revise the management plan as needed; and
- (3) Consider whether the area should be expanded to include other ahupua'a.

The meeting shall be publicly noticed at least two weeks prior to the meeting date, by posting the date, time, location, and subject matter of the meeting in a newspaper of general circulation within the Hā'ena ahupua'a. [Eff **AUG 14 2015** ] (Auth: HRS §§188-22.9, 188-53) (Imp: HRS §§187A-2, 188-22.9)

§13-60.8-5 Permitted and prohibited activities.

(a) Nothing in this chapter shall be construed as allowing within the Hā'ena Community-Based Subsistence Fishing Area any activity or fishing gear otherwise prohibited by law or rules adopted by the department of land and natural resources or any other department of the State.

(b) It is unlawful for any person to sell or offer for sale any marine life taken from within the area, or to otherwise take marine life from within the area for commercial purposes.

(c) Unless otherwise allowed in subsection (d) of this section, it is unlawful for any person to engage in or attempt to engage in the following activities within the Hā'ena Community-Based Subsistence Fishing Area:

- (1) Take or possess any marine life;
- (2) Take, alter, deface, destroy, possess, or remove any sand, coral, rock, or other geological feature or specimen;
- (3) Possess, deploy, or use any fishing gear or device that is designed or may be used for the taking, injuring, or killing of marine life, or the altering of any geological feature or specimen; or
- (4) Deliberately introduce into the water any food material, substance, or device used as an attractant for marine life, for any purpose other than the taking of marine life as may be allowed under subsection (d) of this section.

(d) Except while within the Makua Pu'uhonua, an individual within the Hā'ena CBSFA may:



- (1) Take and possess any empty pūpū shell, provided that empty pūpū shells may not be taken or possessed while using any underwater breathing apparatus other than a snorkel;
- (2) At any time after November 30, 2017, take up to twenty total living 'ōpihi, pipipi, kūpe'e, or pūpū per person per day from the 'Ōpihi Management Area only, and possess up to twenty total living 'ōpihi, pipipi, kūpe'e, or pūpū at any one time;
- (3) Take and possess any limu by hand-harvest only; provided further that the following species of invasive or introduced algae may be taken and possessed for any purpose, including a commercial purpose: *Gracilaria salicornia*, *Acanthophora spicifera*, *Avrainvillea amadelpha*, *Kappaphycus* (any species), *Eucheuma* (any species), or *Hypnea musciformis*;
- (4) Take up to two lobsters per day by hand-harvest only, and possess up to two lobsters at any one time;
- (5) Take up to five urchins per species per day, and possess up to five urchins per species at any one time;
- (6) Take up to two he'e per day, and possess up to two he'e at any one time, provided that he'e may only be taken by hand-harvest or with the use of a stick no longer than two feet in length;
- (7) Take and possess any fish in compliance with this chapter and all other state law;
- (8) Subject to paragraphs (1)-(7), above:
  - (A) Possess and use up to two hook-and-lines with up to two hooks per hook-and-line;
  - (B) Possess and use a pole spear to take fish between 6:00 a.m. and 6:00 p.m., provided that the pole spear shall be

no greater than eight feet in total length;

- (C) Possess and use a throw net;
  - (D) Use pa'ipa'i net or surround gill net fishing methods, provided that nets may only be deployed from the shore, or from a vessel less than fourteen feet long, and provided further that at least two people must be within five feet of the net at all times while it is deployed; and
  - (E) Possess and use a scoop net between 6:00 a.m. and 6:00 p.m., provided that a scoop net may not be used to take greater than three specimens of marine life per day; and
- (9) Possess any fishing gear while on a vessel in active transit seaward of the Vessel Transit Boundary, as described in section 13-60.8-3(b)(3) of this chapter.

(e) Native Hawaiian traditional and customary rights recognized under article XII, section 7, of the Hawaii State Constitution shall not be abridged. [Eff  
**AUG 14 2015** ] (Auth: HRS §§187A-5, 188-22.9, 188-53, 190-3) (Imp: HRS §§187A-5, 188-22.9, 188-53, 190-3)

§13-60.8-6 Prohibited activities, Makua Pu'uhonua. In addition to the prohibitions described in section 13-60.8-5(c), it is unlawful for any person to enter the Makua Pu'uhonua except with a special activity permit issued by the board under section 187A-6, HRS, under such terms and conditions allowing such entry and as deemed necessary for educational, scientific, or other purposes not inconsistent with sections 187A-6 and 188-53, HRS, provided that:

- (1) The board may revoke any permit for any infraction of the terms and conditions of the permit; and
- (2) A person whose permit was revoked shall not be eligible to apply for another permit

until one year after the date of revocation.  
 [Eff **AUG 14 2015** ] (Auth: HRS §§187A-6, 188-22.9, 188-53, 190-3) (Imp: HRS §§187A-6, 188-22.9, 188-53, 190-3)

§13-60.8-7 Penalty. (a) Any person who violates any provision of this chapter, or the terms and conditions of any permit issued applicable to this chapter, shall be subject to administrative fines of:

- (1) Not less than \$100 and not more than \$1,000 for a first violation;
- (2) Not less than \$200 and not more than \$2,000 for a second violation within five years of any prior violation; and
- (3) Not less than \$500 and not more than \$3,000 for a third or subsequent violation within a five year period of any prior violation.

(b) In addition to subsection (a), a fine of up to \$1,000 may be levied for each specimen of aquatic life taken, killed, or damaged in violation of this chapter.

(c) Any administrative fine imposed under this section for any violation of a provision of this chapter shall not preclude the imposition of criminal penalties pursuant to section 188-70, HRS, or as may be otherwise provided by law. [Eff **AUG 14 2015** ]  
 (Auth: HRS §§187A-5, 188-22.9, 188-53, 190-3) (Imp: HRS §§187A-5, 187A-12.5, 188-22.9, 188-53, 188-70, 190-5)


§13-60.8-8 Severability. If any provision of this chapter, or the application thereof, to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of this chapter which can be given effect without the invalid provision or application, and to this end the provisions of this chapter are severable. [Eff

**AUG 14 2015** ] (Auth: HRS §§187A-5, 188-22.9, 188-53, 190-3) (Imp: HRS §§1-23, 187A-5, 188-22.9, 188-53, 190-3)


DEPARTMENT OF LAND AND NATURAL RESOURCES

Chapter 13-60.8, Hawaii Administrative Rules, on the Summary Page dated October 24, 2014, was adopted on October 24, 2014, following a public hearing held on October 3, 2014, after public notice was given in the Honolulu Star-Advertiser and The Garden Island News on August 31, 2014.

The adoption of chapter 13-60.8 shall take effect ten days after filing with the Office of the Lieutenant Governor.

  
\_\_\_\_\_  
WILLIAM J. AILA, JR.  
Chairperson  
Board of Land and Natural  
Resources

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Deputy Attorney General  
\_\_\_\_\_  
DAVID Y. IGE  
Governor  
State of Hawaii

Date:

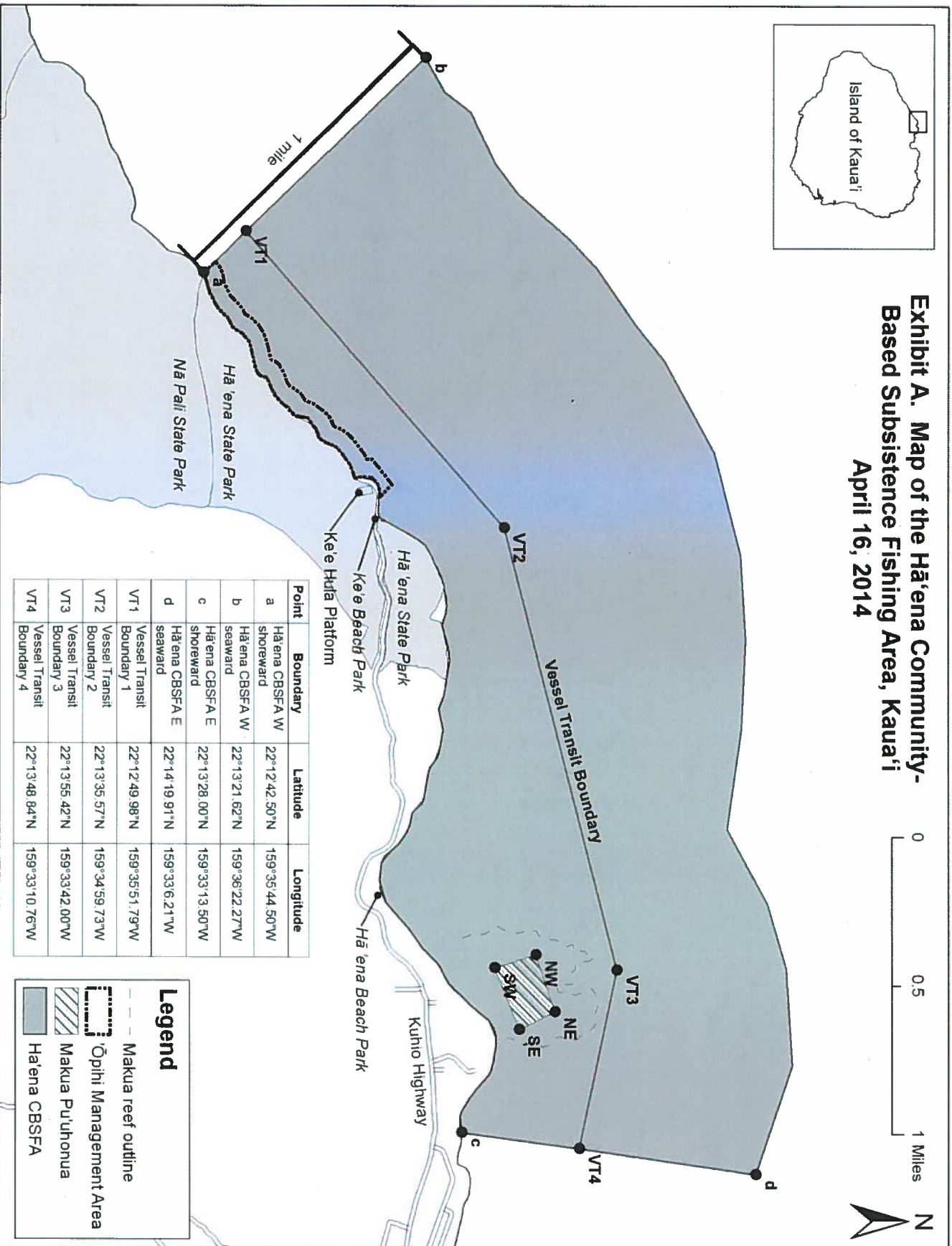
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Filed

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OFFICE

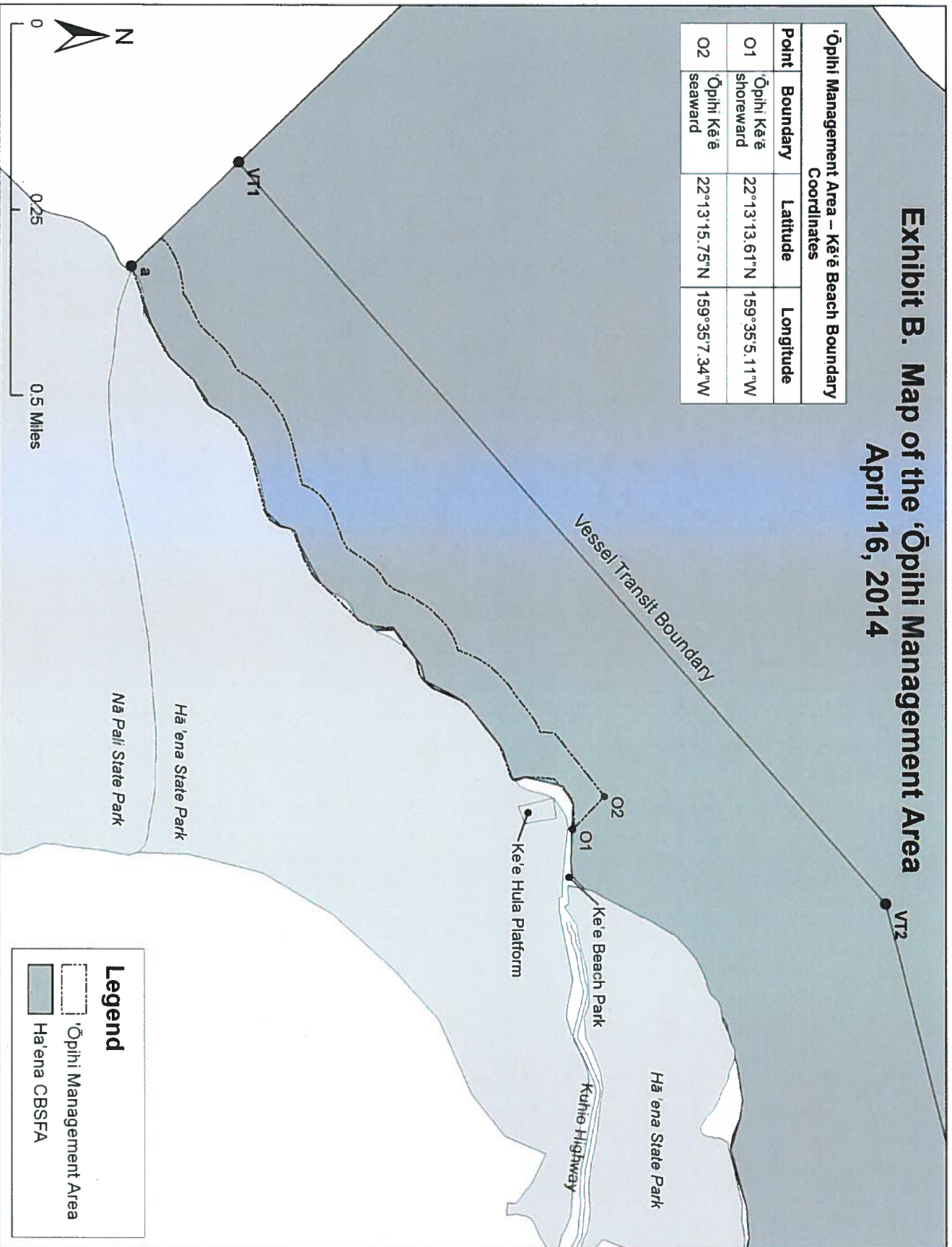
'15 AUG -4 P3:42

**Exhibit A. Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i**  
April 16, 2014



# **Exhibit B. Map of the 'Ōpihi Management Area** **April 16, 2014**

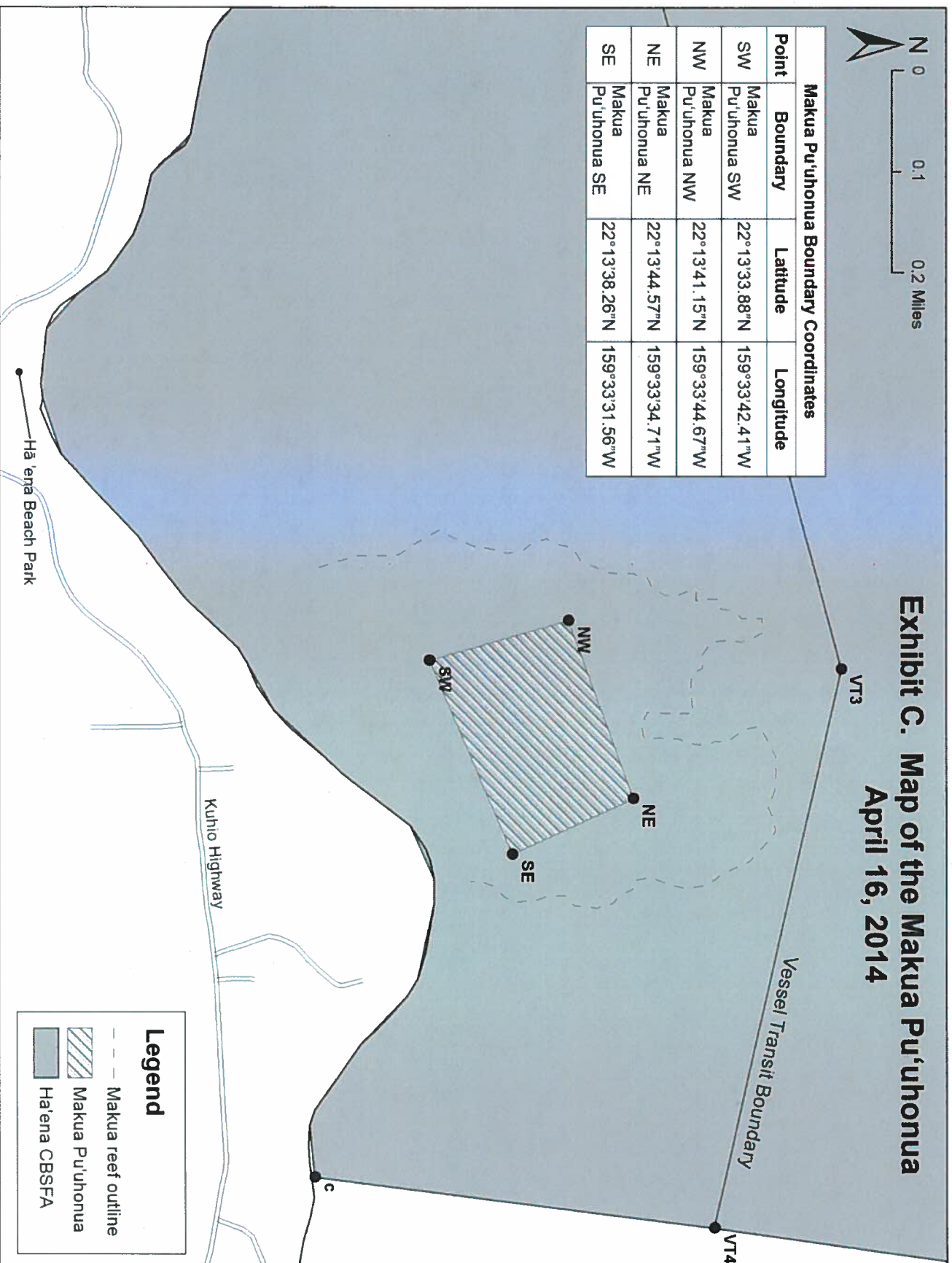
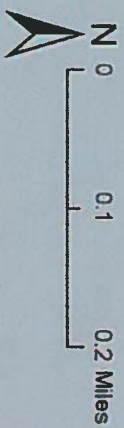
'Ōpihi Management Area – Kē'e Beach Boundary Coordinates		
Point	Boundary	Coordinates
O1	'Ōpihi Kē'e shoreward	22°13'13.61"N 159°35'5.11"W
O2	'Ōpihi Kē'e seaward	22°13'15.75"N 159°35'7.34"W





# **Exhibit C. Map of the Makua Pu'uhonua** **April 16, 2014**

Makua Pu'uhonua Boundary Coordinates			
Point	Boundary	Latitude	Longitude
SW	Makua Pu'uhonua SW	22°13'33.88"N	159°33'42.41"W
NW	Makua Pu'uhonua NW	22°13'41.15"N	159°33'44.67"W
NE	Makua Pu'uhonua NE	22°13'44.57"N	159°33'34.71"W
SE	Makua Pu'uhonua SE	22°13'38.26"N	159°33'31.56"W



**Legend**

- Makua reef outline
- ▨ Makua Pu'uhonua
- Hā'ena CBSFA

## APPENDIX E: Overview of Hā‘ena CBSFA Planning Process (2006 - 2015)

Members of the Hā‘ena community and other interested parties have been working in consultation with the DLNR since 2006 to develop place-based marine resource management strategies based on native Hawaiian cultural values and traditional fisheries management practices. Throughout the CBSFA management planning process, over sixty meetings were held amongst Hā‘ena community members and other interested parties including local lawai‘a (fishers), community residents, permitted commercial operators, recreational users, and DLNR and other government representatives at the state and local level, resulting in over 10 rounds of rule revisions and agency review. See Table 1 for an overview of the management planning and rule-making timeline, and Table 2 to track revisions to the Hā‘ena CBSFA rule package throughout the planning process.

Table 1. Timeline of Hā‘ena Management Planning and Rule-Making Process

CBSFA Designation Process	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Establish Hā‘ena CBSFA through legislation (Act 241)	X										
Place-based research and information collection	X	X	X	X	X	X	X	X	X	X	X
Community-based management planning and development of regulatory recommendations in consultation with Hā‘ena residents other interested parties	X	X	X	X	X	X					
DLNR develops CBSFA rule package and management plan in consultation with Hā‘ena residents and other interested parties							X	X	X	X	X
Adopt fishing rules through administrative rule-making procedures (HRS Ch. 91)									X	X	
Hold public meeting on Hā‘ena CBSFA management plan and revise plan as needed.											X



Table 2. Overview of Revisions to Hā'ena CBSFA Regulatory Recommendations

	Draft Management Recommendation (2008)	Evolution of Management Recommendations in Consultation w/ the Community, Area Users, and DLNR (2009-2013)		Final Rule Language (2015)
Zoning	rotate recreational activities	Transit Area		Vessel Transit Boundary
	no wind/kite boarding			
	Kayak Zones			
	Fish/Gather Only Zones			
	300 yard buffer around fishers			
	cross reef only to harvest	————→	w/ certain gear	
	regulate boat mooring	————→	launch from Hā'ena	
	Makua pu'uhonua (swim/snorkel only)	Makua pu'uhonua (no entry, smaller areas)	————→	Makua pu'uhonua (no entry except by permit)
	'ōpihi management area	————→	————→	'ōpihi management area
General	Slot Limits			
	No fish feeding (but palu)	————→	————→	No fish feeding
	No commercial harvest	————→	————→	No commercial harvest
	No aquarium collecting	————→	No slurp gun	No slurp gun. Can only use gears specified as allowed by the rule.
Species	'ōpihi	————→	————→	No take of 'ōpihi and other pūpū through November 30, 2017. Bag limit of 20 specimens per person per day thereafter.
	limu - hand harvest only	————→	————→	limu - hand harvest only
	wana	————→	————→	wana - bag limit: 5 per species per person per day
	lobster - hand harvest only	————→	————→	lobster - hand harvest only; bag limit: 2 per person per day
	he'e - hand harvest or stick	————→	————→	he'e - hand harvest or stick; bag limit: 2 per person per day
		No live shells	No live shells, or take of shells on SCUBA	No live shells, or take of shells on SCUBA
Gear	2 pole limit	————→	————→	2 pole limit; 2 hooks per line
	no spear guns, 3 prong OK	————→	————→	no spear guns; pole spears (8' max) allowed
	No night spear fishing	————→	————→	No night spearing
	No lay net. Throw net, scoop net, or attended pa'ipa'i or surround net OK	————→	————→	No lay net. Throw net, scoop net, or attended pa'ipa'i or surround net OK. No scoop net at night. Pa'i pa'i nets and surround nets must be deployed from shore or vessel < 14'.
	No Harvest on Scuba	No Spear on SCUBA	No Spear on SCUBA	
	No wetsuits			
Tradition	Mahele to the community			
	Require course for license			
Adaptive	Regular rule review	Every 3 Years	Every 5 years by Hā'ena fisheries council	5, 10, and 20 years after adoption, DLNR holds 1 meeting in Hā'ena

**RED** = Recommendation DROPPED; **BLUE** = Rule ADDED; **BLACK** = Recommendation KEPT

## APPENDIX F: Summary of Stakeholder Consultations (2006 - 2016)

In the bill that created the Hā'ena CBSFA (S.B. N.O. 2501 S.D.1, H.D.1, C.D.1) the legislature finds that “a traditionally managed fishery, wherein the inhabitants of the ahupua'a of Hā'ena develop and assist in development and enforcement of traditional regulations for the maintenance of the fishery is needed for the ahupua'a of Hā'ena.” Additionally, the same bill, now included in the statute (HRS §188-22.9), mandates DLNR to consult with “as broad a base of ahupua'a inhabitants and other interested parties as possible” to establish rules and a management plan for the Hā'ena CBSFA.

Beginning in 2008, the Hawai'i Community Stewardship Network's (HCSN) worked in consultation with the DLNR to facilitate a community-based CBSFA management planning process, which provided opportunities for ahupua'a inhabitants and other interested parties to participate in the development of management recommendations based on traditional regulations and management practices as required by the Hā'ena CBSFA authorizing statute (HRS 188-22.9). The Hawai'i Community Stewardship Network, now Kua'āina Ulu 'Auamo (KUA), is a small nonprofit that works with communities in Hawai'i upon request, to improve their capacity to plan, implement, fund, evaluate, and adapt resource management practices and strategies.

At the request of DAR, members of the Hā'ena community also conducted a human use study with assistance from the staff at the Limahuli Garden and Preserve, staff at HCSN/KUA, and Stanford University graduate and undergraduate students, to: (1) better understand the types and frequency of human uses occurring in the area over time, (2) identify potentially affected stakeholders, and (3) inform the stakeholder engagement and management planning process.

When the DLNR was confident that the community-based planning efforts had sufficiently sought and considered input from members of the Hā'ena community and other parties potentially impacted by proposed management recommendations, the DLNR reviewed the community-based management proposal, in addition to the best available information and research (See Appendix G) to develop an agency supported draft CBSFA rule package. Once drafted, DAR initiated the legally mandated public consultation process stipulated by the Chapter 91 administrative rule-making process for state agencies and HRS 201M Small Business Regulatory Flexibility Act. The DLNR's Hā'ena CBSFA rule-making process included the following six public input opportunities:

- May 23, 2014: BLNR meeting to approve public hearing (*Honolulu; 6 calendar days' notice*)
- June 18<sup>th</sup>, 2014: Small Business Regulatory Review Board (SBRRB) meeting to recommend rules for public hearing (6 calendar days' notice) - *Honolulu*
- August 28<sup>th</sup>, 2014 – October 17<sup>th</sup> 2014: Public comment period on the rules (*state-wide*)
- October 3, 2014: Public hearing (30 days' notice) - *Hanalei, Kauai;*
- October 24<sup>th</sup>, 2014: BLNR meeting to adopt rules (6 calendar days' notice) - *Honolulu*
- January 28<sup>th</sup> 2015: SBRRB meeting to recommend rules for approval (6 calendar days' notice) - *Honolulu*

The Hā'ena CBSFA statute (HRS 188-22.9) and Hā'ena CBSFA rules (HAR 13-60.) instruct DLNR to consult with Hā'ena residents and other interested parties to create a management plan for the CBSFA. This Hā'ena CBSFA Management Plan was therefore developed by the DLNR, and was informed in part by the 2011 Community-based Management Proposal since it emerged from an extensive, professionally facilitated community-based planning process in which Hā'ena residents, other interested parties, and ocean users were consulted and compromised on the proposed management recommendations prior to submission to the DLNR. In addition, comments gathered during consultations with other stakeholders and members of the public, in conjunction with the best available information and research (See Appendix G) informed DLNR's development of this Hā'ena CBSFA Management Plan. The following public notices and opportunities to review and comment on this management plan were provided:

- March 13, 2016: public notice of Hā'ena CBSFA Management Plan Public Meeting provided in Star Advertiser, Garden Isle, DAR/DLNR website, and officially opens the written comment period.
- April 6, 2016: issuance of press release for the Hā'ena CBSFA Management Plan public meeting
- April 12, 2016: Hā'ena CBSFA Management Plan public meeting – Kilauea, Kaua'i
- April 26, 2016: Written comment period closed (6 weeks total)

A full summary of community consultations and public input opportunities, mean attendance, and presence of various interested parties informing the Hā'ena CBSFA management planning process between 2006 and 2016 is provided in Table 1 below. In addition, overviews of public participation and testimony on the Hā'ena CBSFA rules during the public hearing and comment period (August 28, 2014 – October 17, 2014), and on the Haena CBSFA Management Plan are provided in Figures 1-4 below.

Table 1. Summary of Stakeholder Consultations (2006 - 2015)<sup>33</sup>

Year	Fisheries Committee <sup>34</sup>	Kama'āina Families (ancestral ties to Hā'ena)	Interested Parties (incl. commercial operators)	Broader Public Meetings (incl. residents and area users)	DLNR Meetings w/ Ocean Users	State Agency Public Meetings (incl. Ch. 91, HRS 201M)
2006	1					
2007	6	4				
2008	5		1		<b>3</b>	
2009	4	1	2	4		
2010	2				<b>3</b>	
2011	5	1		1	<b>1</b>	
2012	1					
2013			1		<b>3</b>	
2014	2			1	<b>3</b>	<b>6</b>
2015		2			<b>7</b>	
2016					<b>2</b>	<b>1 (April 2016)</b>
Total opportunities	26	8	4	6	<b>22</b>	<b>7</b>
Average Attendance	(4–12) Mean=8	(19–60) Mean=40	(3–5) Mean=5	(18–65) Mean=32	<b>(2–10) Mean=4</b>	<b>(0–165) Mean = 41</b>
Note: These are input opportunities where members of the community, interested parties or broader members of the public were present. Multiple other meetings between DAR staff, other DLNR divisions, the DLNR chair, other government representatives, and the bridging organization represented by the Hawai'i Community Stewardship Network (HCSN) now known as Kua'āina Ulu 'Auamo (KUA) were also held. DLNR meetings are highlighted in <b>bold</b> .						

<sup>33</sup> Adapted from: Vaughan, M.B. and Caldwell, M.R. (2015). Hana Pa'a: Challenges and lessons for early phases of co-management. *Marine Policy* 62: 51–62.

<sup>34</sup> Ibid. The "Hā'ena fisheries committee" is comprised of 12 Hā'ena community members including Native Hawaiian board members of the Hui Maka'āinana o Makana (the community nonprofit representing descendants of families living in Hā'ena prior to 1850), Hā'ena residents, fishermen, and longtime community advocates residing outside Hā'ena. The committee was roughly 40% female, and 60% male. Eighty percent of members identified as Native Hawaiian, and 60% identified as fishermen.

Figure 1. Public Hearing Testimony for Hā‘ena CBSFA Rules

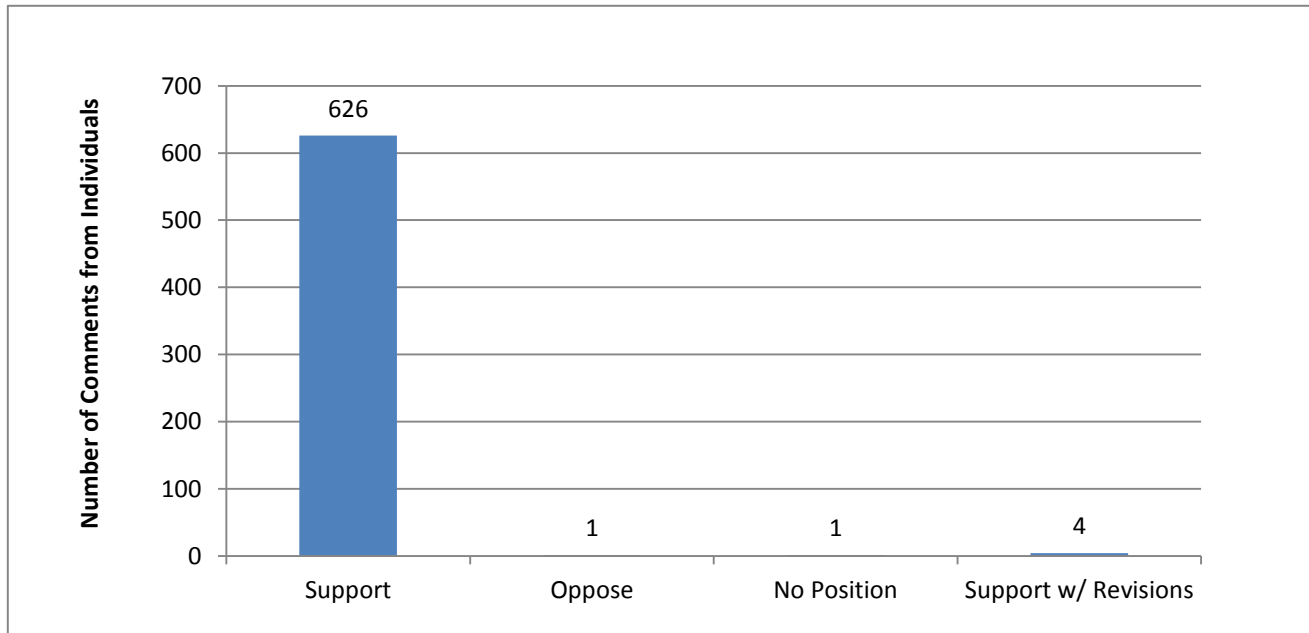


Figure 2. Origin of Public Hearing Testimony Submitted for Hā‘ena CBSFA Rules

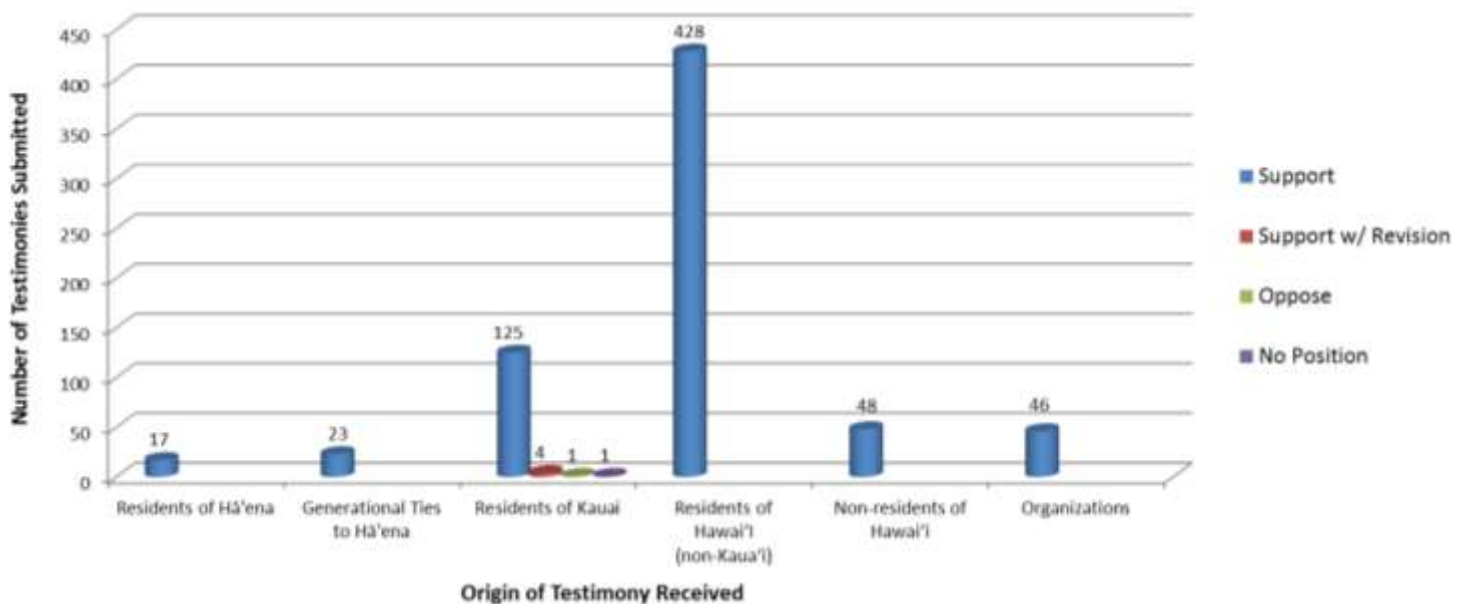


Figure 3: Summary of Hā‘ena CBSFA Management Plan Public Meeting Participant Demographics (from sign in sheet)

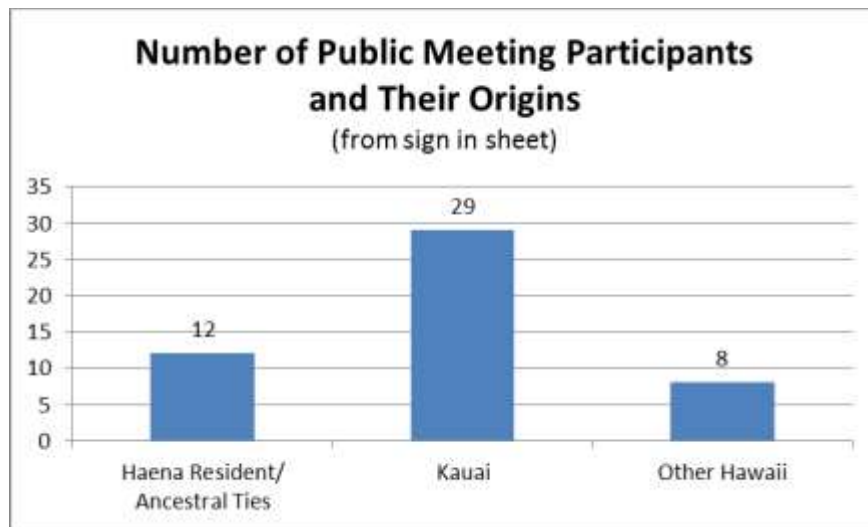
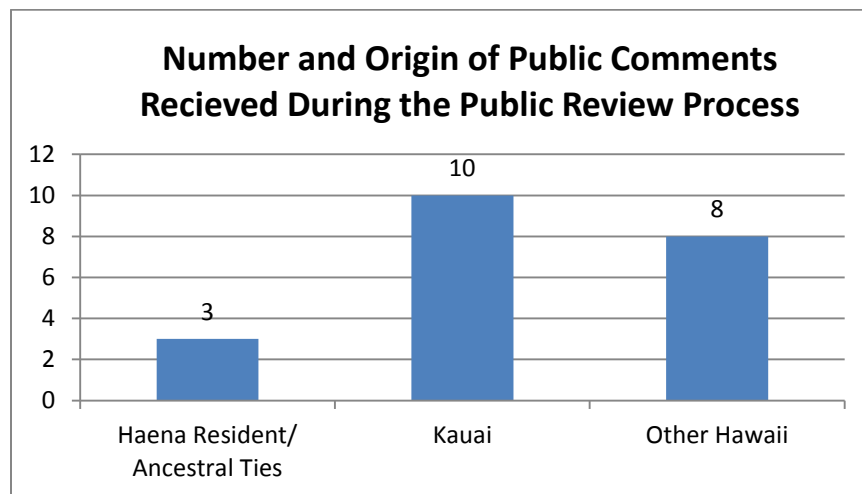


Figure 4: Summary of Individuals Submitting Comments on the Draft Hā‘ena CBSFA Management Plan Throughout the Public Comment Period



## APPENDIX G: Research Informing Hā'ena CBSFA Management Planning

This section outlines the main data sources that were used to inform the Hā'ena CBSFA rules and management plan. These include research on the following topics: Hā'ena's Traditional and Customary Fishing Practices, Human Use of Hā'ena's Coastal Environment, Catch Per Unit Effort, and Hā'ena's reef ecology. Additional research related to introduced alien aquatic fish species and commercial catch was also used to inform the Hā'ena CBSFA rules and management plan, and although not specific to Hā'ena, represents the best available information for decision-making.

### Hā'ena Specific Research Studies

#### *Research on Traditional and Customary Practices of Hā'ena*

1. Vaughan, M.B. and Vitousek, P.M. (2013). Mahele: Sustaining communities through small-scale inshore fishery catch and sharing networks. *Pacific Science* 67(3): 329-344. [Online] <https://pacificscience.files.wordpress.com/2013/02/pac-sci-early-view-67-3-3.pdf>
2. Vaughan, M.B., Thompson, B.H., Vitousek, P.M., Ardoin, N.M., Caldwell, M., and Fortmann, L. (2012). Holoholo i ka La'i o Makua, collaborative community care and management of coastal resources creating state law based on customary rules to manage a near shore fishery in Hawai'i (Doctoral dissertation). Emmett Interdisciplinary Program in Environment and Resources, Stanford University. [Online]: <http://purl.stanford.edu/xb334mj6645>
3. Orr, M. and Kaimipono Consulting Services LLC (2011). Hā'ena State Park Master Plan/EIS Cultural Impact Assessment. Prepared for PBR Hawai'i for the State of Hawai'i Department of Land and Natural Resources, Division of State Parks. p. 480-571. [Online] [http://oegc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010/s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oegc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010/s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)
4. Andrade, C. (2008). *Hā'ena: Through the eyes of the ancestors*. University of Hawai'i Press: Honolulu.
5. Maly, K. and Maly, O. (2003). Hana Ka Lima, 'Ai Ka Waha: A collection of historical accounts and oral history interviews with kama'āina residents and fisher-people of lands in the Halele'a-Na Pali Region on the island of Kaua'i. [Online] <http://uploads.worldlibrary.net/uploads/pdf/elib/collect/maly4/index/assoc/d0.dir/book.pdf>

See also: Summary of Hā'ena oral history interviews submitted as testimony to the BLNR: [http://www.kumupono.com/Ocean%20Resources/Haena%20Fisheries\\_Notes\\_km\\_10242014%20\(2\).pdf](http://www.kumupono.com/Ocean%20Resources/Haena%20Fisheries_Notes_km_10242014%20(2).pdf)

6. Maly, K. and Maly, O. (2003). *Ka Hana Lawai'a: Summary of Detailed Findings from Research on the History of Fishing Practices and Marine Fisheries of the Hawaiian Islands*. Honolulu, Hawai'i.

### ***Hā'ena Human Use Studies***

1. Clark, J. (1992). Beach and Ocean Recreation Study, Hā'ena, Kaua'i. State of Hawai'i Department of Land and Natural Resources, Division of State Parks.
2. Stepath, C. and Save Our Seas (2011). Kē'ē Lagoon and reef flat users baseline study, Hā'ena State Park, Hawai'i, 1999-06-01 to 1999-08-15 (NODC Accession 0002277). National Oceanographic Data Center, NOAA. Dataset. [<http://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.nodc:0002277#Documentation>]
3. SWCA Environmental Consultants (2010). "Marine Natural Resources and Recreation Assessment, Hā'ena State Park, Kaua'i, Hawai'i." Draft Environmental Impact Statement, Hā'ena State Park Master Plan. Prepared for PBR Hawai'i for the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks. 43p. [Online] [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010/s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010/s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)
4. Vaughan, M.B. and Ardoin, N.M. (2014). The implications of differing tourist/resident perceptions for community-based resource management: a Hawaiian coastal resource area study. *Journal of Sustainable Tourism* 22(1): p.50–68.
5. Limahuli Garden and Preserve (2010). Hā'ena Human Use Study. Unpublished Report on file with State of Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources. (See full report in Appendix H).

### ***Hā'ena Catch per Unit Effort Research***

1. Vaughan, M.B. and Vitousek, P.M. (2013). Mahele: Sustaining communities through small-scale inshore fishery catch and sharing networks. *Pacific Science* 67(3): 329-344. [Online] <https://pacificscience.files.wordpress.com/2013/02/pac-sci-early-view-67-3-3.pdf>
2. Limahuli Garden and Preserve (2010). Hā'ena Catch Per Unit Effort (CPUE) Survey. Unpublished Report on file with State of Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources. (See full report in Appendix I)

### ***Hā'ena Marine Ecological Assessments***

1. Stepath, C. and Save Our Seas (2011). Kē'ē Lagoon and reef flat users baseline study, Hā'ena State Park, Hawai'i, 1999-06-01 to 1999-08-15 (NODC Accession 0002277). National Oceanographic Data Center, NOAA. Dataset. [<http://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.nodc:0002277#Documentation>]
2. SWCA Environmental Consultants (2010). "Marine Natural Resources and Recreation Assessment, Hā'ena State Park, Kaua'i, Hawai'i." Draft Environmental Impact Statement, Hā'ena State Park Master Plan. Prepared for PBR Hawai'i for the State of Hawai'i Department of Land and Natural Resources, Division of State Parks. 43p. [Online] [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010/s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010/s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)



3. Friedlander, A.M. (2011). Hā'ena Juvenile Reef Fish Assessment. Fisheries Ecology Research Lab, University of Hawai'i at Mānoa. Unpublished Report on file with State of Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources, Honolulu. (See full report in Appendix J)
3. Friedlander, A.M., Goodell, W., and Stimuli's, K. (2013-2014). Ecological Assessment of Hā'ena Reef Habitats. Fisheries Ecology Research Lab, University of Hawai'i at Mānoa. Unpublished Report on file with State of Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources. (See full report in Appendix K)

## Other Research

### *Introduced Alien Aquatic Fish Species*

The Division of Aquatic Resources defines “invasive” species as “a species that is nonnative (alien) to the ecosystem under consideration, and whose introduction causes or is likely to cause economic or environmental harm, or harm to human health.”<sup>35</sup>

Three non-native reef fish species were introduced by the State as food fish in the late 1950s, ta'ape (*Lutjanus kasmira*/blueline snapper), to'au (*Lutjanus fulvus*/blacktail snapper), and roi (*Cephalopholis argus*/peacock grouper). All of these species are present in the nearshore waters of the Hā'ena.<sup>36,37</sup> Research to date has not found these introduced species to be a biological concern in regards to native fisheries and habitats, but management actions of such species may be considered should future research suggest that their control and eradication is a necessary and viable option. A list of studies on this topic to date is provided below:

1. Russo, A.R., and Brock, R.E. (2010). A Survey of Selected Coral and Fish Assemblages Adjacent to the Wai'anae Ocean Outfall, O'ahu, Hawai'i, June, 2009. Honolulu, Hawai'i.

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<sup>35</sup> Shluker, A.D. (2003). “State of Hawai'i: Aquatic Invasive Species Management Plan.” State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources. Honolulu, Hawai'i. [Online] [http://dlnr.hawaii.gov/dar/files/2014/04/ais\\_mgmt\\_plan\\_final.pdf](http://dlnr.hawaii.gov/dar/files/2014/04/ais_mgmt_plan_final.pdf)

<sup>36</sup> SWCA Environmental Consultants (2010). “Marine Natural Resources and Recreation Assessment, Hā'ena State Park, Kaua'i, Hawai'i.” Draft Environmental Impact Statement, Hā'ena State Park Master Plan. Prepared for PBR Hawai'i for the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks. 43p. [Online] [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park\\_Master-Plan.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2015-07-23-KA-5B-DEIS-Haena-State-Park_Master-Plan.pdf)

<sup>37</sup> Friedlander, A.M. (2011). Hā'ena Juvenile Reef Fish Assessment. Fisheries Ecology Research Lab, University of Hawai'i at Mānoa. Unpublished Report on file with State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources, Honolulu. (See full report in Appendix J)

[Online] <http://www.nodc.noaa.gov/archive/arc0045/0084515/1.1/data/0-data/Waianae2010%20Coral%20and%20Fish%20FINAL-01.pdf>

2. See, K., Godwin, S., and Menza, C. (2009). "Nonindigenous and Invasive Species". A *Marine Biogeographic Assessment of the Northwestern Hawaiian Islands*. A. Friedlander, K. Keller, L. Wedding, A. Clarke, and M. Monaco, eds. NOAA Tech. Memo. NOS NCCOS 84. p. 275-290 [Online] <http://ccma.nos.noaa.gov/ecosystems/sanctuaries/nwhi/chapter8.pdf>

### **Studies on Roi (*Cephalopholis argus*)**

3. Meyer, A.L. and Dierking, J. (2011). Elevated size and body condition and altered feeding ecology of the grouper *Cephalopholis argus* in non-native habitats. *Marine Ecology Progress Series* 439: 203 - 212. [Online]: <http://www.int-res.com/abstracts/meps/v439/p203-212/>
4. Dierking, J. and Meyer A.L. (2009). Prey regurgitation in the grouper *Cephalopholis argus*. *Journal of Applied Ichthyology* 25: 600 - 602. [Online] <http://uhbiology.kahikai.org/wp-content/uploads/2012/01/Dierking-and-Meyer-09-prey-regurg-in-roi.pdf>
5. Dierking, J., Williams, I.D., and Walsh, W.J. (2009). Diet composition and prey selection of the introduced grouper species peacock hind (*Cephalopholis argus*) in Hawai'i. *Fishery Bulletin* 107: 464 - 476.
6. Meyer, A.L. (2008). An ecological comparison of *Cephalopholis argus* between native and introduced populations. PhD. Dissertation, University of Hawai'i. Honolulu, Hawai'i. 142 p. [Online] <http://scholarspace.manoa.hawaii.edu/handle/10125/20930>
7. Dierking, J. (2007). Effects of the introduced predatory fish *Cephalopholis argus* on native reef fish populations in Hawai'i. PhD Dissertation, University of Hawai'i at Mānoa, Honolulu, Hawai'i. 125p. [Online] <http://www.fpir.noaa.gov/Library/HCD/Dissertation%20Jan%20Dierking.pdf>
8. Shluker, A.D. (2003). "State of Hawai'i: Aquatic Invasive Species Management Plan." State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources. Honolulu, Hawai'i. [Online] [http://dlnr.hawaii.gov/dar/files/2014/04/ais\\_mgmt\\_plan\\_final.pdf](http://dlnr.hawaii.gov/dar/files/2014/04/ais_mgmt_plan_final.pdf)
9. Walsh, W.J. (2003). Powerpoint presentation on findings from DLNR-DAR monitoring studies on Hawai'i Island. Unpublished presentation prepared for the State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources.
10. Birkeland, D., Walsh, W.J. and Dierking, J. (2002). "Feeding biology of the introduced fish roi (*Cephalopholis argus*) and its impact on Hawaiian coral reef-fishes and fisheries". Unpublished proposal submitted to the Hawai'i Coral Reef Initiative Research Program.

### **Studies on Ta‘ape (*Lutjanus kasmira*)**

1. Schumacher, B.D. (2011). Habitat use and trophic ecology of the introduced snapper *Lutjanus kasmira* and native goatfishes in Hawai‘i. PhD. Dissertation, University of Hawai‘i. Honolulu, Hawai‘i. 230 p. [Online] <http://nsgl.gso.uri.edu/hawau/hawaui1005.pdf>
2. Schumacher, B.D. and Parrish, J.D. (2005). Spatial Relationships Between an Introduced Snapper and Native Goatfishes on Hawaiian Reefs. *Biological Invasions* 7(6): 925–933. [Online] <http://dx.doi.org/10.1007/s10530-004-2983-6>.
3. Friedlander, A.M., Parrish J.D., and DeFelice, R.C. (2002). “Ecology of the introduced snapper *Lutjanus kasmira* (Forsskal) in the reef fish assemblage of a Hawaiian bay”. *Journal of Fish Biology* 60:28-48.
4. Parrish, J.D., Aeby, G.S., Conklin, E.J., and Ivey, G.L. (2000). “Interactions of nonindigenous blueline snapper (Ta‘ape) with native fishery species”. Final Report to the State of Hawai‘i, Department of Land and Natural Resources, Division of Aquatic Resources.
5. Kushima, J. (1989). “Ta‘ape Market Development Project”. Final Report. State of Hawai‘i, Department of Land and Natural Resources, Division of Aquatic Resources.
6. Oda, D.K. and Parrish, J.D. (1981). “Ecology of commercial snapper and groupers introduced to Hawaiian reefs”. Proceedings of the Fourth International Coral Reef Symposium, Manila, 1981, Vol. 1:59-67.

### ***Commercial Catch Reports***

To help understand commercial fishing needs and potential impacts of adopting the Hā‘ena CBSFA rules on this sector, the State of Hawai‘i Division of Aquatic Resources (DAR) compiled commercial catch reports submitted between 2006-2015<sup>38</sup> to evaluate general fishery trends in the area over the past decade. A decade of commercial landings data was assessed to inform consideration of commercial fishing interests during the CBSFA management planning process.

Although the Hā‘ena CBSFA boundary only extends from the shoreline to one mile out along approximately three and half miles of coastline, it’s location falls within two map grid areas associated with commercial catch reports, 502 and 503 , but predominantly lies within map grid area 503 (see map in Figure 1 on following page). As such, the following summaries of commercial landings include all catch from within 502 and 503 grid areas, which represents

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<sup>38</sup> At the time of writing, 2015 commercial landings included catch reported between January and June 2015.

roughly 30 miles of coastline along the north shore of Kaua‘i, from the shoreline to two miles out.

Despite the expansive area and decade of data considered, the value of commercial landings from grid areas 502 and 503 is relatively low in comparison with other similar grid areas in Hawai‘i. In addition, commercial catch reports suggest that species targeted by commercial fishers are primarily pelagic or deep water species, and thus unlikely to be affected by the Hā‘ena CBSFA rules (See Table 2 and Table 3 below).

Table 1: Annual Commercial Landing Trends for Area 502 & 503 between 2006- June 2015\*

Year	Map Grid Area 502							Map Grid Area 503						
	Number of Commercial Licensees	Number of trips	Lbs. caught	Number released	Number sold	Lbs. sold	Sale Value	Number of Commercial Licensees	Number of trips	Lbs. caught	Number released	Number sold	Lbs. sold	Sale Value
<b>2006</b>	23	86	3,870	8	21	613	2,041	35	309	54,840	21	542	3,215	8,944
<b>2007</b>	11	31	3,493	7	26	968	3,485	28	190	8,390	55	231	1,675	6,187
<b>2008</b>	11	33	1,680	32	60	473	3,586	35	259	66,069	200,071	490	3,330	13,406
<b>2009</b>	21	71	3,842	9	71	627	2,415	34	274	29,586	161	842	4,165	15,987
<b>2010</b>	9	43	4,258	23	100	2,592	10,402	29	194	9,363	169	581	3,565	12,410
<b>2011</b>	16	72	9,003	9	644	1,536	4,330	28	194	10,906	193	638	2,364	9,716
<b>2012</b>	11	35	4,404	7	17	1,398	5,035	19	97	5,657	5	137	1,899	8,504
<b>2013</b>	9	17	3,193	14	4	398	1,663	18	87	5,811	41	286	840	4,961
<b>2014</b>	6	15	2,469	4	n/a	85	510	13	80	7,804	31	286	2,050	10,902
<b>2015</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6	17	720	0	224	705	3,841

\*Commercial catch data were omitted (n/a) to maintain confidentiality since when less than three licensees reported catch.

Figure 1. Map of Hā'ena CBSFA Relative to Commercial Catch Report Map Grid Areas 502 and 503

\*Map is for reference only, boundaries may not be precise

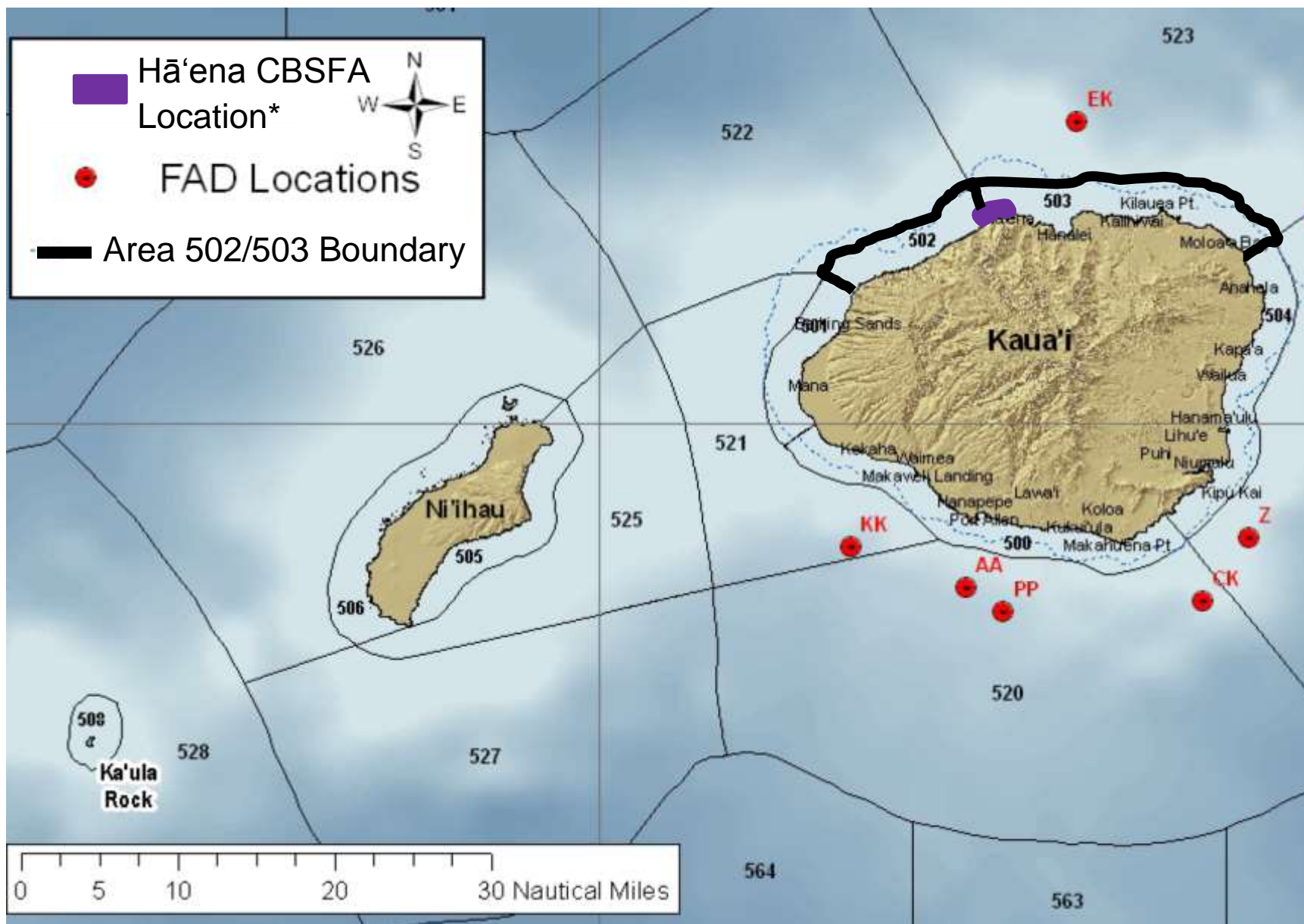


Table 2. Commercial Catch Trends by Highest Value Species in Area 502  
Cumulative Commercial Landings (2006- June 2015)

**Blue:** Pelagic Species

**Black:** Nearshore Species

Species	Number of Licensees	Number Caught	Lbs. Caught	Number Released	Number Sold	Lbs. Sold	Total Value
<b>Yellowfin tuna</b>	<b>21</b>	<b>285</b>	<b>8,630</b>	<b>12</b>	<b>56</b>	<b>3,548</b>	<b>\$11,454</b>
<b>Opakapaka</b>	<b>14</b>	<b>489</b>	<b>3,464</b>	<b>8</b>	<b>163</b>	<b>1,261</b>	<b>\$7,410</b>
<b>Ono</b>	<b>24</b>	<b>101</b>	<b>2,297</b>	<b>0</b>	<b>44</b>	<b>944</b>	<b>\$3,582</b>
Menpachi	4	623	450	0	0	266	\$1,196
Kumu	3	28	93	0	0	89	\$1,077
<b>Blue marlin</b>	<b>3</b>	<b>n/a*</b>	<b>435</b>	<b>n/a*</b>	<b>n/a*</b>	<b>394</b>	<b>\$985</b>
<b>Mahimahi</b>	<b>16</b>	<b>40</b>	<b>843</b>	<b>0</b>	<b>9</b>	<b>173</b>	<b>\$613</b>
Ta'ape	6	432	349	0	0	269	\$536
<b>Hapu'upu'u</b>	<b>7</b>	<b>31</b>	<b>476</b>	<b>0</b>	<b>6</b>	<b>97</b>	<b>\$374</b>
Consolidated species**	9	14,295	6,188	0	582	1,104	\$4,519

\* Data has been omitted (n/a) to uphold data confidentiality.

\*\* Commercial catch data for 6 of the top 15 valued species were consolidated to maintain confidentiality since less than 3 licensees reported catch for each of those species.

Table 3. Commercial Catch Trends by Highest Value Species in Area 503  
Cumulative Commercial Landings (2006-2015)

**Blue:** Pelagic Species

**Black:** Nearshore Species

Species	Number of Licensees	Number Caught	Lbs. Caught	Number Released	Number Sold	Lbs. Sold	Total Value
<b>Ono</b>	<b>38</b>	<b>822</b>	<b>19,498</b>	<b>n/a*</b>	<b>242</b>	<b>5,714</b>	<b>\$22,838</b>
<b>Yellowfin tuna</b>	<b>31</b>	<b>571</b>	<b>16,939</b>	<b>8</b>	<b>66</b>	<b>3,899</b>	<b>\$14,873</b>
Limu kohu	5	336	2,891	0	0	953	\$11,727
'Ama'ama	5	3,365	3,261	0	1,493	2,456	\$9,416
<b>Mahimahi</b>	<b>32</b>	<b>403</b>	<b>6,410</b>	<b>n/a</b>	<b>74</b>	<b>1,472</b>	<b>\$5,538</b>
Menpachi	9	6,205	3,741	288	246	1,025	\$3,895
<b>Opakapaka</b>	<b>10</b>	<b>219</b>	<b>1,259</b>	<b>6</b>	<b>128</b>	<b>701</b>	<b>\$3,700</b>
<b>Onaga</b>	<b>8</b>	<b>187</b>	<b>895</b>	<b>0</b>	<b>118</b>	<b>546</b>	<b>\$3,677</b>
<b>Ehu</b>	<b>12</b>	<b>841</b>	<b>1,974</b>	<b>25</b>	<b>305</b>	<b>690</b>	<b>\$3,322</b>
Akule	8	160,333	98,233	200,000	0	729	\$2,319
Uku	16	132	968	0	106	698	\$2,219
Ta'ape	10	3,968	2,840	0	110	1,447	\$1,828
Hapu'upu'u	12	73	763	0	29	295	\$1,291
<b>Kalekale</b>	<b>10</b>	<b>474</b>	<b>867</b>	<b>0</b>	<b>219</b>	<b>361</b>	<b>\$1,114</b>
'Opelu	10	3,988	1,103	0	378	291	\$1,089

\* Data has been omitted (n/a) to uphold data confidentiality.

Given the nature and geographic extent of the Hā‘ena CBSFA rules, potential impacts of CBSFA rules were anticipated to be greater on nearshore commercial fishing activities. To better understand nearshore commercial fishers’ needs and the potential impacts of adopting CBSFA rules on their commercial fishing activities, pelagic and deep water species were excluded from analysis of commercial catch reports, with summarized results of commercial catch of nearshore reef species, both in terms of highest value and highest catch provided in Table 4 and Table 5 below.

Table 4. Nearshore Commercial Catch Trends by Highest Value  
Cumulative Commercial Landings for Areas 502 and 503 Combined (2006- June 2015)\*

Nearshore Species	Number of Licensees	Number Caught	Lbs. Caught	Number Released	Number Sold	Lbs. Sold	Total Value
Limu kohu	7	388	4222	0	0	1104	\$13,539
‘Ama‘ama	5	3365	3261	0	1493	2456	\$9,416
Menpachi	13	6828	4190	288	246	1291	\$5,091
Uku	30	153	1197	0	111	768	\$2,498
Ta‘ape	16	4400	3188	0	110	1715	\$2,364
Akule	12	162919	99645	200000	0	729	\$2,319
‘Ōpelu	11	17604	3913	0	844	431	\$1,789
Kumu	9	51	148	17	0	106	\$1,204
Āholehole	4	1724	868	0	71	331	\$1,203
Moana kale	4	155	368	14	24	208	\$1,040
Moi	4	155	368	14	24	208	\$1,040
Palani	6	251	584	0	117	448	\$722
‘Ō‘iō	5	902	2839	0	260	437	\$705
White ulua	13	93	1205	31	10	416	\$547
Uhu parrot-misc.	7	76	271	0	24	130	\$395

\* Commercial catch data for near shore species were consolidated for areas 502 and 503 to maintain confidentiality



Table 5. Nearshore Commercial Catch Trends by Pounds of Catch  
Cumulative Commercial Landings for Areas 502 and 503 Combined (2006- June 2015)\*

Nearshore Species	Number of Licensees	Number Caught	Lbs. Caught	Number Released	Number Sold	Lbs. Sold	Total Value
Akule	12	162919	99645	200000	0	729	\$ 2,319
<b>Hahalalu</b>	<b>11</b>	<b>90525</b>	<b>15453</b>	<b>n/a**</b>	<b>0</b>	<b>149</b>	<b>\$ 335</b>
Limu kohu	7	388	4222	0	0	1104	\$ 13,539
Menpachi	13	6828	4190	288	246	1291	\$5,091
‘Ōpelu	11	17604	3913	0	844	431	\$ 1,789
‘Ama‘ama	5	3365	3261	0	1493	2456	\$ 9,416
Ta‘ape	16	4400	3188	0	110	1715	\$2,364
‘Ō‘iō	5	902	2839	0	260	437	\$705
<b>Kahala</b>	<b>19</b>	<b>192</b>	<b>2446</b>	<b>127</b>	<b>0</b>	<b>0</b>	<b>\$0</b>
White ulua	13	93	1205	31	10	416	\$547
Uku	30	153	1197	0	111	768	\$2,498
Āholehole	4	1724	868	0	71	331	\$1,203
<b>Nenue</b>	<b>6</b>	<b>400</b>	<b>833</b>	<b>n/a**</b>	<b>7</b>	<b>229</b>	<b>\$250</b>
Palani	6	251	585	0	117	448	\$722
<b>‘Āweoweo</b>	<b>8</b>	<b>844</b>	<b>550</b>	<b>0</b>	<b>4</b>	<b>113</b>	<b>\$344</b>

\*Commercial catch data for areas 502 and 503 were consolidated for near shore species to maintain confidentiality.

\*\* Data has been omitted (n/a) to uphold data confidentiality.

**BOLD:** species exclusive to the list of top 15 species by *pounds of catch* reported landed (i.e. does not appear on list of top 15 landed species by value)

Comments and testimony provided to the DLNR by commercial fishers stated that the species most targeted were the introduced species ta‘ape (*Lutjanus kasmira*/bluestripe snapper) and the native species mū (*Monotaxis grandoculis*/big eye emperor), and requested that commercial take of these species as well as roi (*Cephalopholis argus*/peacock hind) be permitted to help mitigate impacts from large schools of these species consuming important reef fish species and degrading reef health. The most recent findings from research on impacts of introduced species on native Hawaiian reef fish is discussed in the Aquatic Alien Invasive Species section above.

While large reported catches of ta‘ape are not uncommon in the main Hawaiian islands at sites where this species is prevalent in large numbers, there was relatively little catch reported for ta‘ape and mū across the entire north shore of Kaua‘i over the past ten years (See Table 6 below). Commercial fishing reports collected by DAR indicated that 4,400lbs total of ta‘ape



were reported caught by commercial fishing licensees over the past ten years within the map grid areas 502 and 503, of which 1,715lbs were sold for a total value of \$2,364. In comparison, commercial catch reports submitted to DAR for other locations in Hawai‘i commonly report larger catches of ta‘ape within a year than was reported in ten years across the entire north shore of Kaua‘i (e.g. 5,500-7,750lbs ta‘ape/year reported landed in area 312 over the past 5 years).<sup>39</sup>

Table 6. Commercial Catch Trends for Commercial Species Mentioned in Testimony

Species	Number of Licensees	Number Caught	Lbs. Caught	Number Sold	Lbs. Sold	Total Value
Ta‘ape	16	4,400	3,188	110	1,715	\$2,364
Mū	3	8	40	0	27	\$80
Other Introduced	8	31	57	4	11	\$36

Cumulative Commercial Landings for Areas 502 and 503 Combined (2006-June 2015)\*

\*Commercial catch data for areas 502 and 503 were consolidated to maintain confidentiality since less than three licensees reported catch for each of those species.

Ta‘ape and to‘au (*Lutjanus fulvus*/black tail snapper) were originally introduced by the Hawai‘i Fish and Game in the mid-1950s and early 1960s in hopes of stimulating the commercial fisheries, but neither has been widely accepted as a local food fish or become successful in the commercial fisheries despite becoming widely established in the Main Hawaiian Islands. Ta‘ape receives among the lowest prices in markets (<\$7/kg), while there are reports of roi and to‘au being sold for moderate prices (~\$18/kg), but in relatively small amounts.<sup>40</sup> However, roi is increasingly avoided as a food fish since cases of ciguatera poisoning have increased, making this fish potentially unsafe to consume. Overall, relatively little catch or sales of introduced species such as ta‘ape, to‘au, and roi were reported suggesting these species are of relatively little commercial importance for commercial fishers reporting catch within map grid areas 502 and 503.

Analysis of commercial catch reports submitted between 2006 and June 2015 along the north shore of Kaua‘i suggest that adoption of the Hā‘ena CBSFA rules would have little impact on commercial fishing interests who rely on the area. The Small Business Regulatory Review Board similarly concluded that the Hā‘ena CBSFA rules would not significantly affect small commercial fishing businesses, and recommended the rules be signed by the Governor. However, the commercial landings reported here are likely an underrepresentation of total

<sup>39</sup> DAR (2014). Commercial marine landings 2010-2014. Division of Aquatic Resources, Department of Land and Natural Resources, State of Hawai‘i.

<sup>40</sup> Schumacher, B.D. (2011). Habitat use and trophic ecology of the introduced snapper *Lutjanus kasmira* and native goatfishes in Hawai‘i. PhD. Dissertation, University of Hawai‘i. Honolulu, Hawai‘i. 230 p. [Online] <http://nsgl.gso.uri.edu/hawau/hawauy11005.pdf>

commercial catch in these areas, highlighting the importance of collaborative data collection and timely and accurate reporting of commercial catch by commercial fishers.

## APPENDIX H: 2010 Hā‘ena CBSFA Human Use Study

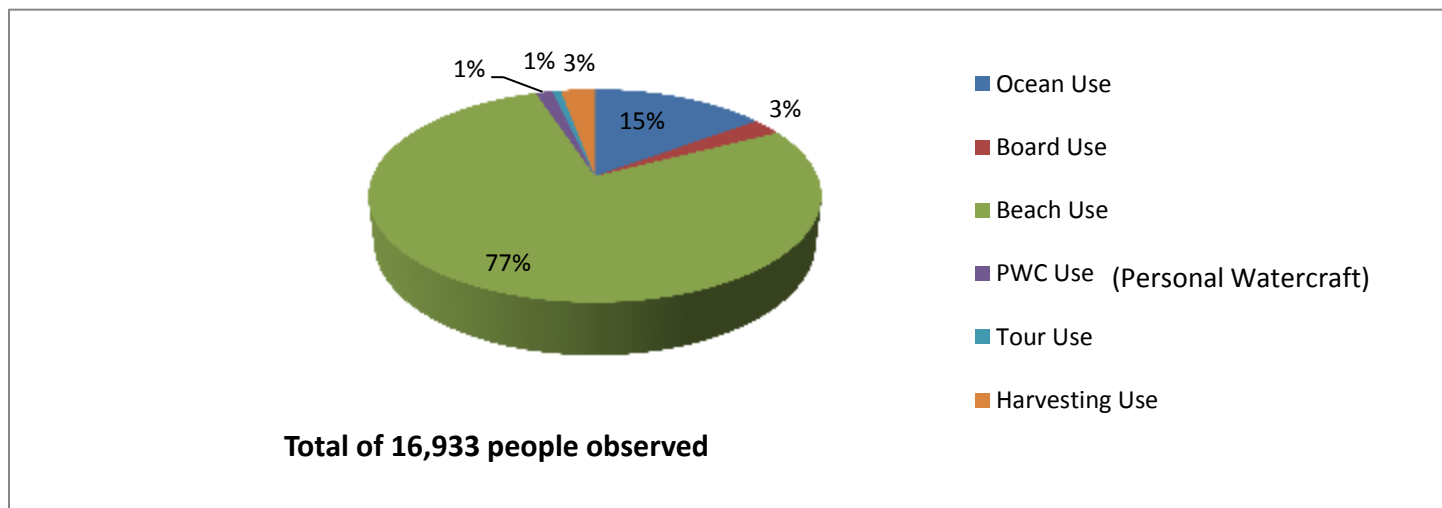
The following unpublished report summarizes the results of research on the human use of Hā‘ena ocean and beaches conducted between August 2009 through December 2010 by community volunteers and staff from Limahuli Garden and Preserve for the purpose of informing DAR and the Hā‘ena community’s CBSFA management planning.<sup>41</sup> Surveyors collected data multiple days per month, during day and night, with the vast majority completed between 7 a.m. and 10 p.m. The observation period for each survey varied, but most were completed in about 15 minutes. Data was compiled for 1025 completed surveys, and frequencies and averages calculated for various categories.

Volunteers used a “point-in-time” methodology and compiled data on data sheets that divided the area into different ‘apana, or areas. Surveyors would start at one ‘apana and count the number of people engaged in the listed activities occurring in that area. They then move to the next area and count all of the people engaged in the listed activities occurring in that area. The process was repeated until they recorded the number of people engaged in the listed activities for all areas.

### Summary of Human Use Results

The vast majority (77%) of human use in Hā‘ena is related to beach use, including sunbathing and walking the shoreline. Ocean uses such as swimming, snorkeling, and scuba diving comprised 15% of use. Board use (e.g., surfing) and harvesting activities (e.g., fishing) both comprised 3% of use, while personal watercraft (PWC) such as kayaking and people on tours each comprised 1% of use.

Figure 1. Hā‘ena Human Use by Category



<sup>41</sup> Limahuli Garden and Preserve (2010). Hā‘ena Human Use Study. Unpublished Report on file with State of Hawai‘i, Department of Land and Natural Resources, Division of Aquatic Resources.

The following six graphs provide additional detail of the percentages of people engaged in the different activities

Figure 2. Hā'ena Ocean Use

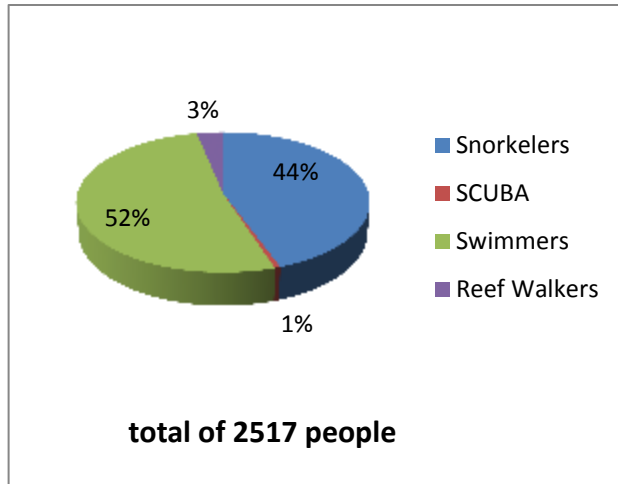


Figure 3. Hā'ena Beach Use

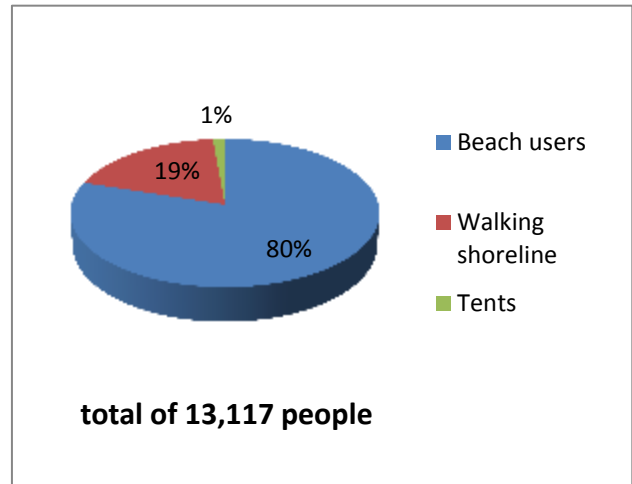


Figure 4. Hā'ena Harvesting Use

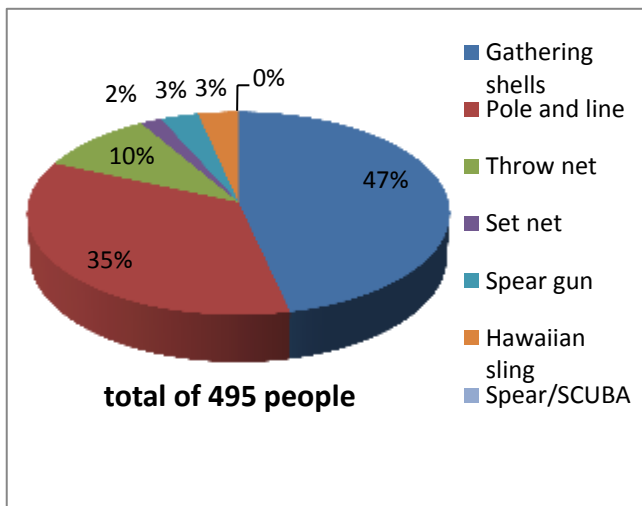


Figure 5. Hā'ena Board Use

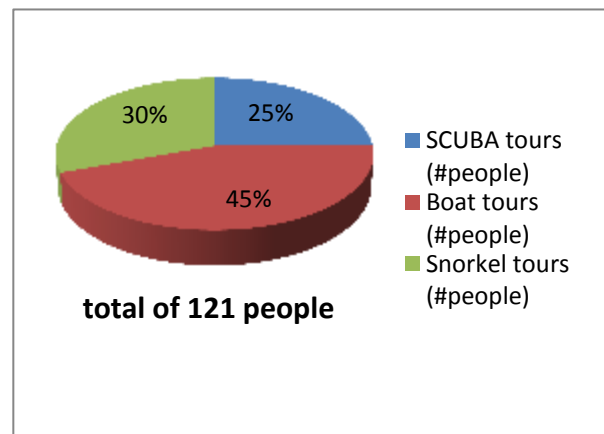


Figure 6. Hā'ena Tour Use

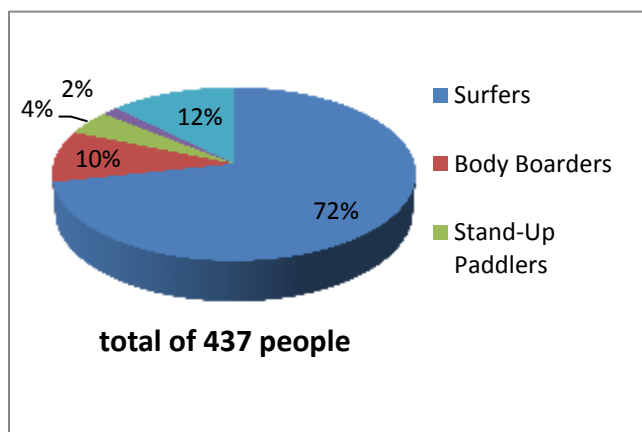
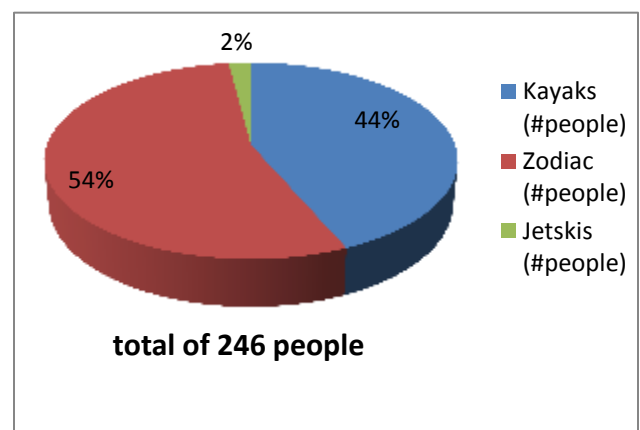


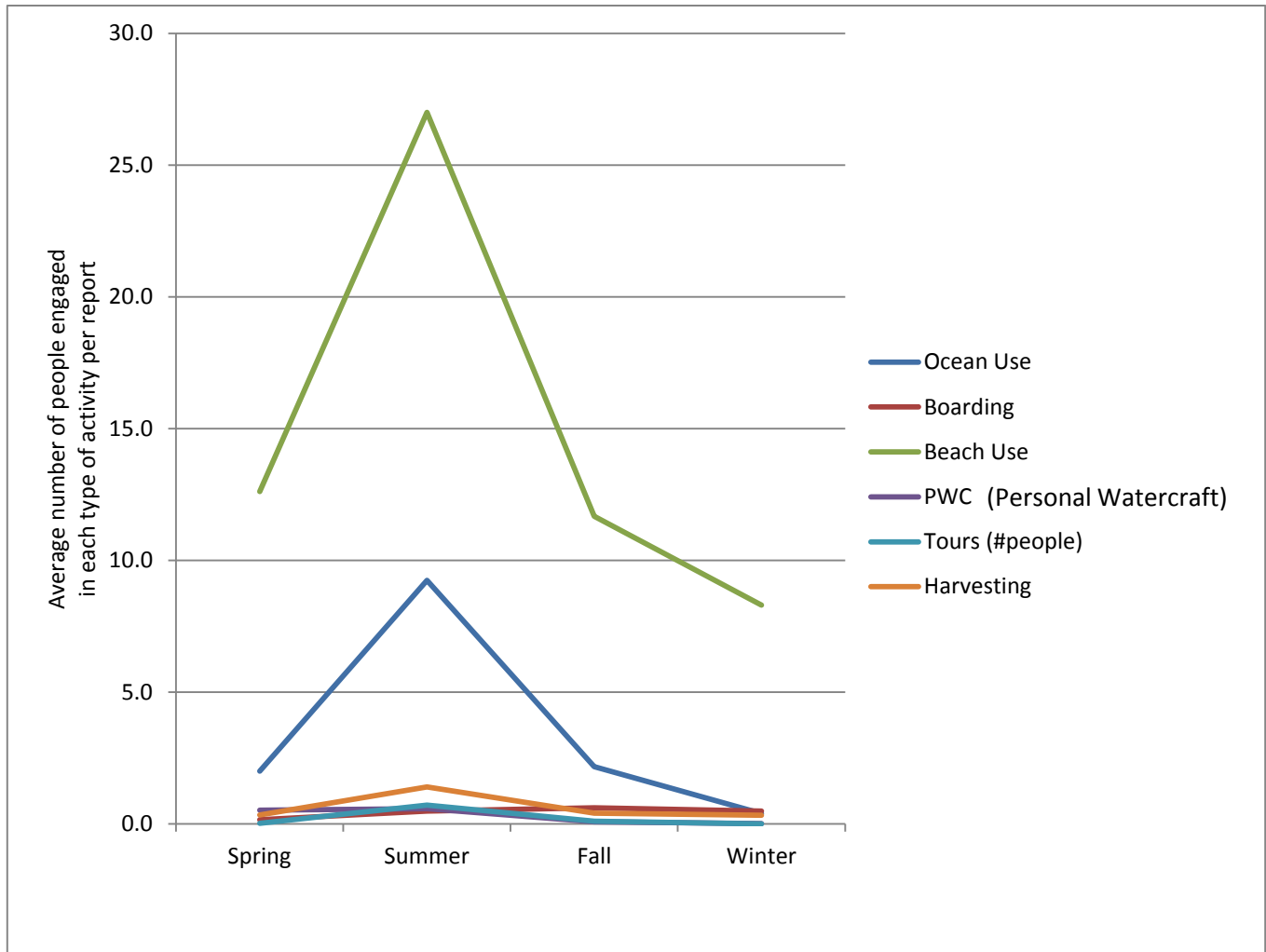
Figure 7. Hā'ena Watercraft Use



### Seasonal Changes in Human Use at Hā‘ena

Human use varied from one season to the next. The following chart illustrates the rise in human use at Hā‘ena during the spring, the height of human use during summertime, and the decrease through winter. The chart records the average number of people observed engaging in each activity category during each observation period, by season. Survey observation periods varied, but were usually completed within 15 minutes.

Figure 8. Hā‘ena Human Use by Season

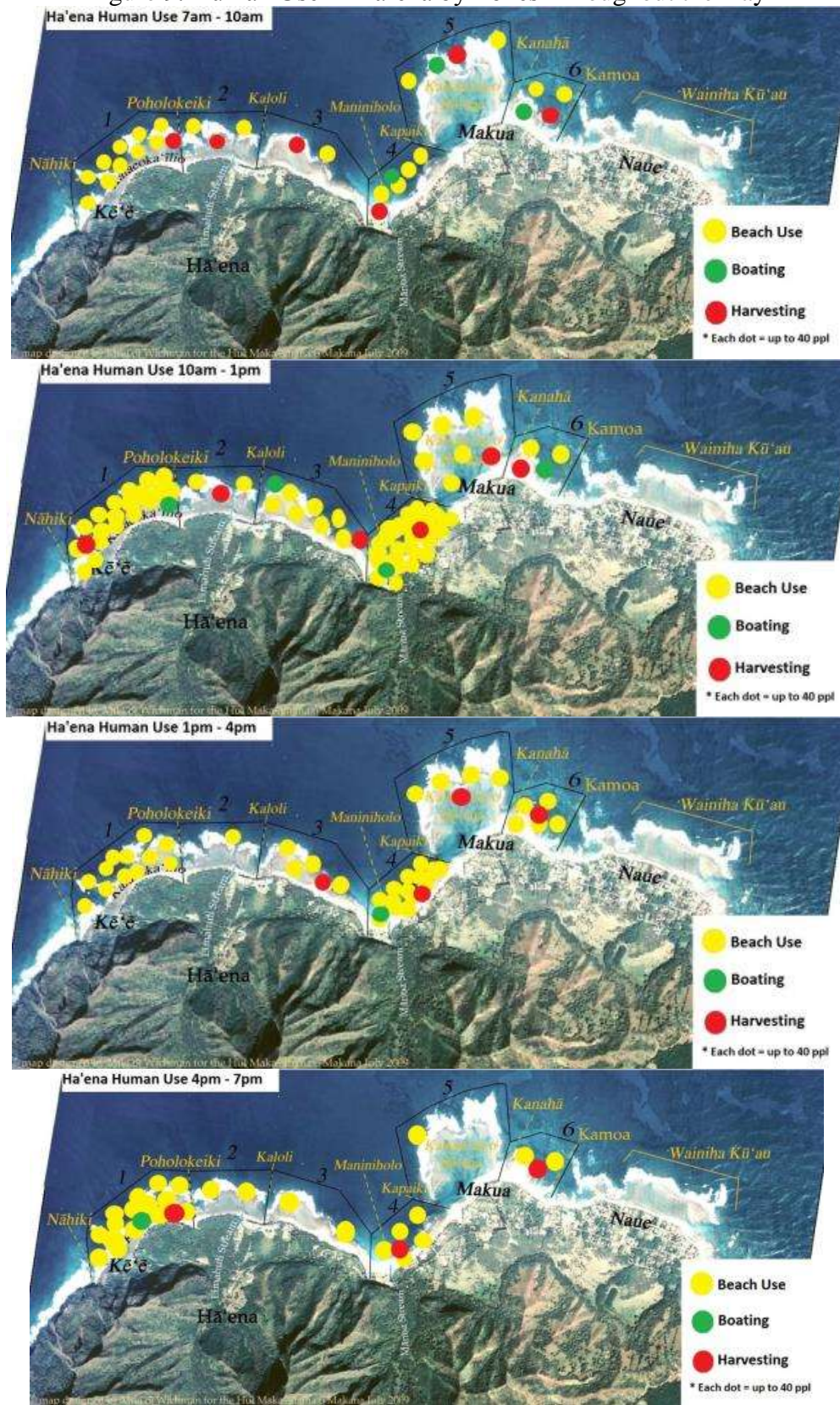


### Changes in Hā‘ena Human Use by Time of Day

As might be expected, the number of people utilizing Hā‘ena varies by the time of day. Surveys at Hā‘ena were collected at all times of day, enabling tracking throughout the 24-hour daily cycle. Figure 9 below illustrates the human use of Hā‘ena throughout the six *apana*, or zones, throughout the day. “Beach use” combines ocean use, boarding use, and beach use for simplicity. Apana 1 and 4 were the most popular areas of Hā‘ena throughout the day during this study.



Figure 9. Human Use in Hā'ena by Zones Throughout the Day



## APPENDIX I: 2010 Hā'ena Catch Per Unit Effort Study

The following unpublished report reflects the findings a Catch Per Unit Effort (CPUE) Study conducted over 13 months between August 2009 and December 2010 by Limahuli Garden and Preserve staff for the purpose of informing Hā'ena CBSFA management planning.<sup>42</sup>

A total of 63 sampling events of approximately three hours each were completed, representing 60.6% of the original sampling target and roughly 190 hours of sampling (Table 1). Of the sampling events completed, 32 fell on a weekend day, and 31 fell on a weekday. Dates were randomly selected using random number assignment. Four different types of data were collected:

- i. Events: Data collected about the sampling day, or “event.” Includes start/end time, date, tides, weather information.
- ii. Observations: Data collected about persons observed fishing. Surveyors observed fishing activity from the shoreline using binoculars. Includes number of persons, gear used, and fishing location/zone.
- iii. Intercept Interviews: In-person interviews with fishers. Includes number interviewed, residence zip code, gear used, number of persons, and intended disposition of catch.
- iv. Catch Recording: If anglers intercepted with catch, surveyors attempted to collect data on catch. Includes number, size, weight, and disposition.

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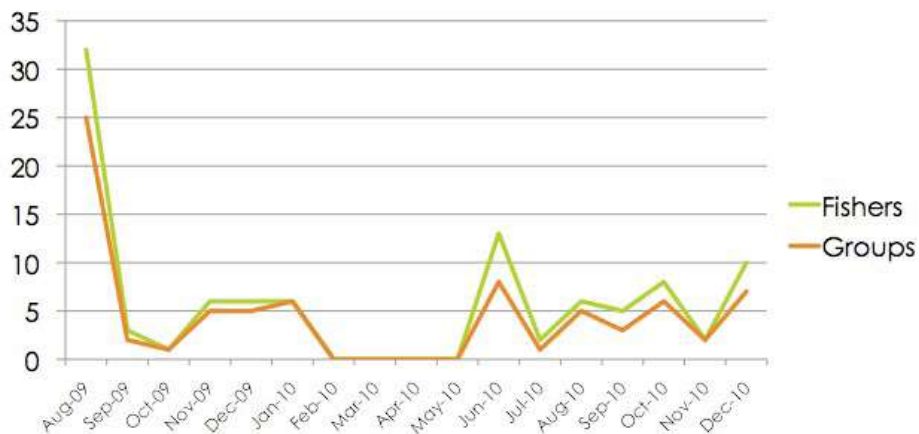
<sup>42</sup> Limahuli Garden and Preserve (2010). Hā'ena CPUE survey. Unpublished Report on file with State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources.

Table 1. Summary of Catch per Unit Effort Sampling Events

Month	Sampling Events (3 hr.)	Weekend	Weekday
<b>Monthly Sampling Goal (n)</b>	<b>8</b>	<b>4</b>	<b>4</b>
Aug. 2009	6	3	3
Sep. 2009	1	0	1
Oct. 2009	2	1	1
Nov. 2009	6	2	4
Dec. 2009	5	4	1
Jan. 2010	8	3	5
Jun. 2010	2	2	0
Jul. 2010	2	1	1
Aug. 2010	3	1	2
Sep. 2010	5	2	3
Oct. 2010	8	4	4
Nov. 2010	7	5	2
Dec. 2010	8	4	4
<b>Total Sampling Events (n)</b>	<b>63</b>	<b>32</b>	<b>31</b>

86 groups of fishers were observed, of which 30 were approached for an interview (approximately 35%). Three groups representing six individuals refused to be interviewed, an 8.6% refusal rate. Of those who agreed to be interviewed, one group refused to show its catch, a refusal rate of 3.7%. Because fishers could be interviewed more than once (sampled with replacement), the sum of the number of fishers/group is interpreted to represent the number of “fishing days”—not individual fishers—captured during the study period. Over the course of the study, there were 100 individual fishing days observed. Figure 1 shows the number of individual fishers (100 individuals), and groups (100 fishers were observed in 71 groups), recorded over time to provide an indication of fisher visitation by season.

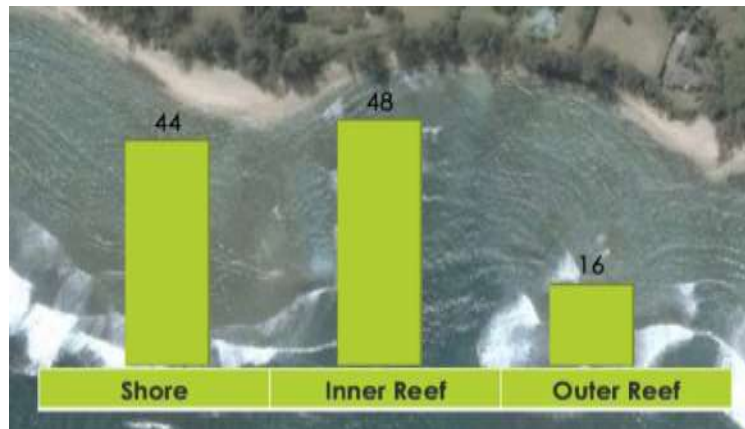
Figure 1. Numbers of Fishers and Groups Observed Over Time





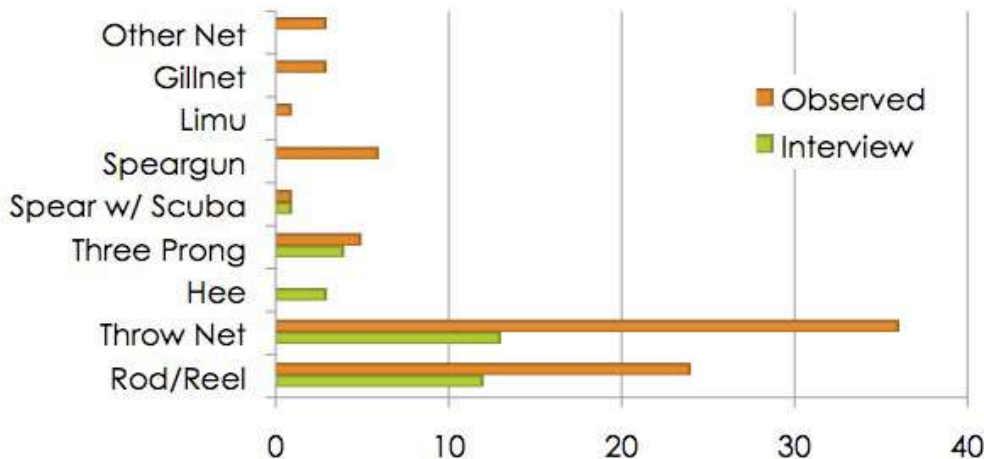
A higher degree of fishing was recorded on weekends (71) when compared with weekdays (29), indicating more intense fishing effort on weekends. Most fishers observed were from Hā‘ena and Kaua‘i, with throw nets being the most common gear used, followed by pole and line. Not surprisingly given the types of gear used, the inner reef experiences the greatest effort, followed closely by the shoreline.

Figure 2. Fishing Effort Across Reef Zones



Eight interviewees identified themselves as Hā‘ena residents. Other fishers came from Hanalei (9), Kilauea (3), Kapa‘a (2), Wailuā (1), Līhu‘e (2), and California (1).

Figure 3. Frequency of Observed Gear Use



Of the 100 fishers observed over the 16-month study, 44 were observed fishing from shore, 48 in the inner reef, and 16 in the outer reef.

Reported species and fish types were consolidated into species groups developed by the Pacific Islands Fisheries Science Center (PIFSC). These categories were created to consolidate the 150

marine species reported on by the Hawai‘i Division of Aquatic Resources (DAR) in order to simplify the reporting of landings. In all, catch was recorded for 18 different types of fish/marine invertebrates: ‘Oama, Nenu, He‘e, Manini, Pāpio, Limu, Mullet, To‘au, Hinalea, Kole, Āholehole, Lobsters, Perch, Weke, ‘Ama‘ama, ‘Āweoweo, Mamo, and Ta‘ape. 176 identified individuals were recorded as caught over study period.

The catch per unit effort, where catch equals the number of fish caught and effort is measured in hours, was 1.54 fish per hour for those interviewed, or 0.77 lb. of fish per hour for the average fisherman. Expert fishers from Hā‘ena tracked their catch and effort over the course of the study, and had a higher catch per unit effort of 4.63 kg of fish per hour or 9.11 fish per hour.

The study demonstrates higher efficiency of expert fishers over the average fisher, and provides evidence of Hā‘ena’s importance as a subsistence fishery, with the majority of fishers sampled coming from Hā‘ena and nearby Kaua‘i communities.

## APPENDIX J: 2011 Hā'ena Reef Fish Assessment

The following unpublished report was prepared by the Fisheries Ecology and Research Lab (FREL) of the University of Hawai'i at Mānoa to provide scientific information to DAR and the Hā'ena community to inform CBSFA management planning.<sup>43</sup> This report reflects the findings ecological assessments of Hā'ena reef habitats conducted by FREL during 2011 in Hā'ena Kaua'i.

### RESEARCH OBJECTIVES

Examine the preferred habitat for newly settled and juvenile reef fishes at Makua, Kaua'i. The focus of this study was on parrotfishes, wrasses, and damselfishes, but other species were also assessed to determine the importance of Makua as a juvenile nursery habitat for Hawaiian reef fishes.

### RESEARCH RATIONALE

In the Hawaiian Archipelago, shelter-dependent juvenile stages of many reef fishes and their coral habitats are increasingly at risk from multiple anthropogenic stressors (e.g. overfishing and habitat loss, coral bleaching and sedimentation, respectively<sup>44</sup>).

### RESULTS

#### *Benthic Habitat Cover*

The backreef habitat at Makua was dominated by limestone substrate with little turf algae (59%) (See Table 1). This was followed by sand (21%), low encrusting *Montipora* corals such as *M. patula* (sandpaper rice coral) and *M. dilitata* (velvet coral) (8%), reef rubble (8%), crustose coralline algae (1%), and encrusting and mounding-massive *Porites* growth forms including *P. lutea* (mound coral) and *P. rus* (plate and pilar coral) (1%).

#### *Recruit Species*

Recruit fish species at Makua were dominated by wrasses and parrotfishes (See Table 2). The belted wrasse was the most common species (31% of the total), follow by the endemic saddle wrasse (hinalea lauili - 21%), and the commercially and culturally important redlip parrotfish

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<sup>43</sup> Friedlander, A.M. (2011). Hā'ena Juvenile Reef Fish Assessment. Fisheries Ecology Research Lab, University of Hawai'i at Mānoa. Unpublished Report on file with State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources, Honolulu.

<sup>44</sup> DeMartini E.E., Anderson, T.W., Kenyon, J.C., Beets, J.P., and Friedlander, A.M. (2010). Management implications of juvenile reef fish habitat preferences and coral susceptibility to stressors. *Marine and Freshwater Research* (61): 532 - 540.

(palukaluka – 14%). Manini is an endemic sub-species with important cultural and commercial significance and this species accounted for 6% of all recruits at makua.

## CONCLUSION

The backreef at Makua is an important nursery habitat for culturally, commercially, and recreational important species. Overall coral cover was low (<10%) but the structure and habitat provides an important nursery area for a number of important species in Hawai‘i.

Table 1. Benthic Cover Observed by Transect on Makua Backreef  
(July 2011)

Habitat Type	Average %	St.dev	SE
L = consolidated limestone [karst] incl turf algae < 1-cm tall; too large to move by hand	59.17	11.63	4.75
S = sand and other unconsolidated with particle sizes no larger than shell gravel	21.33	8.09	3.30
Mo crust = low encrusting <i>Montipora</i> growth forms like <i>patula</i> and <i>dilitata</i> )	8.00	2.61	1.06
Ru = rubble or unconsolidated (readily moved) limestone rock; larger than shell gravel	7.83	4.17	1.70
CCA = crustose coralline algae (prostrate, encrusting)	1.00	0.63	0.26
Plobe = encrusting and mounding-massive <i>Porites</i> growth forms incl <i>lutea</i> and <i>rus</i>	1.00	1.26	0.52
Pfingr = <i>Porites compressa</i> (finger-like erect <i>Porites</i> )	0.83	0.75	0.31
Pknukl = erect, semi-digitate (“knuckle-like”) <i>Porites</i> growth forms like <i>duerdini</i>	0.67	1.21	0.49
Mo erect = erect <i>Montipora</i> growth forms like <i>capitata</i> and <i>flabellata</i>	0.17	0.41	0.17
EFA = erect (foliose) algae (eg, <i>Microdictyon</i> , <i>Dictyota</i> , <i>Halimeda</i> ) ≥ 1-cm tall	0.00	0.00	0.00
Poc spp = branched cauliflower corals incl <i>meandrina</i> , <i>damicornis</i> and <i>ligulata</i>	0.00	0.00	0.00

Table 2. Recruit Species Observed on Makua Backreef  
(July 2011) Endemics are in **bold**.

Scientific Name	Hawaiian Name	Common name	Distribution	Total Number	% Total
<i>Stethojulis balteata</i>	omaka	Belted wrasse	Pacific	64	30.8%
<b><i>Thalassoma duperrey</i></b>	<b>hinalea lauwili</b>	<b>Saddle wrasse</b>	<b>Endemic</b>	<b>43</b>	20.7%
<i>Scarus rubroviolaceus</i>	palukaluka	Redlip parrotfish	Pacific	30	14.4%
<b><i>Gomphosus varius</i></b>	<b>hinalea i'iwi</b>	<b>Bird wrasse</b>	<b>Endemic</b>	<b>20</b>	9.6%
<b><i>Stegastes marginatus</i></b>		<b>Pacific gregory</b>	<b>Endemic</b>	<b>13</b>	6.3%
<b><i>Acanthurus triostegus</i></b>	<b>manini</b>	<b>Convict tang</b>	<b>Endemic sub-species</b>	<b>12</b>	5.8%
<i>Plectroglyphidodon imparipennis</i>		Brighteye damselfish	Pacific	10	4.8%
<i>Calatomus carolinus</i>	ponuhunuhu	Stareye parrotfish	Pacific	4	1.9%
<i>Plectroglyphidodon johnstonianus</i>		Blue-eye damselfish	Pacific	4	1.9%
<b><i>Dascyllus albisella</i></b>	<b>alo'ilo'i</b>	<b>Hawaiian dascyllus</b>	<b>Endemic</b>	<b>3</b>	1.4%
<i>Canthigaster jactator</i>		Hawaiian whitespotted toby	Pacific	1	0.5%
<b><i>Chlorurus perspicillatus</i></b>	<b>uhu uliuli</b>	<b>Spectacled parrotfish</b>	<b>Endemic</b>	<b>1</b>	0.5%
<i>Coris venusta</i>		Elegant coris	Pacific	1	0.5%
<i>Labroides phthirophagus</i>		Hawaiian clenaer wrasse	Pacific	1	0.5%
<i>Macropharyngodon geoffroy</i>		Shortnose wrasse	Pacific	1	0.5%

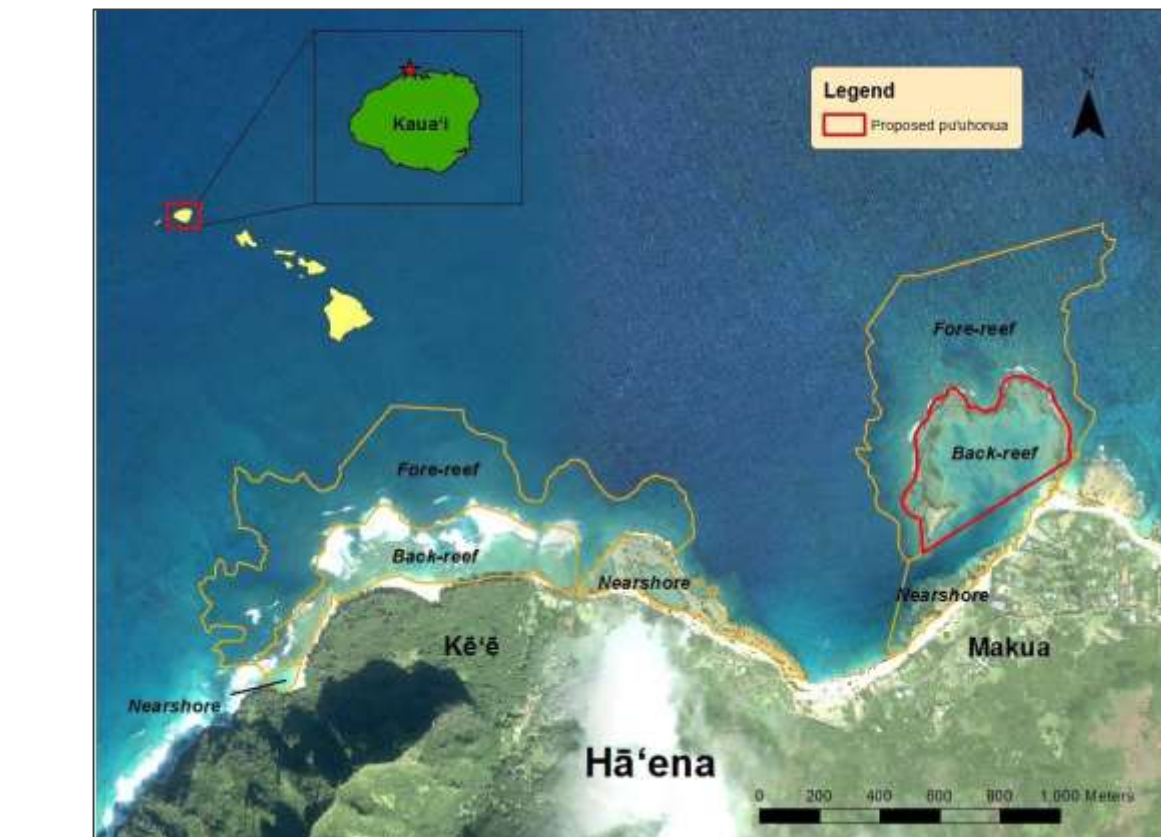
## APPENDIX K: 2013-2014 Hā'ena Reef Fish Assessment

The following unpublished report was prepared by the Fisheries Ecology and Research Lab (FREL) of the University of Hawai'i at Mānoa to provide scientific information to DAR and the Hā'ena community to inform CBSFA management planning.<sup>45</sup> This report reflects the findings ecological assessments of Hā'ena reef habitats conducted by FREL during 2013-2014.

### RESEARCH OBJECTIVES

The objective of the assessment was to determine the ecological importance of Makua back-reef in comparison with other back-reef habitats at Hā'ena, and to assess its role as a nursery habitat, or pu'uhonua (Figure 1).

Figure 1. Map of Habitat Zones and Pu'uhonua Area within Hā'ena CBSFA



<sup>45</sup> Friedlander, A.M., Goodell, W., and Stamoulis, K. (2013-2014). Ecological Assessment of Hā'ena Reef Habitats. Fisheries Ecology Research Lab, University of Hawai'i at Mānoa. Unpublished Report on file with State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources.

## METHODS

Fish and benthic surveys were conducted on Makua and Kēʻē reefs in Hāʻena, Kauaʻi using established methods. Randomly located transects were placed in the back-reef area (area between the reef crest and the shoreline) and the fore-reef area (area on the outer side of the reef crest) for each reef. A diver swam a 25 x 5m transect at a constant speed and identified to the lowest possible taxon all fishes visible within 2.5 m to either side of the centerline (125-m<sup>2</sup> transect area). Swimming duration varied from 10–15min, depending on habitat complexity and fish abundance. Total length (TL) of fish was estimated to the nearest centimeter.<sup>46</sup>

After swimming the transect once to survey adult fishes, surveyors then swam the same transect again to record juvenile fishes within 2 m to the left of the centerline. Fishes less than or equal to 5cm total length were classified as juveniles for all fishes except butterflyfishes, surgeonfishes, triggerfishes, and roi, which were classified as juveniles at 10cm or less.

Length estimates of adult fishes from visual censuses were converted to weight using the following length–mass relationship:  $W = a(TL)^b$  where the parameters  $a$  and  $b$  are constants for the allometric growth equation, TL is total length in centimeters, and  $W$  is mass in grams.

Benthic surveys were conducted on the same transects as the fish using a point intercept method with 0.5m<sup>2</sup> quadrats. Two quadrats were randomly placed within each 5m segment of the transect on alternating sides resulting in a total of ten quadrats per transect. Each quadrat was strung with lines every 10cm resulting in 16 intersections. Benthic cover under each line intersection of each quadrat was identified to the lowest possible taxon, resulting in a total of 160 points per transect.

## RESULTS

### *Survey Effort*

A total of 126 transects were conducted on Kēʻē and Makua reefs in July 2013 and August 2014 (Figure 2). Of this total, 61 transects were conducted in the back-reef habitat, and 49 transects in the fore-reef habitat (Table 1). Transect surveys were stratified between Kēʻē and Makua reefs ( $N = 59$ ,  $N = 67$ , respectively). An additional 16 transects were conducted in the nearshore area in 2014, to ensure representation of this habitat. These nearshore transects were pooled with back-reef samples in analyses, after testing for similarity using analysis of similarities (ANOSIM).<sup>47</sup>

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<sup>46</sup> Friedlander, A. M., Brown, E., and Monaco, M. E. (2007). Defining reef fish habitat utilization patterns in Hawaiʻi: comparisons between marine protected areas and areas open to fishing. *Marine Ecology Progress Series* 351: 221.

<sup>47</sup> Clarke K. R. and Warwick, R. M. (2001). *Change in Marine Communities: an Approach to Statistical Analysis and Interpretation*. 2nd ed. Plymouth, UK: PRIMER-E Ltd

Figure 2. Hā‘ena Marine Assessments Survey Locations 2013-2014

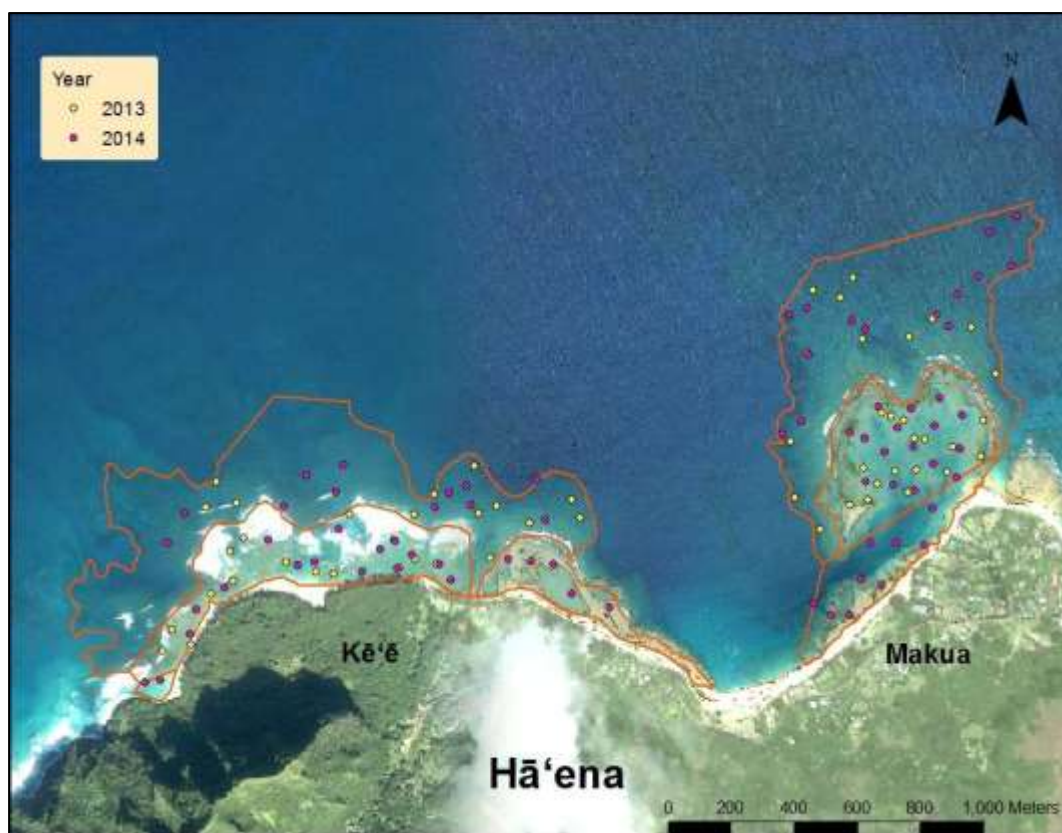


Table 1. Transect Survey Sampling Design

Year	Habitat Strata				Total
	Reef	Back-reef	Fore-reef	Nearshore	
2013	Kē‘ē	15	12	-	27
	Makua	16	12	-	28
2014	Kē‘ē	14	11	7	32
	Makua	16	14	9	39
<b>Total</b>	n/a	<b>61</b>	<b>49</b>	<b>16</b>	<b>126</b>

#### *Benthic Community*

Among the 126 transects, 55 different taxa or substrate types were observed in the benthic surveys, and were pooled into six different benthic cover categories (Table 2). Turf algae had the highest percent cover, accounting for 55.7% of total cover across all transects (Table 3). Scleractinian corals, macroalgae, unconsolidated substrate, and coralline algae had fairly even cover between them, ranging from 8.8 to 12.6% for each cover type. Recorded depths ranged from 0.3 to 8.2 m, with a mean of 2.8 ( $\pm$  2.4 sd) across all transects. Rugosity index values



ranged from 1.00 to 1.87, with a mean of 1.20 ( $\pm$  0.17 sd). Table 2 below show benthic taxa observed during in situ surveys, pooled into cover types.

Table 2. Benthic Taxa Observed from In Situ Surveys

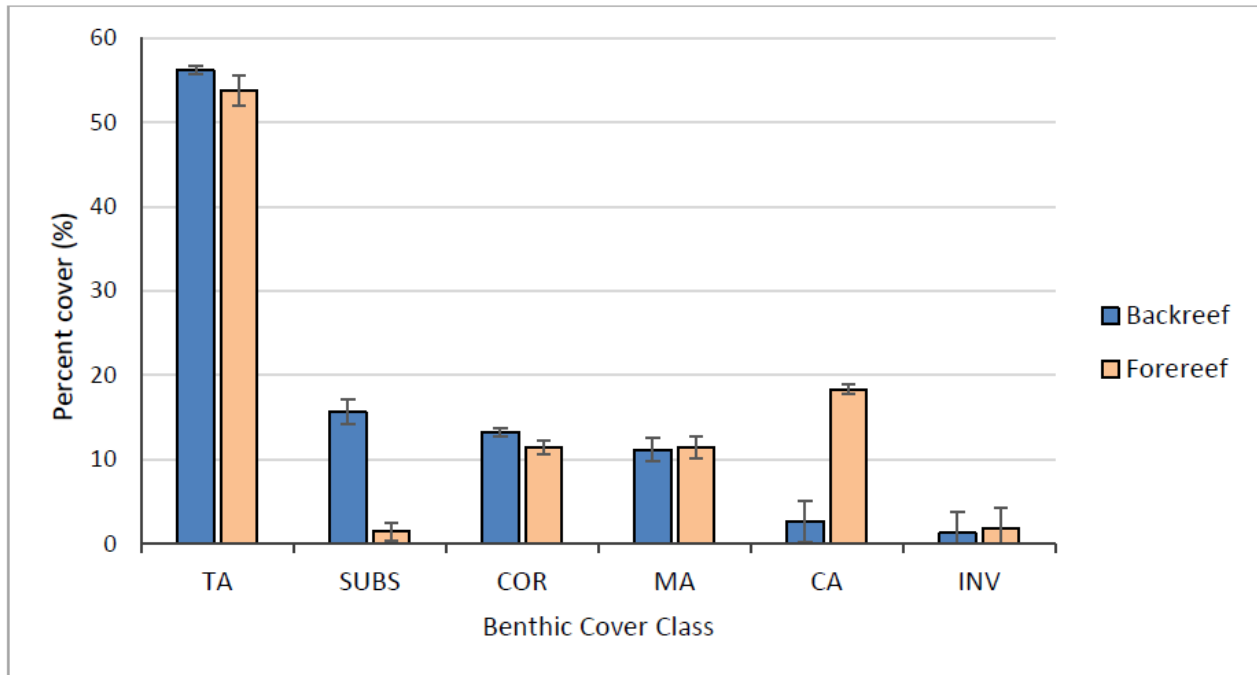
Type	Taxon	Total Percent Cover
CorAlg	Coralline algae	8.79
Coral	Porites lobata	4.31
	Montipora flabellata	2.35
	Montipora patula	2.24
	Pocillopora	1.48
	Porites compressa	1.14
	Montipora capitata	0.82
	Pavona varians	0.24
	Pavona duerdeni	0.03
	Pocillopora ligulata	0.00
	Pocillopora	0.00
Macro	Dictyota spp	4.67
	Microdictyon spp	2.71
	Padina spp	0.75
	Galaxaura spp	0.64
	Amansia glomerata	0.59
	Dictyosphaeria	0.26
	Chrysocystis fragilis	0.23
	Liagora spp	0.22
	Asparagopsis	0.21
	Derbesia spp	0.15
	Laurencia spp	0.14
	Ralfsia	0.12
Macro Cont'd	Lyngbya majuscula	0.11
	Sargassum spp	0.11
	Dictyosphaeria	0.09
	Bryopsis hypnoides	0.08
	Acanthophora	0.04
	Gracilaria	0.03
	Cyanobacteria	0.03
	Turbinaria ornate	0.02
	Halimeda discoidea	0.02
	Tolypocladia	0.02
	Sphacelaria spp	0.01
	Martensia	0.01
	Dasyopsis	0.01
	Leptolyngbya	0.00
	Halichrysis coalescens	0.00
	Codium edule	0.00
	Cladophora spp	0.00
	Cryptonemia	0.00
Uncons	Sand	8.82
	Rubble	1.28
Turf	Turf algae	55.66

Table 3. Percent Benthic Cover from In Situ Surveys.

Benthic Cover Type	Total % Cover
Turf	55.7
Coral	12.6
Macroalgae	11.3
Substrate	10.1
Coralline algae	8.8
Invertebrates	1.4

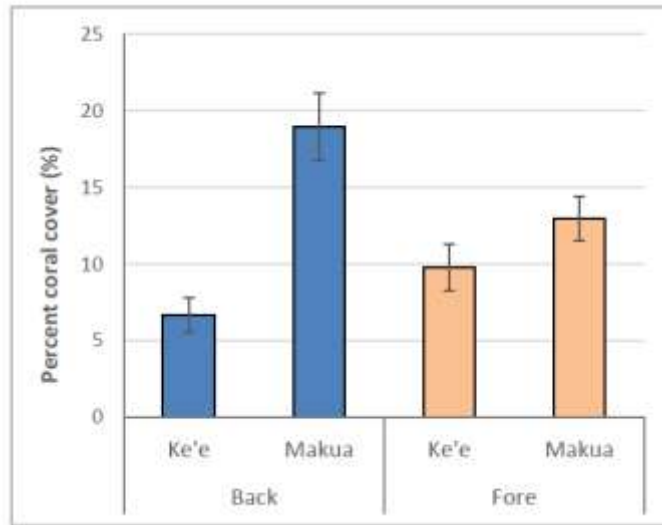
Primary differences between benthic communities in fore-reef and back-reef habitats were in the cover of corals and of unconsolidated substrate. The back-reef had more sand and rubble cover, while the fore-reef had higher coralline algae cover (Figure 3). Noticeable differences in benthic composition existed among zones, as well, particularly in coral cover. Makua reef had higher coral cover than Kēʻē in general, with the difference between the reefs especially substantial in the back-reef habitat (Figure 4). Makua back-reef had a coral cover of 18.9% ( $\pm 14.2$  sd) whereas Kēʻē had coral cover of 6.7% ( $\pm 6.8$  sd).

Figure 3. Benthic Community Composition by Habitat



TA = turf algae, SUBS = unconsolidated substrate, COR = coral, MA = macroalgae, CA = coralline algae, INV = intertebrates.

Figure 4. Percent Coral Cover by Reef Zone



#### Juvenile Fishes

Across 126 surveys, 54 species of juveniles were observed. *Stethojulis balteata* (‘ōmaka) and *Thalassoma duperrey* (hīnālea lauili) were the most abundant, making up almost 50% of the observed juveniles (Table 4). Back-reef habitat had significantly higher abundance of juvenile fishes than the fore-reef habitat ( $t_{124} = 5.06$ ,  $p < 0.0001$ , Figure 5 and 6a). There is no evidence to suggest that Makua back-reef zone has higher juvenile abundance than Kē‘ē back-reef zone ( $t_{59} = 0.22$ ,  $p = 0.82$ , Figure 6b). However, in our surveys Makua back-reef did have a slightly higher juvenile species richness than Kē‘ē back-reef zone (Figure 7).

Figure 5. Abundance of Juvenile Fishes by Transect

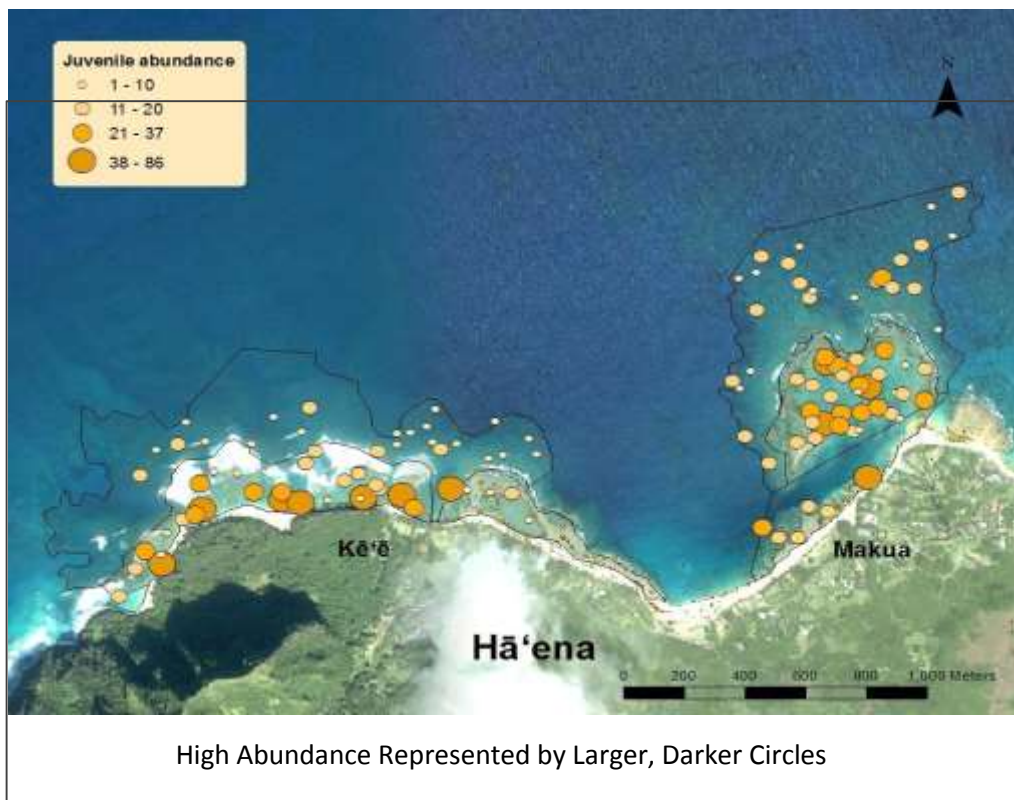


Figure 6. Juvenile Fish Abundance by Habitat and Zone (number per m<sup>2</sup>)

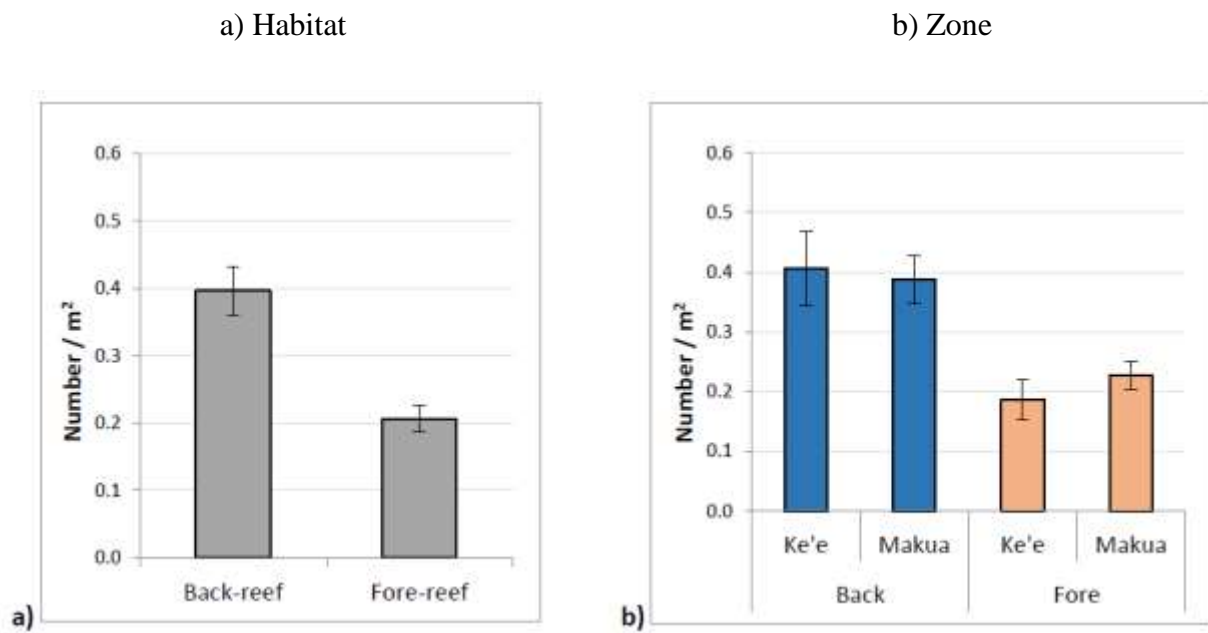


Figure 7. Juvenile Fish Species Richness by Reef Zone

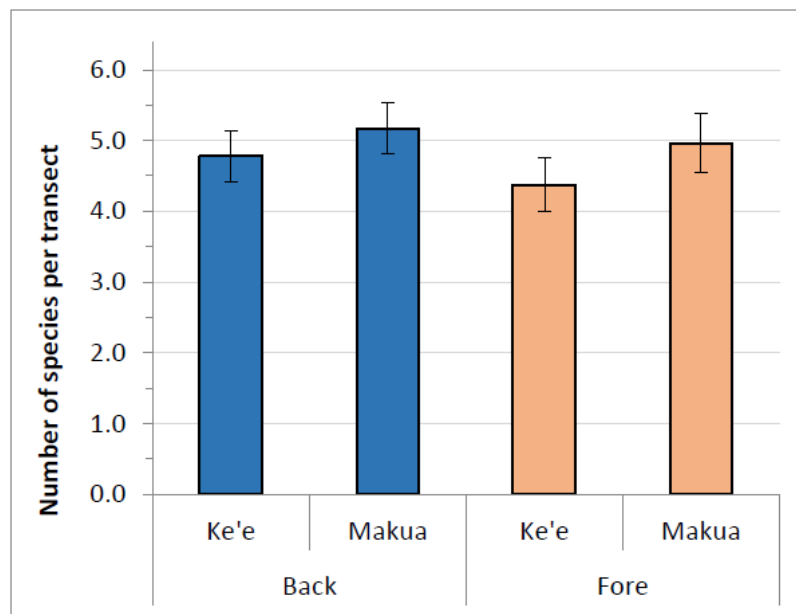


Table 4. Top 25 Most Abundant Juvenile Species Observed

	Species	Common Name	Hawaiian Name	n	% Total Abun.	% Freq of Occu
1	<i>Stethojulis balteata</i>	Belted Wrasse	‘ōmaka	557	27.33	72.2
2	<i>Thalassoma duperrey</i>	Saddle Wrasse	hīnālea	428	21.00	80.2
3	<i>Acanthurus triostegus</i>	Convict tang	manini	292	14.33	31.7
4	<i>Plectroglyphidodon</i>	Brighteye		167	8.19	51.6
5	<i>Gomphosus varius</i>	Bird wrasse	hīnālea ‘i‘iwi	114	5.59	30.2
6	<i>Stegastes marginatus</i>	Pacific Gregory		89	4.37	38.9
7	<i>Macropharyngodon</i>	Shortnose Wrasse		50	2.45	19.0
8	<i>Plectroglyphidodon</i>	Blue-eye		35	1.72	19.0
9	<i>Scarus rubroviolaceus</i>	Redlip Parrotfish	pālupaluka	35	1.72	17.5
1	<i>Mulloidichthys</i>	Yellowstripe	weke‘ā	33	1.62	1.6
1	<i>Chromis vanderbilti</i>	Blackfin chromis		30	1.47	11.1
1	<i>Acanthurus leucopareius</i>	Whitebar	māikoiko	27	1.32	14.3
1	<i>Coris venusta</i>	Elegant coris		23	1.13	11.1
1	<i>Chlorurus perspicillatus</i>	Spectacled	uhu uliuli	21	1.03	7.1
1	<i>Dascyllus albisella</i>	HI dascyllus	‘alo‘ilo‘i	15	0.74	4.8
1	<i>Paracirrhites arcatus</i>	Arc-eye Hawkfish	piliko‘a	13	0.64	7.9
1	<i>Acanthurus nigrofusus</i>	Brown	mā‘i‘i‘i	12	0.59	7.9
1	<i>Canthigaster jactator</i>	HI Whitespotted		12	0.59	6.3
1	<i>Halichoeres ornatissimus</i>	Ornate Wrasse	lā‘ō	12	0.59	4.8
2	<i>Ctenochaetus strigosus</i>	Goldring	kole	8	0.39	5.6
2	<i>Coris gaimard</i>	Yellowtail coris	hīnālea	5	0.25	3.2
2	<i>Cirrhitops fasciatus</i>	Redbar Hawkfish	piliko‘a	4	0.20	3.2
2	<i>Scarus psittacus</i>	Palenose	uhu	4	0.20	1.6
2	<i>Thalassoma purpurum</i>	Surge Wrasse	hou	4	0.20	1.6
2	<i>Anampses cuvier</i>	Pearl wrasse	‘opule	3	0.15	2.4

Results in table reflect observations from 126 total transects. Frequency of occurrence indicates the % of transects species were observed.

### Adult Fishes

Across the 126 surveys, 92 species of adult fish were observed. The most numerically abundant were *Thalassoma duperrey* (hīnālea lauwiki), *Acanthurus nigrofuscus* (mā‘i‘i‘i), *A. leucopareius* (māikoiko), and *A. triostegus* (manini), together constituting nearly 50% of the observed individuals. The top species by biomass, however, were *A. blochii* (pualu), *Scarus rubroviolaceus* (pālupaluka), and *Kyphosus* sp. (nenue; Table 5). Fore-reef habitats had significantly greater species richness ( $t_{124} = 4.60$ ,  $P < 0.001$ , Figure 8a) and biomass ( $t_{124} = 4.58$ ,  $p < 0.001$ , Figure 8b) than back-reef habitat. Significant differences between Makua and Kē‘ē reefs were not found to exist for abundance (Figure 9) or biomass (Figure 10), however the Makua back-reef zone had significantly higher species richness than did Kē‘ē back-reef ( $t_{75} = 2.81$ ,  $p < 0.01$ , Figure 11).

Figure 8. Adult Fish Species Richness and Biomass by Habitat

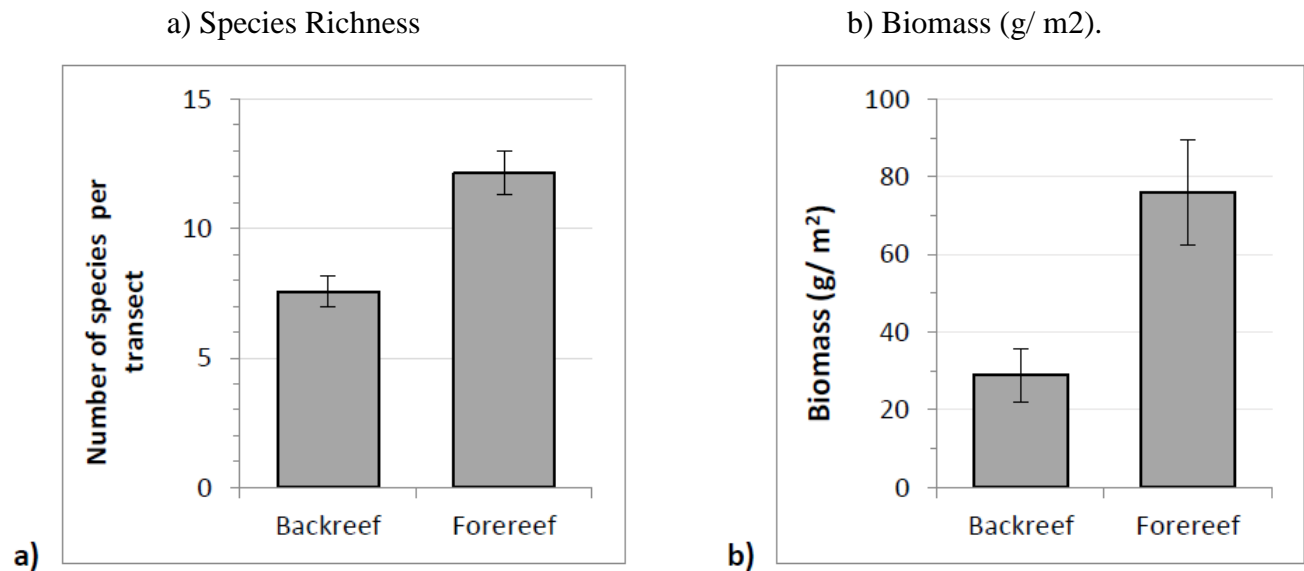


Figure 9. Abundance of Adult Fishes by Zone (per m<sup>2</sup>)

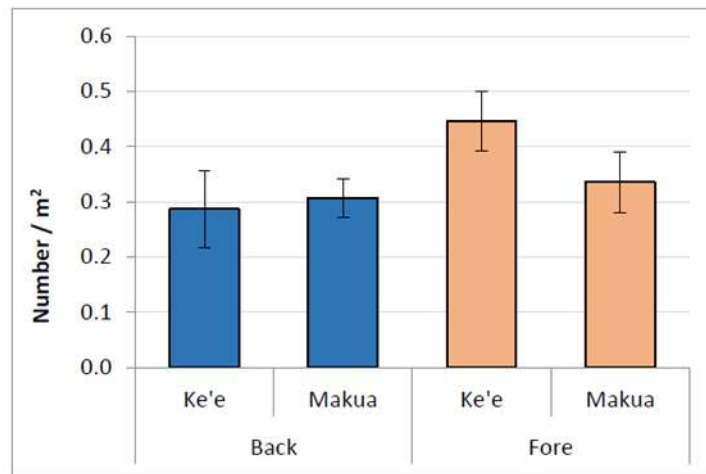


Figure 10. Biomass of Adult Fishes (g/ m<sup>2</sup>), by Reef Zone

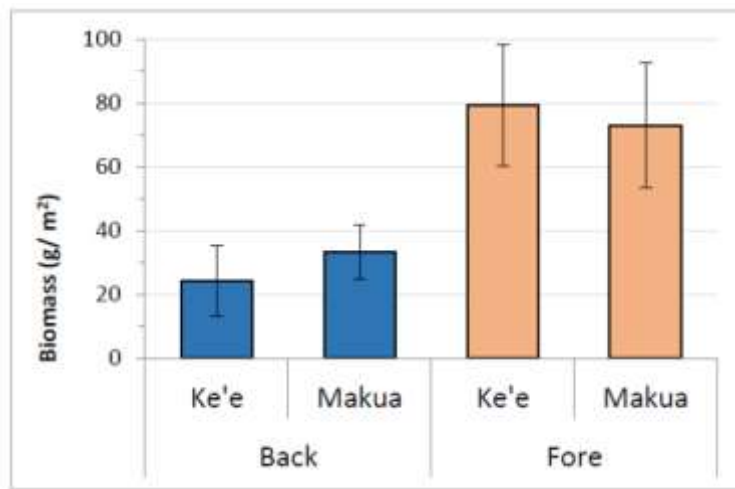


Figure 11. Species Richness of Adult Fishes by Reef Zone

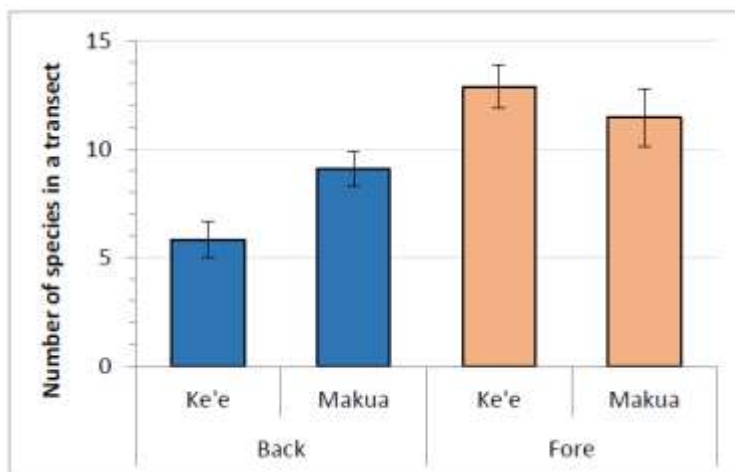


Table 5. 70 Most Observed Adult Fish Species by Biomass

	Species	Common Name	Hawaiian Name	% BM	% total abund	% Freq of occur
1	<i>Acanthurus blochii</i>	Ringtail Surgeonfish	pualu	14.74	1.2	11.9
2	<i>Scarus rubroviolaceus</i>	Redlip Parrotfish	pāluka lūka	11.97	1.1	20.6
3	<i>Kyphosus sp.</i>	Chub	nemue	10.90	2.8	15.9
4	<i>Naso unicornis</i>	Bluespine Unicornfish	kala	7.15	1.5	17.5
5	<i>Acanthurus nigrofasciatus</i>	Brown Surgeonfish	mā'i'i'i	6.42	12.5	65.9
6	<i>Acanthurus triostegus</i>	Convict tang	manini	5.52	7.9	33.3
7	<i>Acanthurus olivaceus</i>	Orangeband surgeonfish	na'ena'e	5.21	2.5	23.0
8	<i>Thalassoma duperrey</i>	Saddle Wrasse	hīnālea lau wili	3.62	20.6	84.9
9	<i>Caranx melampygus</i>	Bluefin Trevally	'omilu	2.35	1.4	15.1
10	<i>Melichthys niger</i>	Black Durgon	humuhumu'ele	2.33	0.8	9.5
11	<i>Acanthurus dussumieri</i>	Eye-stripe Surgeonfish	palani	2.31	0.2	4.8
12	<i>Chlorurus spilurus</i>	Bullethead parrotfish	uhu	1.97	0.5	7.9
13	<i>Cephalopholis argus</i>	Peacock Grouper	roi	1.71	0.3	7.9
14	<i>Ctenochaetus strigosus</i>	Goldring surgeonfish	kole	1.68	2.3	19.8
15	<i>Rhinecanthus rectangulus</i>	Reef triggerfish	humuhumunukunukuapua'a	1.65	1.3	38.9
16	<i>Acanthurus leucopareus</i>	Whitebar Surgeonfish	māikoiko	1.60	7.9	39.7
17	<i>Naso lituratus</i>	Orangespine Unicornfish	umaumalei	1.48	0.7	12.7
18	<i>Bodianus albotaeniatus</i>	Hawaiian Hogfish	'a'awa	1.21	0.3	10.3
19	<i>Thalassoma purpuraceum</i>	Surge Wrasse	hou	1.16	1.5	19.0
20	<i>Chaetodon auriga</i>	Threadfin butterflyfish	kikākapu	1.02	0.4	6.3
21	<i>Scarus psittacus</i>	Palenose Parrotfish	uhu	0.91	0.6	11.1
22	<i>Lutjanus kasmira</i>	Bluestripe Snapper	ta'ape	0.88	0.6	8.7
23	<i>Mulloidichthys vanicolensis</i>	Yellowfin Goatfish	weke 'ula	0.88	1.5	4.8
24	<i>Chaetodon ornatissimus</i>	Ornate butterflyfish	kikākapu	0.75	0.1	3.2

% BM (% biomass) indicates the percent of total observed biomass constituted by each species. Frequency of occurrence indicates the % of transects in which the species was observed.



25	<i>Cantherhines dumerilii</i>	Barred Filefish	'ō'ili	0.72	0.1	2.4
26	<i>Calotomus carolinus</i>	Stareye parrotfish	ponuhunuhu	0.57	0.1	5.6
27	<i>Parupeneus multifasciatus</i>	Manybar Goatfish	moano	0.54	0.6	16.7
28	<i>Parupeneus insularis</i>	Doublebar Goatfish	munu	0.50	0.5	13.5
29	<i>Chaetodon lunula</i>	Racoon butterflyfish	kikākapu	0.50	0.3	7.1
30	<i>Parupeneus cyclostomus</i>	Blue Goatfish	moano kea	0.46	0.6	13.5
31	<i>Thalassoma ballieui</i>	Blacktail Wrasse	hinlea lauhine	0.46	0.3	5.6
32	<i>Lutjanus fulvus</i>	Blacktail Snapper	to'au	0.45	0.1	2.4
33	<i>Mulloidichthys flavolineatus</i>	Yellowstripe Goatfish	weke'a	0.45	4.2	3.2
34	<i>Acanthurus nigroris</i>	Bluelined Surgeonfish	maiko	0.41	0.2	7.1
35	<i>Abudefduf sordidus</i>	Blackspot sergeant	kupipi	0.36	0.1	3.2
36	<i>Chaetodon quadrimaculatus</i>	Fourspot butterflyfish	lau hau	0.34	0.7	15.1
37	<i>Stegastes marginatus</i>	Pacific Gregory		0.31	2.7	37.3
38	<i>Zanclus cornutus</i>	Moorish Idol	kihikihi	0.31	0.2	4.8
39	<i>Cirrhitus pinnulatus</i>	Stocky Hawkfish	po'o pa'a	0.29	0.4	11.9
40	<i>Chaetodon unimaculatus</i>	Teardrop butterflyfish	lau hau	0.26	0.2	4.8
41	<i>Monotaxis grandoculis</i>	Bigeye Emperor	mu	0.25	0.1	2.4
42	<i>Canthigaster amboinensis</i>	Ambon Toby		0.23	0.3	8.7
43	<i>Thalassoma trilobatum</i>	Christmas Wrasse	āwela	0.23	0.7	16.7
44	<i>Anampses cuvier</i>	Pearl wrasse	'ōpule	0.22	0.1	4.8
45	<i>Parupeneus porphyreus</i>	Whitesaddle Goatfish	kumu	0.21	0.1	2.4
46	<i>Decapterus macarellus</i>	Mackerel Scad	'opelu	0.21	0.2	3.2
47	<i>Sufflamen bursa</i>	Lei Trigger	humuhumulei	0.18	0.3	7.1
48	<i>Acanthurus achilles</i>	Achilles Tang	pāku'iku'i	0.14	0.1	2.4
49	<i>Chaetodon multicinctus</i>	Multiband butterflyfish	kikākapu	0.14	0.2	5.6
50	<i>Paracirrhites arcatus</i>	Arc-eye Hawkfish	pili ko'a	0.13	1.1	19.0
51	<i>Cantherhines sandwichiensis</i>	Squaretail filefish	'ō'ili lepa	0.12	0.2	7.1
52	<i>Diodon hystrix</i>	Porcupinefish	kōkala	0.12	0.0	0.8
53	<i>Carangoides ferdau</i>	Barred Jack	ulua	0.12	0.0	0.8
54	<i>Melichthys vidua</i>	Pinktail Durgon	humuhumuhi'u kole	0.11	0.1	1.6

55	<i>Myripristis berndti</i>	Bigscale Soldierfish	‘u‘u	0.11	0.0	1.6
56	<i>Gomphosus varius</i>	Bird wrasse	hīnālea ‘i‘iwi, ‘akilolo	0.11	0.6	17.5
57	<i>Stereojulis balteata</i>	Belted Wrasse	‘ōmaka	0.10	2.7	18.3
58	<i>Scomberoides lysan</i>	Leatherback	lai	0.08	0.0	0.8
59	<i>Abudefduf vaigiensis</i>	Indo-pacific sergeant		0.07	0.1	2.4
60	<i>Canthigaster jactator</i>	HI Whitespotted toby		0.06	1.1	17.5
61	<i>Cirrhitops fasciatus</i>	Redbar Hawkfish	pili ko‘a	0.06	0.4	14.3
62	<i>Fistularia commersonii</i>	Cornetfish	numu peke	0.06	0.1	3.2
63	<i>Halichoeres ornatissimus</i>	Ornate Wrasse	‘ōhua	0.05	0.1	4.8
64	<i>Sufflamen fraenatus</i>	Bridled Trigger	humuhumumi mi	0.05	0.0	0.8
65	<i>Chromis vanderbilti</i>	Blackfin chromis		0.05	4.3	18.3
66	<i>Chaetodon ephippium</i>	Saddleback butterflyfish	kikākapu	0.05	0.0	0.8
67	<i>Paracirrhites forsteri</i>	Blackside Hawkfish	hīlu pili ko‘a	0.05	0.1	4.0
68	<i>Gymnothorax meleagris</i>	Whitemouth Moray	puhi ōni‘o	0.05	0.1	3.2
69	<i>Plectroglyphidodon imparipennis</i>	Brighteye Damsel fish		0.04	2.7	34.1
70	<i>Plectroglyphidodon johnstonianus</i>	Blue-eye Damsel fish		0.04	0.7	15.9

## CONCLUSIONS

Back-reef habitats in the Hā‘ena nearshore reef systems are areas of high diversity and abundance of juvenile fishes. Juveniles were more numerous in back-reef locations compared with fore-reef habitats. In back-reef habitats, Makua Reef had significantly more species of adult fishes than Kē‘ē reef. In the Makua and Kē‘ē reefs of Hā‘ena, back-reef habitat appears to be an important area for reef fishes, particularly for juveniles. Juveniles grow in the protected habitat of the back-reef, and then move to adult populations, a critical process for maintaining high biomass in fore-reef habitats. As the back-reef habitats of Hā‘ena reefs provide critical habitat for juvenile reef fishes, measures should be taken to ensure that this habitat is maintained for continued contribution to adult populations.

In surveys of adult fish, Makua back-reef had higher species richness than Kē‘ē back-reef. Makua reef exhibits a variety of habitats including sand which is important for schooling species such as ‘ō‘iō and akule. Because of their mobility, populations of these fishes are difficult to measure using transect-based methods and our surveys took place on hard-bottom only. Based on our results and experience in the field, Makua back-reef appears to be an important area for adult fish as well as juveniles. Due to its large channel and relatively deep water, predators have easy access to Makua back-reef which may in part explain the lower abundance of juveniles compared to Kē‘ē. Likely because it is well protected from waves and has high water flow, Makua back-reef had the most healthy and diverse coral community in the area. Biodiversity is an indicator of ecosystem health and a critical factor supporting coral reef resilience to human impacts and climate change. These results provide evidence to suggest that Makua back-reef is a good location to protect from fishing and other extractive, or destructive human uses.

## **APPENDIX L: Special Activity Permit Activities with Delegated Approval Authority**

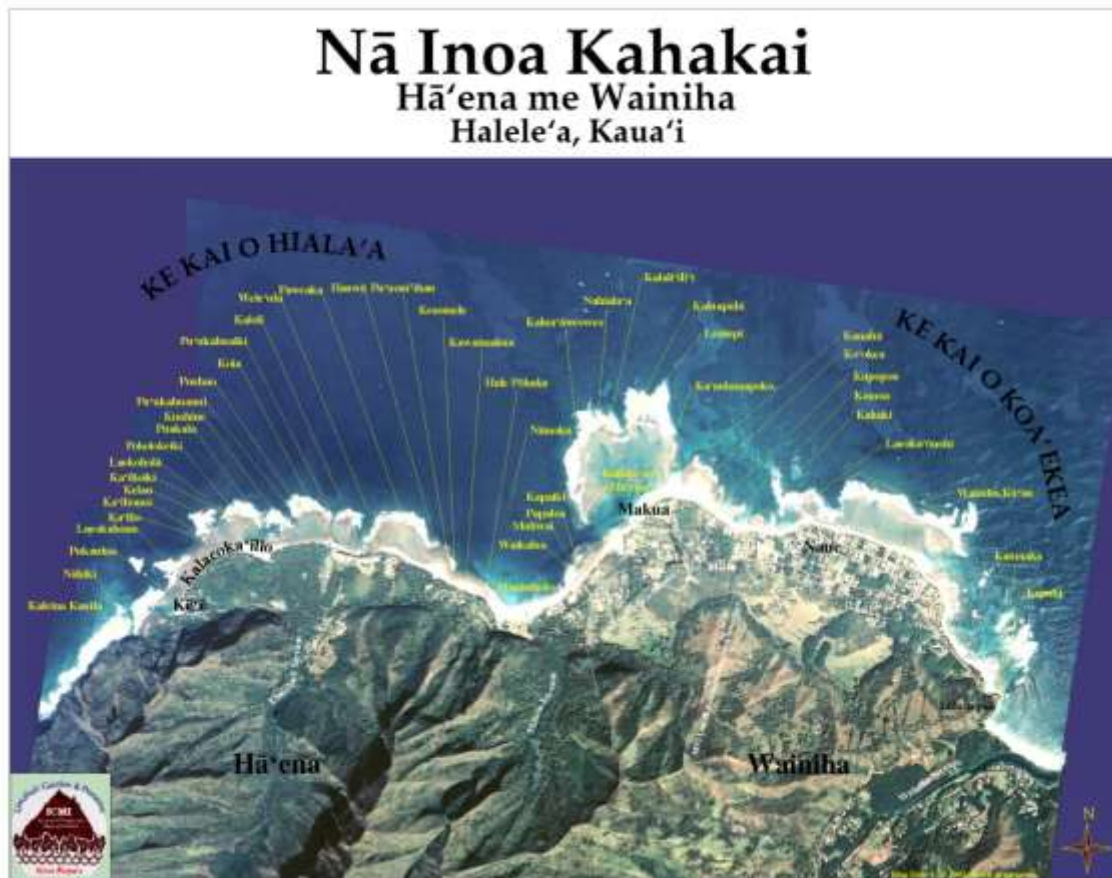
At the Board of Land and Natural Resources (BLNR) meeting on October 24, 2008, the BLNR approved special activity permit approval authority be delegated to the Chairperson of the Department of Land and Natural Resources, after discussion and recommendation of approval by DAR, for the following relatively minor, non- destructive activities:

1. Collections of aquatic life (using either gear otherwise considered unlawful, or for regulated species, the possession of which would otherwise be considered unlawful) for public, private, charter schools (K-12) in Hawaii for classroom aquaria. Regulated species shall be capped at 10 specimens per permit.
2. Use of no more than 5 hand-held small-meshed nets or traps to take unregulated species.
3. Amendments to approved valid special activity permits where the amendment involves the addition of assistants, or the take of regulated species of ten or less specimens in total, not previously enumerated as part of the original application.
4. Exemption from bottomfish vessel registration or commercial marine license requirements when vessels are engaged in scientific research, either as part of a federal grant or project, or as part of an official government agency study.
5. Exemption for vessels engaged in research for using plankton tows or stationary/floating collectors, when the material used in the construct of a plankton net or floating collectors would violate current minimum net mesh size laws, but its use is intended to collect unregulated species.
6. Recognized Hawaii institutions where permits are of a perennial nature (continuous, year after year) for scientific research purposes, provided DAR agrees to the amounts of specimens as reasonable, and is evaluated as non- destructive, and provided that any subsequent amendment with the exception of #3, above, shall not be approvable solely by the chairperson.
7. Take of federally listed threatened or endangered species, provided that the applicant demonstrate proof of possession of a valid federal permit for identical (proposed use) purposes, and that it be limited to scientific purposes, or to enhance the propagation or survival of the affected species.



## APPENDIX M: 2011 Community-based Management Proposal for the Hā'ena CBSFA

### Community-based Management Proposal for the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i



Submitted by the Hā'ena Fisheries Committee

A partnership between  
Community members of Hā'ena, the Hui Maka'āinana o Makana, and



Submitted: June 1, 2011

## **ACKNOWLEDGEMENTS**

**Mahalo nui to the following, who supported the community's work on this management plan:**

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Hawai'i Division of Aquatic Resources

Hawai'i Community Foundation

Harold K. L. Castle Foundation

Kulamanu Charitable Fund at the Hawai'i Community Foundation

National Fish & Wildlife Foundation

U.S. Fish and Wildlife Service

**Mahalo to these participating agencies and organizations:**

Hanalei to Hā'ena Community Association

Hawai'i Community Stewardship Network

Hui Maka'āinana o Makana

Limahuli Garden and Preserve of the National Tropical Botanical Gardens

Stanford University's Emmett Interdisciplinary Program in Environment and Resources

## **ABBREVIATIONS**

CBSFA: Community-Based Subsistence Fishing Area

DAR: Division of Aquatic Resources

DLNR: Department of Land and Natural Resources

DOBOR: Division of Boating and Ocean Recreation

DOCARE: Division of Conservation and Resources Enforcement

HRS: Hawai'i Revised Statutes

NOAA: National Oceanic and Atmospheric Administration

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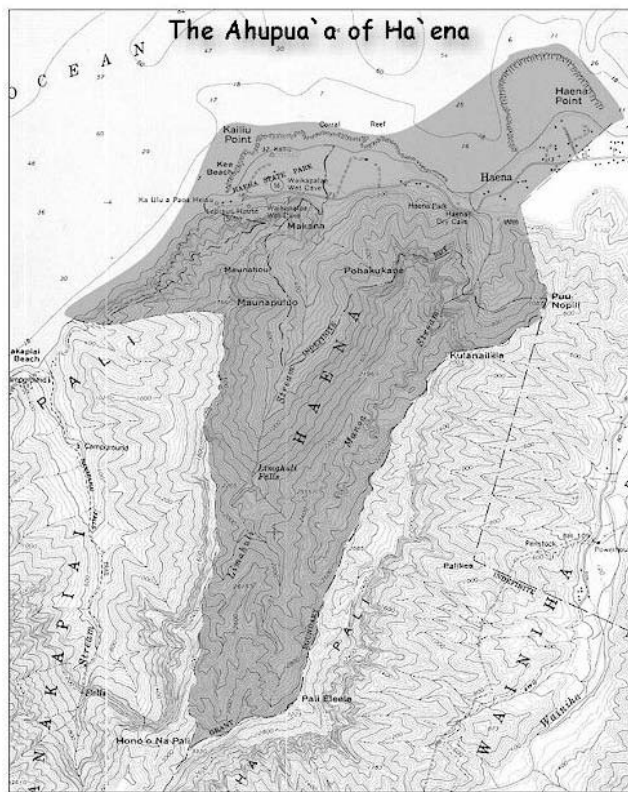




## EXECUTIVE SUMMARY

### Introduction

The *ahupua'a*<sup>1</sup> of Hā'ena is the westernmost land in the *moku* (district) of Halele'a on the northwest coast of Kaua'i. The public highway ends in this *ahupua'a*, a land filled with many *wahi pana* (stories places), sites that are sacred to native Hawaiians and important to the whole state. The *ahupua'a* extends approximately 3.5 miles from the center of Naue Bay north past Kē'ē Beach to the cliffs before Hanakapi'ai. The *ahupua'a* and its offshore waters, since time immemorial, have been an important subsistence fishery resource for native Hawaiians and local families. In interviews with cultural historian Kepa Maly, *kūpuna* (elders) from Hā'ena noted a decline in quality and abundance of fish ("Hana A Ka Lima, 'Ai Ka Waha: A



Collection of Historical Accounts and Oral History Interviews with Kama'āina Residents and Fisher-People of Lands in the Halele'a-Nāpali Region on the Island of Kaua'i, Kepa and Onaona Maly, 2003). Many felt that the changes were caused by the loss of the *konohiki* (overseer) system and *kapu* (laws) that once governed the fishery, which has led to people taking more than they need, in addition to recreational overuse, coastal development, and pollution.

In 1999, members of traditional families of Hā'ena formed a 501(c)3 nonprofit organization. The nonprofit, Hui Maka'āinana o Makana, entered into a Memorandum of Understanding with the State Park system to manage a traditional *lo'i* (taro field) located within Hā'ena State Park boundaries. Since then, the community has broadened its activities to include community-based management of the natural and cultural resources of the *ahupua'a*. In 2006, the community successfully lobbied the Hawai'i State Legislature for designation of the ocean waters of the Hā'ena *ahupua'a* as a Community-Based Subsistence

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<sup>1</sup> An *ahupua'a* is a traditional Hawaiian section of land typically running from the mountains to the sea that provided what residents needed to survive.

Fishing Area. This document proposes a management plan and regulations for the Hā'ena Community-Based Subsistence Fishing Area (CBSFA).

### **Basis for authority**

Statutory authority to adopt fishing regulations rests with the Hawai'i Department of Land and Natural Resources (DLNR) and the Governor. The Hawai'i State Constitution provides for such authority in Article XI-1, titled "Conservation and Development of Resources." Chapter 91 of the Hawai'i Revised Statutes, titled "Administrative Procedures," provides the required process. Under Chapter 188 of the Hawai'i Revised Statutes, titled "Fishing Rights and Regulations," Section 22.6 provides DLNR the authority to designate Community-Based Subsistence Fishing Areas using the process described under Chapter 91.

On June 26, 2006, Governor Linda Lingle signed into law SB2501 SD1 HD1 CD1: "A Bill for an Act Relating to Fishing" (Act 241), thus establishing, "a community-based subsistence fishing area for the ahupua'a of Hā'ena." Act 241 empowers the Hā'ena community, in consultation with DLNR and other interested parties, to recommend a management plan including fishery management rules to the DLNR. This proposed management plan and fishing regulations for the Hā'ena Community-Based Subsistence Fishing Area are hereby submitted by the Hā'ena Fisheries Committee—a group comprised of Hā'ena community members, other interested parties, the nonprofit Hui Maka'āinana o Makana, and Limahuli Garden and Preserve of the National Tropical Botanical Gardens—to the DLNR's Division of Aquatic Resources (DAR) for its consideration. The proposal was developed in collaboration with DAR, and the submission of this proposal is supported by Kaua'i County, the Kaua'i Branch of the Division of Boating and Ocean Recreation, the Kaua'i Branch of the Division of Conservation and Resources Enforcement, the Hanalei to Hā'ena Community Association, the Hawai'i Community Stewardship Network, and many individuals (see appendices 3-7),

### **Summary of process used since 2006 to develop the proposal**

1. Background social and biological research
  - a. 2006-2007: Interviews with *kama'āina* (long-time local) fishing families on perceived changes to near-shore marine resources, impacts, and strategies to ensure healthy resources over the long term.
  - b. 2009 to present: The collection of data on the human use of the coastal areas of the Hā'ena ahupua'a to better assess what activities are taking place, when, where, and to what degree.
  - c. 2009: A rapid baseline benthic habitat assessment to assess baseline coral reef conditions in the nearshore areas of the CBSFA.

- d. 2009 to present: A catch-per-unit-effort survey of the CBSFA to provide baseline information about the biological and sociological importance and health of the Hā'ena fishery.
2. Community meetings to gather ideas and input
- a. 2006 to present: Meetings with the Hui Maka'āinana o Makana, which led to the establishment of a Fisheries Committee composed of community members (both members and nonmembers of the Hui), which met regularly to develop the draft management plan. These meetings were advertised through word of mouth and email, and average attendance was 12 people, mainly from local households. The Fisheries Committee met regularly throughout the entire process to keep it moving forward, to make decisions, and to relay information to and from the community.
  - b. 2008: Meeting with representatives of the commercial kayak operators who have commercial use permits for Hā'ena.
  - c. 2008: Informal meetings and conversations with recreational users (surfers, kiteboarders, windsurfers).
  - d. January 31, 2009: Meeting of the *kama'āina* families of Hā'ena, with approximately 80 in attendance.
  - e. March 31, 2009: Meeting of the Hanalei-to-Hā'ena Community Association with a focus on the fisheries rules. This meeting was advertised through the radio, flyers, ads in the paper, and word of mouth. Roughly 20 people attended.
  - f. April 24, 2009: Community meeting held at the Hanalei elementary school. The meeting was advertised through the paper, flyers, and word of mouth. Roughly 40 people attended, including local families and fishermen, recreational interests, and commercial interests.
  - g. April 16, 19-20, 2011: Meetings with the Hui Maka'āinana o Makana, State and County representatives, permitted commercial operators, and recreational users to inform them of the proposed rules and next steps.
  - h. April 29, 2011: Meeting with the *kama'āina* families, via the Hui Maka'āinana o Makana, to inform them of the proposed rules and next steps.
  - i. May 17, 2011: Community meeting via the Hanalei-to-Hā'ena Community Association to inform attendees of the proposed rules and next steps. Sixty-five people attended.
3. Meetings with State, Federal, and County agencies
- a. 2006 to present: Regular meetings and negotiations with the Division of Aquatic Resources.
  - b. 2008 to present: Federal (National Oceanic and Atmospheric Administration)
  - c. 2008 to present: State (Division of Boating and Ocean Recreation, Division of Conservation and Resources Enforcement, and State Parks)

- d. 2011: County
- 4. Late 2009-early 2011: Multiple attorney reviews of draft rules to develop the required legal format and language. Two attorneys, an HCSN Legal Fellow, and a DAR Legal Fellow all assisted with developing the appropriate legal language.

### **Summary of proposal**

Act 241 designated the Hā'ena Community-Based Subsistence Fishing Area as the *ahupua'a* of Hā'ena from the shoreline to one mile out. The *ahupua'a* coastline is approximately 3.5 miles.

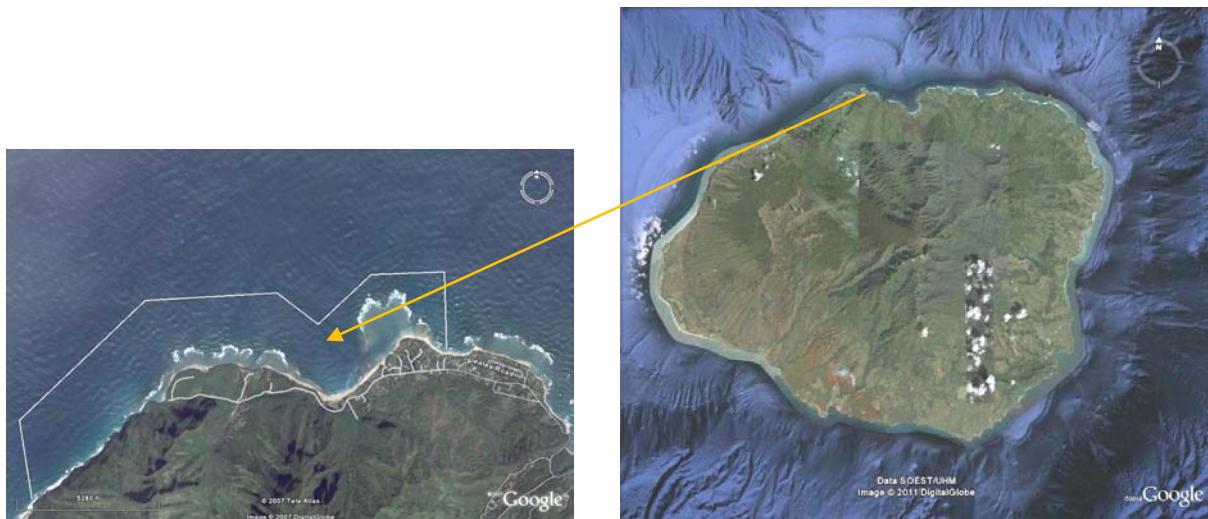
The goal of the Hā'ena Community-Based Subsistence Fishing Area is to sustainably support the consumptive needs of Hā'ena's people through culturally rooted, community-based management that recognizes and responds to the connection between land and sea and strives to restore the necessary balance of native species.

Proposed rules for this area include additional gear restrictions, area restrictions, species restrictions, and bag limits to supplement existing DAR rules. Based on local and traditional ecological knowledge and practice, community perception, and scientific input, implementation of the management plan and new regulations should increase fishery abundance and biomass in addition to promoting Native Hawaiian traditional practices.

## SITE DESCRIPTION

### Location

The Hā'ena *ahupua'a* is located on the North Shore of Kaua'i in the *moku* (district) of Halele'a. The *ahupua'a* begins approximately in the center of Naue Bay (22°13'28.00"N, 159°33'13.50"W) and extends north to the cliffs before Hanakapi'ai, an imaginary extension of the boundary between Hā'ena State Park and Na Pali State Park (22°12'42.50"N, 159°35'44.50"W).



### Land zoning and ocean area designations

Zoning is the primary mechanism by which Kaua'i County administers the use of land as classified by the State land use classification system. Hā'ena and its surrounding areas are primarily classified as Conservation. The National Tropical Botanical Garden owns and manages the Limahuli Garden and Preserve, which abuts the State-owned Hā'ena State Park. Kaua'i County manages Hā'ena Beach Park and is responsible for the land along the shoreline to the high wash of the waves. The State of Hawai'i is responsible for ocean waters from the shoreline to three miles offshore. The Hawaiian Islands Humpback Whale National Marine Sanctuary, which is administered by the National Oceanic and Atmospheric Administration (NOAA) in partnership with the DLNR, is located from the shoreline to 100 fathoms along the North Shore of Kaua'i, from Mokolea Point in Kilaue to Kailiu Point in Hā'ena. The Hā'ena Community-Based Subsistence Fishing Area, designated by the Legislature and Governor Lingle in 2006, extends from the shoreline of the Hā'ena *ahupua'a* to one mile seaward.

## Historical description

The ahupua'a of Hā'ena has been settled since at least 500 AD. A healthy fishery, rich alluvial soil, abundant fresh water and proximity to forest resources made Hā'ena an ideal habitation site. Habitation and agriculture historically was centered along the alluvial plain. The lower valleys, or *kula*, were also used for agricultural production, and evidence indicates that even the upper valleys were used by Hawaiians for agriculture (from <http://www.pacificworlds.com/haena/land/areas.cfm>). In addition to kalo (taro), Hawaiians grew sweet potatoes, bananas, sugar cane, 'awa, and coconut.

Hā'ena is filled with important cultural sites, some of which are so famous that they are known throughout the archipelago. Among the most famous are:

- **Kē'ē:** This was the home of Lohi'au, an *ali'i* who became a lover of the goddess Pele. One of the greatest epics which is still told recalls the journey that Pele's youngest sister, Hi'iaka, took to bring Lohi'au back to Pele on Hawai'i island.
- **Makana:** Atop this majestic peak the sacred 'oahi (firebrand) ceremony was once performed, and *laua'e* of noted fragrance still grows.
- **Ke-ahu-a-laka:** A *heiau* (temple) dedicated to the art of hula is located directly above the *heiau* Ka-ulu-a-pā'oa, which was dedicated to the study of genealogy and history.

Western contact was slower to reach Hā'ena due to its remote nature. The 1900 Census recorded seven households in Hā'ena, all of which were comprised of Native Hawaiians. Ten years later, the census recorded fifteen residences—11 Native Hawaiian, two were Hawaiian with Asian boarders, and two were Asians who had introduced rice cultivation to the area.

Demographic changes were brought about by the construction in the early 1900s of what is now Hawai'i Route 560 (listed on the National Register of Historic Places) along what used to be a footpath used by Hawaiians, making it easier for immigrants to reach Hā'ena. By the 1930s, many areas once used for kalo production had been turned to pasture land for cattle. Two tsunamis, one in 1946 and one in 1957, have been said to precipitate additional demographic and environmental shifts in Hā'ena. These tsunamis flooded agricultural areas including *lo'i kalo* (taro fields) and fishponds, and they destroyed homes. Families were displaced, as were native plant species. Then in 1958, neighboring Hanalei was featured in the film version of *South Pacific*; tourism and the construction of vacation homes by wealthy people from elsewhere since then has further altered the demographic landscape of Hā'ena.



Today, Hā'ena is still home to several families who can trace their lineal ties to the area and who still practice the traditions of farming, hunting, and fishing. New residents (many part-time) have come from around the world and altered the demographic and architectural landscape of Hā'ena. As the area has received more and more attention for being beautiful, pristine, historic, and adventurous, thousands of tourists make their way to Hā'ena each month. According to a 2007 Hawai'i Tourism Authority State Park Visitor Survey, an estimated 708,400 people visit Hā'ena State Park at the end of the road in Hā'ena each year; 90% of those are from out of state.

### Physical environment

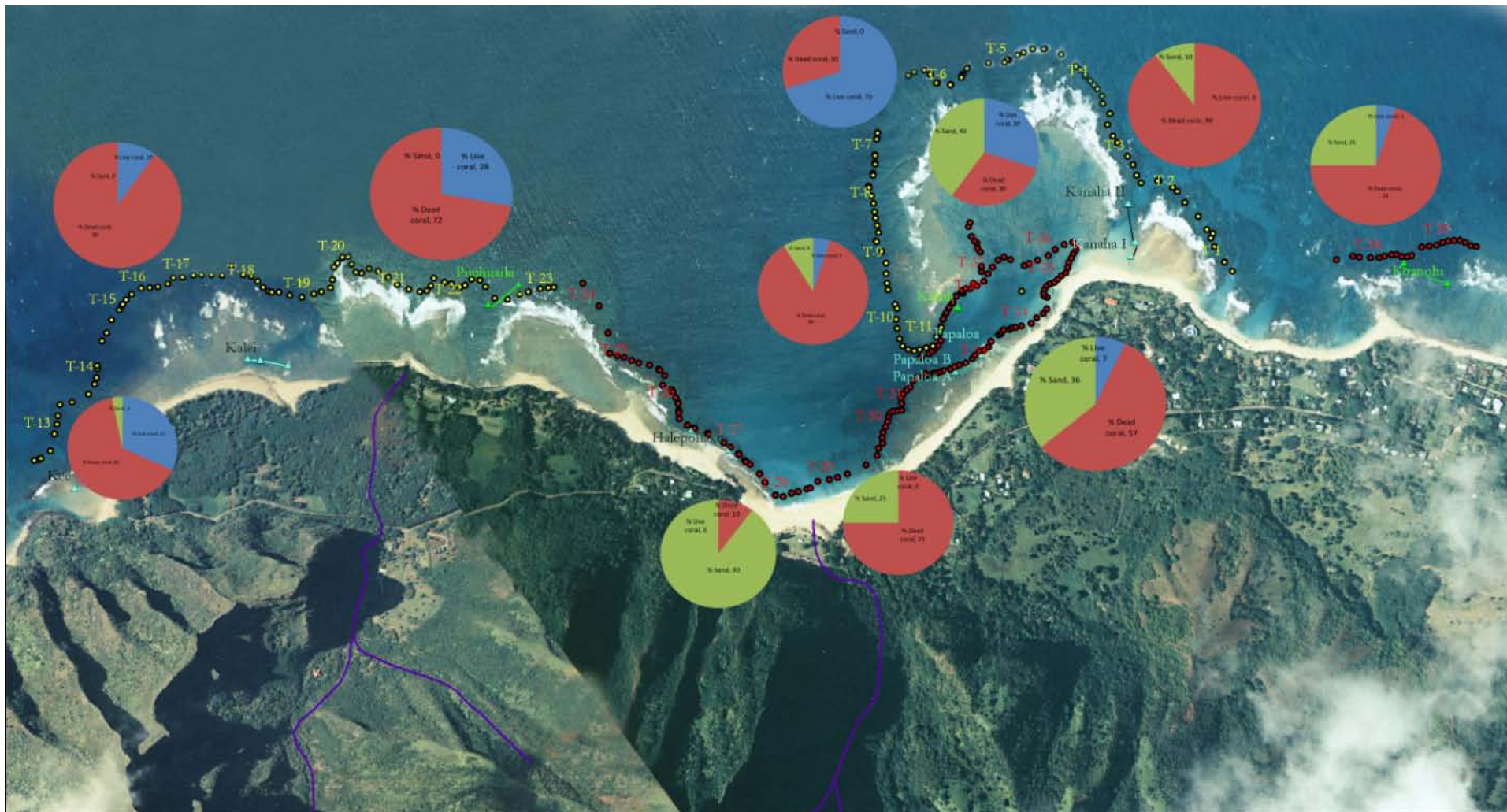
Hā'ena has been and continues to be shaped by environmental conditions in the mountains and in the ocean. Two valleys, each with a stream, comprise the *ahupua'a* of Hā'ena—Mānoa and Limahuli. The area receives about 80 to 100 inches of rain annually, and the rain and streams have carved the land since its formation. From the ocean, the circular shape of Kaua'i and lack of any nearby islands results in a situation of extremely high wave energy on all shorelines—especially on the North Shore during the winter months.

Freshwater is an important component of the Hā'ena environment, including the ocean environment. Limahuli Stream, which drains through Limahuli Valley into the ocean, “is one of the few virtually pristine streams remaining in Hawai'i” and averages about five million gallons a day (Chipper Wichman, Director of the National Tropical Botanical Garden and descendant of Hā'ena, from <http://www.pacificworlds.com/haena/land/water.cfm>). All five species of native Hawaiian freshwater fish, the *o'opu*, inhabit Limahuli stream.

The dominant nearshore ecosystem is coral reef. Reefs along the Kaua'i coast are dominated by the corals *Porites lobata* and *Pocillopora meandrina*, with other common species that include *Montipora patula*, *Montipora flabellata*, *Leptastrea purpurea* and *Montipora verrucosa*. Due to large winter swells, the North Shore supports hardy coral species; coral rubble is common.

In September 2008, Hā'ena community members, with technical assistance from the Hawai'i Community Stewardship Network (HCSN) and NOAA, conducted a rapid assessment of the general benthic composition of the nearshore area of the Hā'ena *ahupua'a*. The entire 3.5-mile length of the *ahupua'a* coastline was visually surveyed at a general depth of 10 to 20 feet. Results can be seen in the map on the following page.





Ocean Resource Assessment : 09/08

- Manta Tow GPS 1
- Manta Tow GPS 2
- Streams
- ▲ Transect Swim GPS 3
- ▲ Transect Swim GPS 4

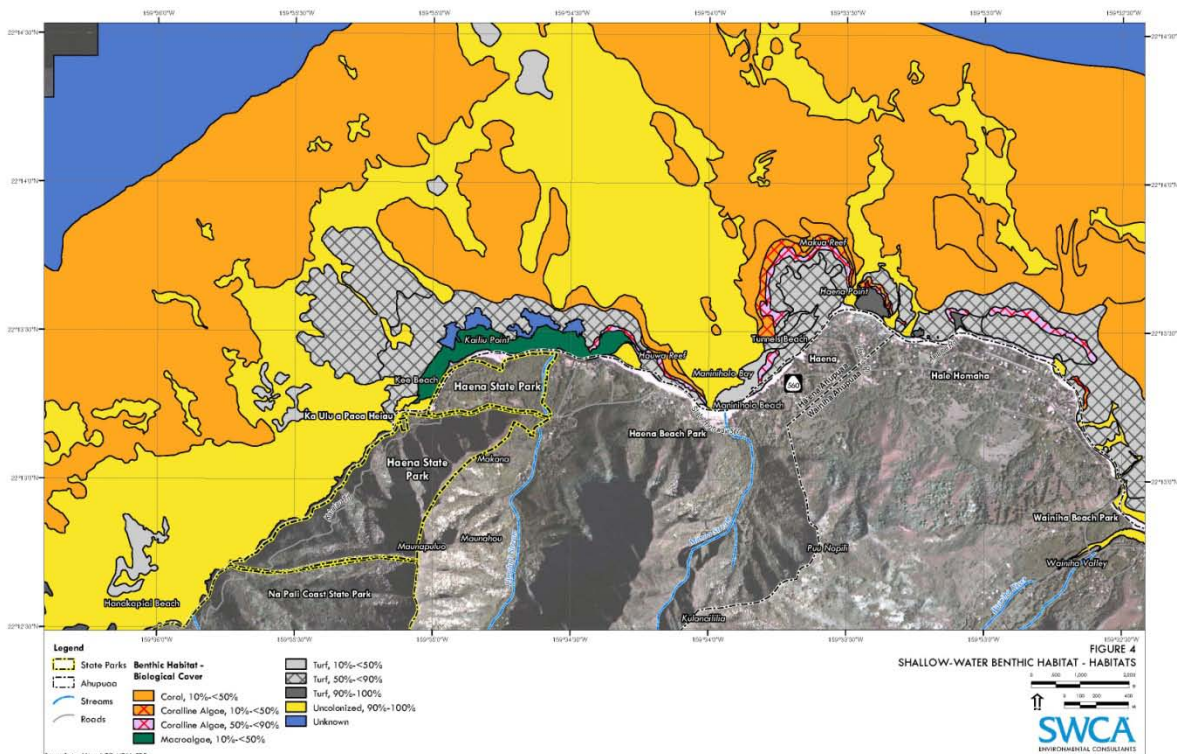


0 165 330 660 990 1,320 Meters

North American Datum 1983 Zone 4

Ha'ena, Kauai

Through a master planning process for Hā'ena State Park, the planning firm PBR Hawai'i contracted SWCA Environmental Consultants to compile a "Marine Natural Resources and Recreation Assessment" for Hā'ena State Park. The report contains a wealth of information more detailed than we will cover here. The report noted that the Center for Coastal Monitoring and Assessment of the National Ocean Service created maps of the reef and marine habitat, with results shown below:



The SWCA reports, "Sand and reef pavement comprise the dominant marine geomorphologic structures between Ke'e [sic] Beach and Maninihola Bay to the east. From Maninihola Beach west to Hā'ena Point the reef consists of aggregated reef, scattered coral and rock and rubble with small patches of reef pavement. The reef pavement is covered with macro-algae, coralline algae, and corals; however, the sandy lagoon floors and channels are uncolonized."

The marine waters off of Limahuli Stream were studied at depths of one meter and ten meters by the Coral Reef Assessment and Monitoring Program (CRAMP). In 2004, coral cover at one meter was found to be 17%, and at ten meters it was 28%. CRAMP scientists found a high percentage of crustose coralline algae and turf algae with a low percentage of fine sediments and a high wave energy environment. Surgeonfishes, triggerfishes, and parrotfishes were the most common at the 10-meter site, while wrasses and surgeonfishes were most common at the one-meter site.



From CRAMP and other past studies of fish populations in Hā'ena, 80 fish species have been found in the nearshore waters of the *ahupua'a*, with twice that many found seaward of the reef. Two lagoon areas—one at Kē'ē and one at Makua—have been cited by scientists and fishermen alike as providing excellent habitat for juvenile reef fishes.

The threatened sea turtle and the endangered monk seal and Humpback whale are all found in Hā'ena, as are dolphins.

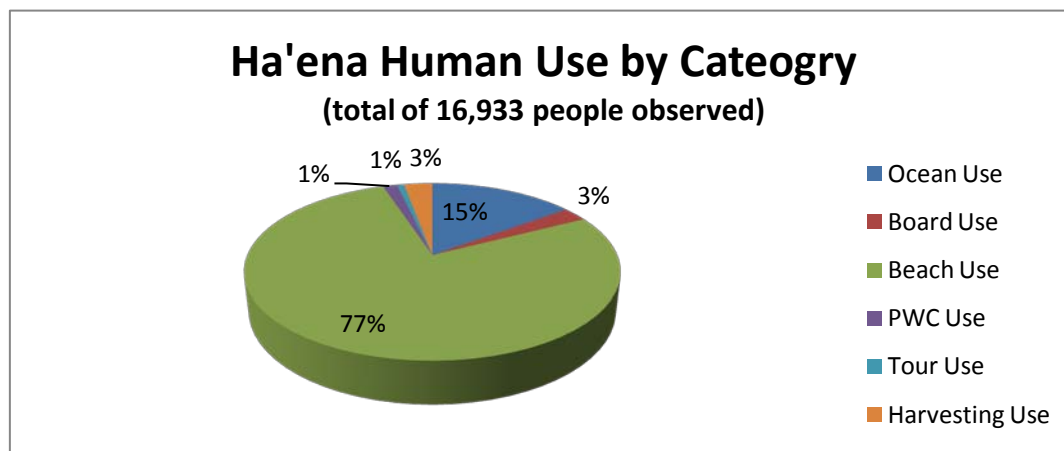
### Use of the coastal area of Hā'ena

Community volunteers and staff from Limahuli Garden and Preserve have been and continue to monitor the human use of the Hā'ena *ahupua'a*. Volunteers use a data sheet that divides the area into different *'apana*, or areas, and they use a “point-in-time” methodology: They start at one *'apana* and count the number of people engaged in the listed activities occurring in that area. They then move to the next area and count all of the people engaged in the listed activities occurring in that area. They repeat this until they have recorded the number of people engaged in the listed activities for all areas.

Surveyors completed a total of 1025 surveys from August 2009 through December 2010. Surveyors collected data multiple days per month. Surveys were completed during day and night, with the vast majority completed between 7 a.m. and 10 p.m. The observation period for each survey varied, but most were completed in about 15 minutes. All of the data was compiled, and frequencies and averages were calculated for various categories.

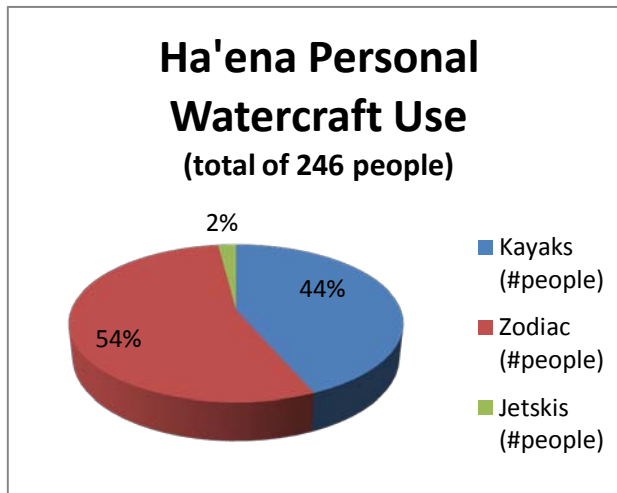
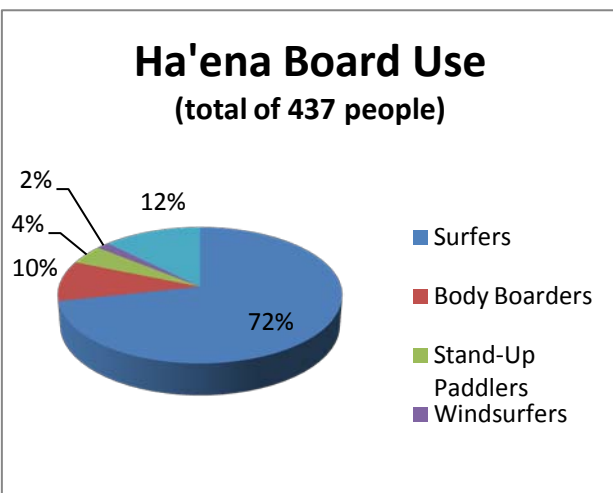
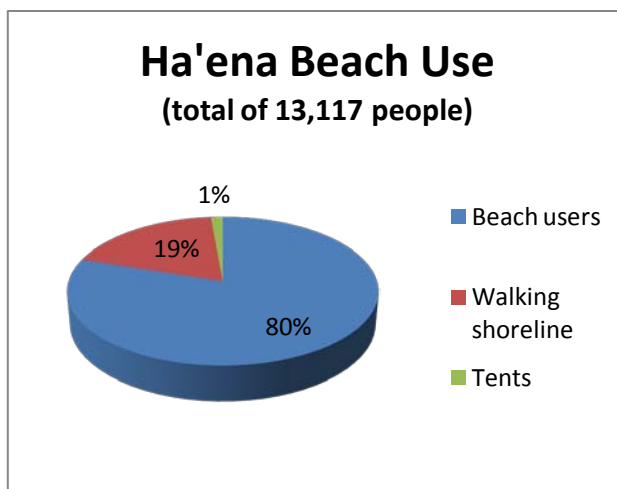
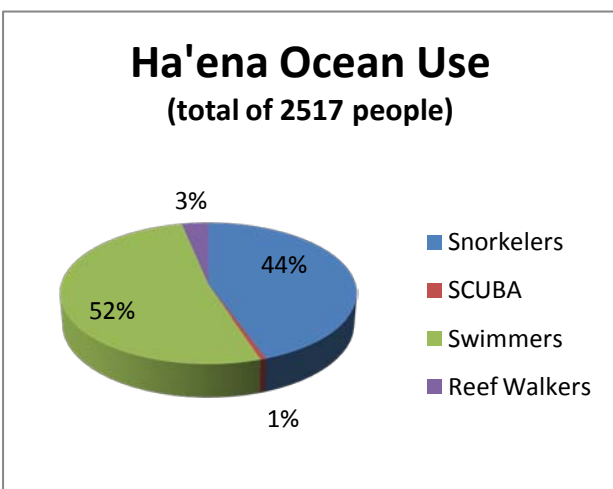
#### *Summary of Human Use Results*

The vast majority of human use in Hā'ena stems from beach use, followed by ocean use such as swimming and snorkeling. Seventy-seven percent of all human use stemmed from beach use including sunbathing and walking the shoreline. The second heaviest use, at

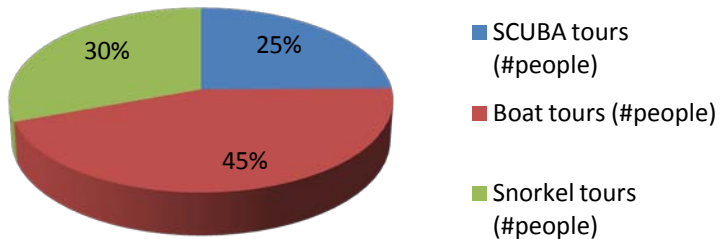


15%, came from swimming, snorkeling, and SCUBA diving. Board use such as surfing and harvesting activities such as fishing both comprised 3% of use, while personal watercraft such as kayaking and people on tours each comprised 1% of use.

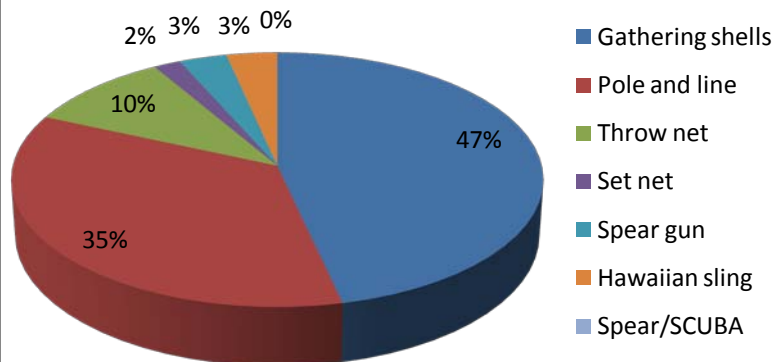
The following charts provide detail of the percentages of people engaged in the different activities:



### Ha'ena Tour Use (total of 121 people)

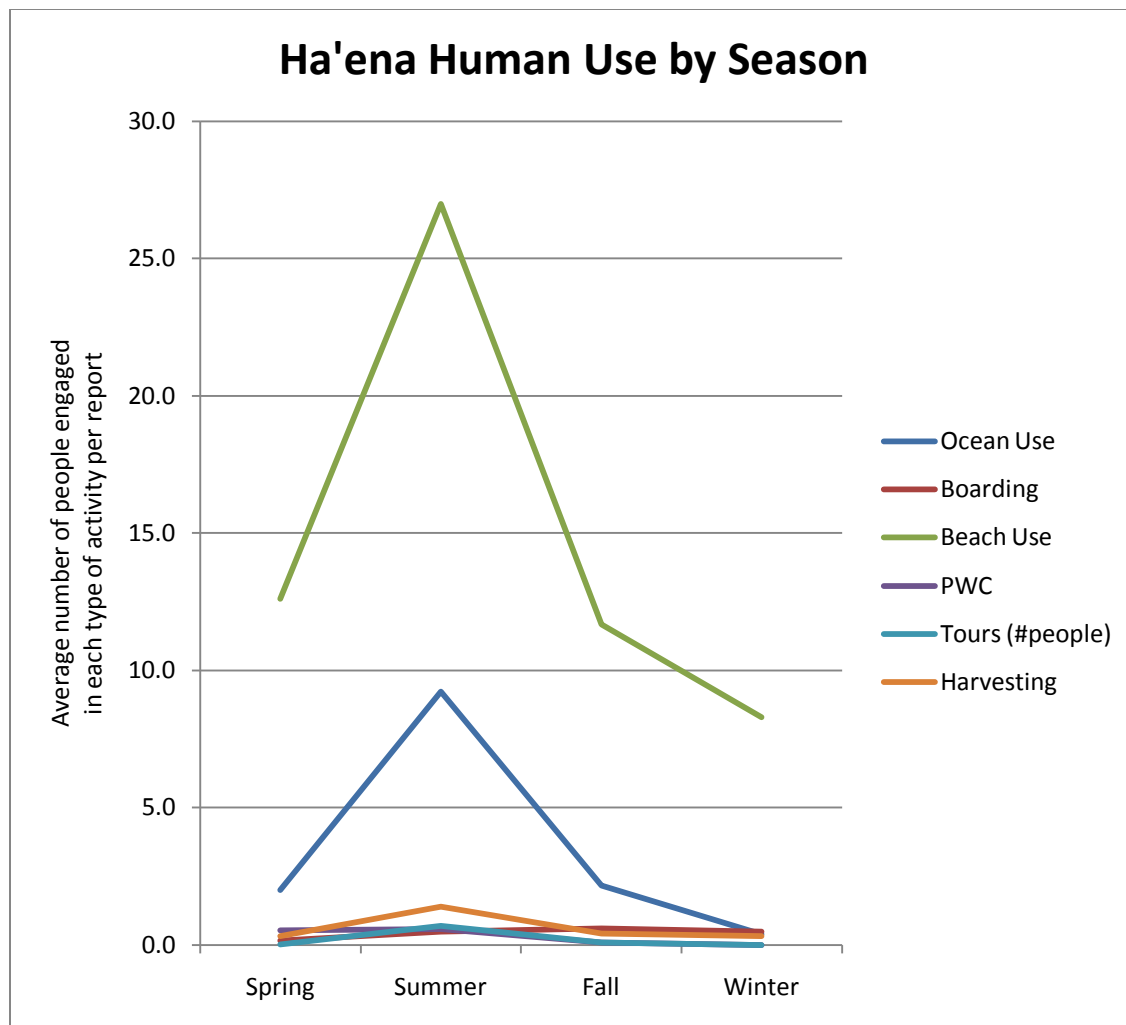


### Ha'ena Harvesting Use (total of 495 people)



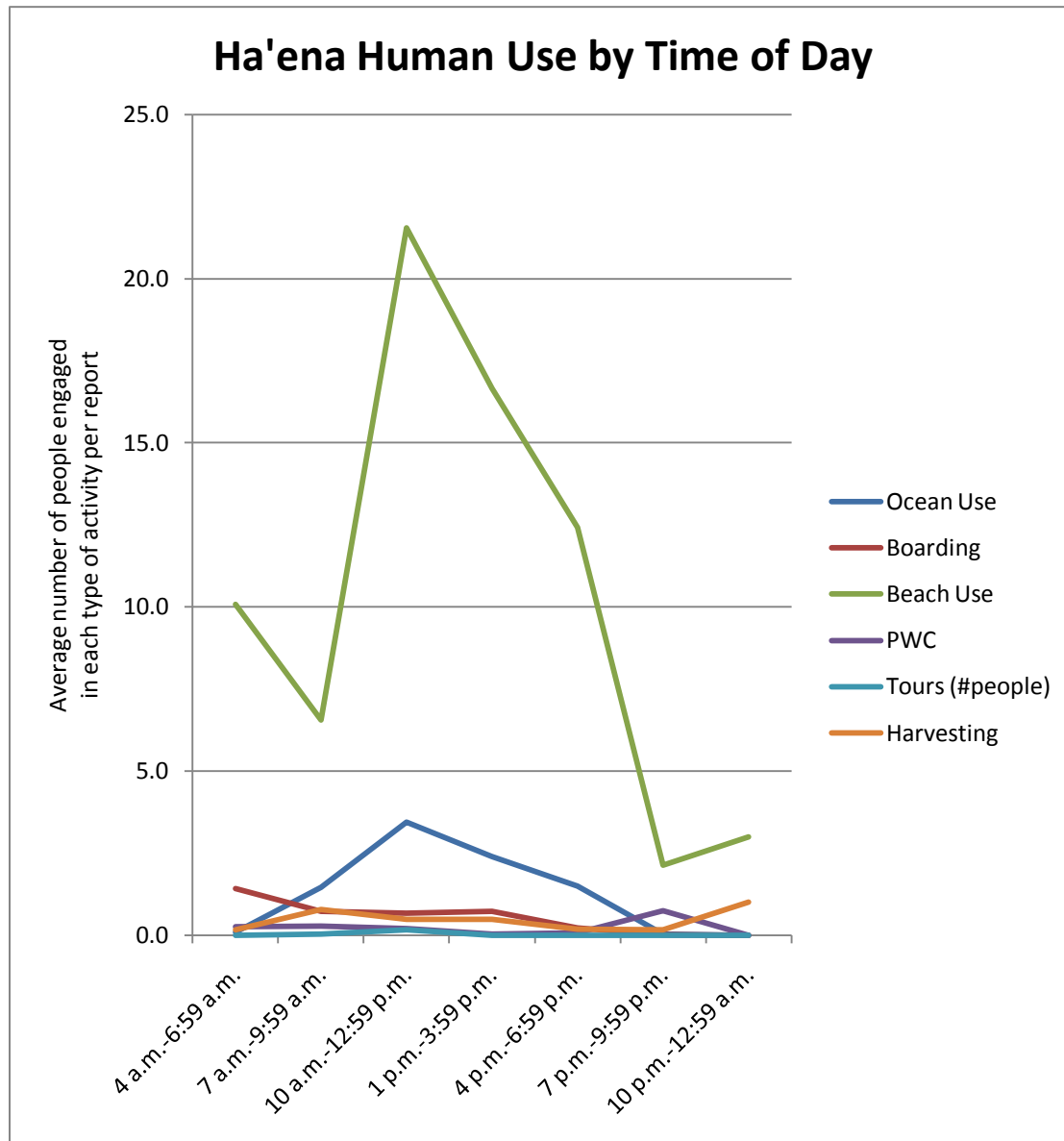
### *Seasonal Changes in Human Use at Hā'ena*

Human use varied from one season to the next. The following chart illustrates the rise in human use at Hā'ena during the spring, the height of human use during summertime, and the decrease through winter. The chart records the average number of people observed engaging in each activity category during each survey period, by season (PWC=personal watercraft).



### *Changes in Hā'ena Human Use by Time of Day*

As might be expected, the number of people utilizing Hā'ena varies by the time of day. Surveys at Hā'ena were collected at all times of day, enabling tracking throughout the 24-hour daily cycle. This chart illustrates the typical daily schedule throughout Hā'ena: People begin arriving in the early morning hours, with the largest crowds between 10 a.m. and 7 p.m. The following chart reflects the average number of people observed during each survey, by time of day.





Ha'ena Human Use 7am - 10am

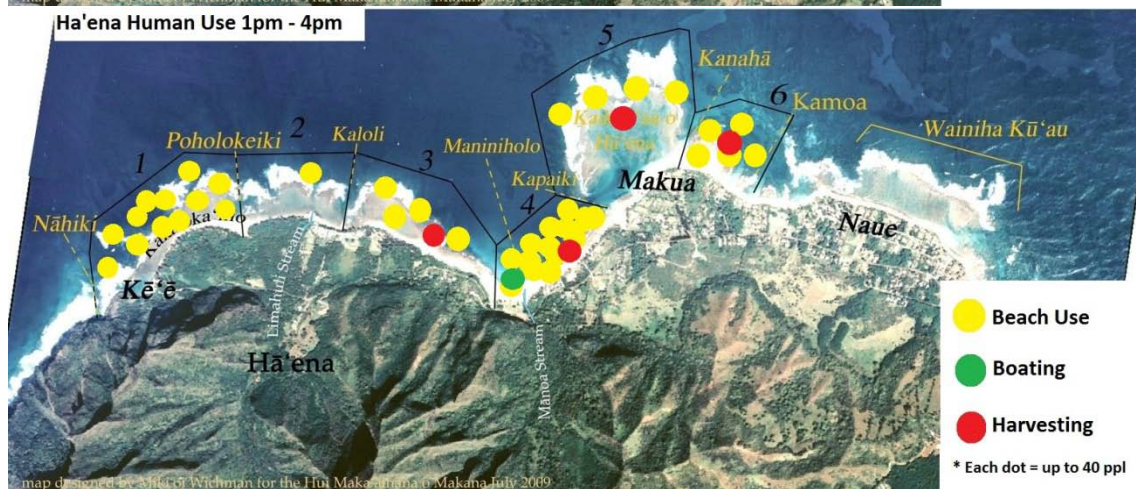
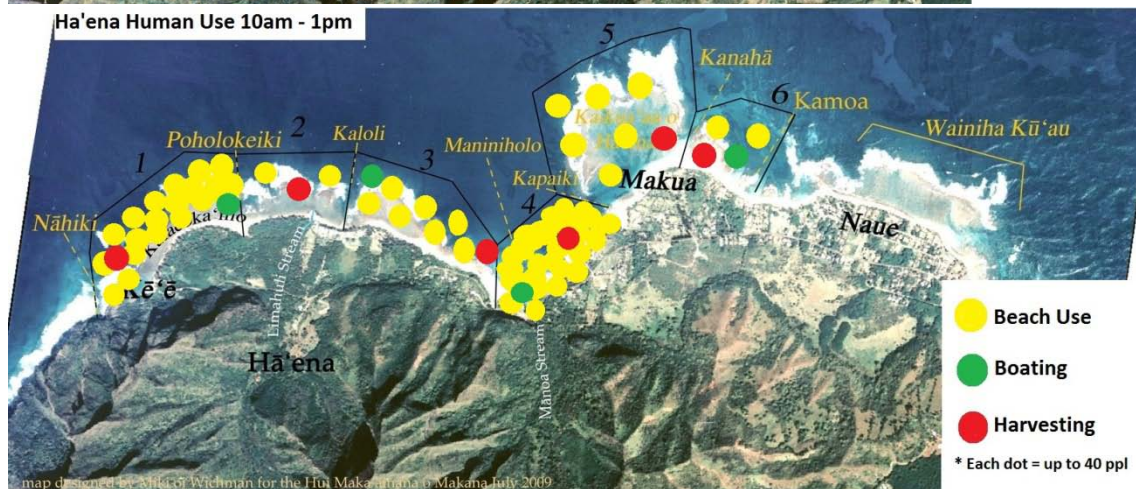
1 Pōhōlokeiki 2 Kaloli 3 Maninihōlo 4 Kapaiki 5 Kanahā 6 Kamoā

Nāhiki Kā'e Emahulu Stream Hā'ena Manoa Stream Makua Kanahā Kamoā Wainiha Kū'au Naue

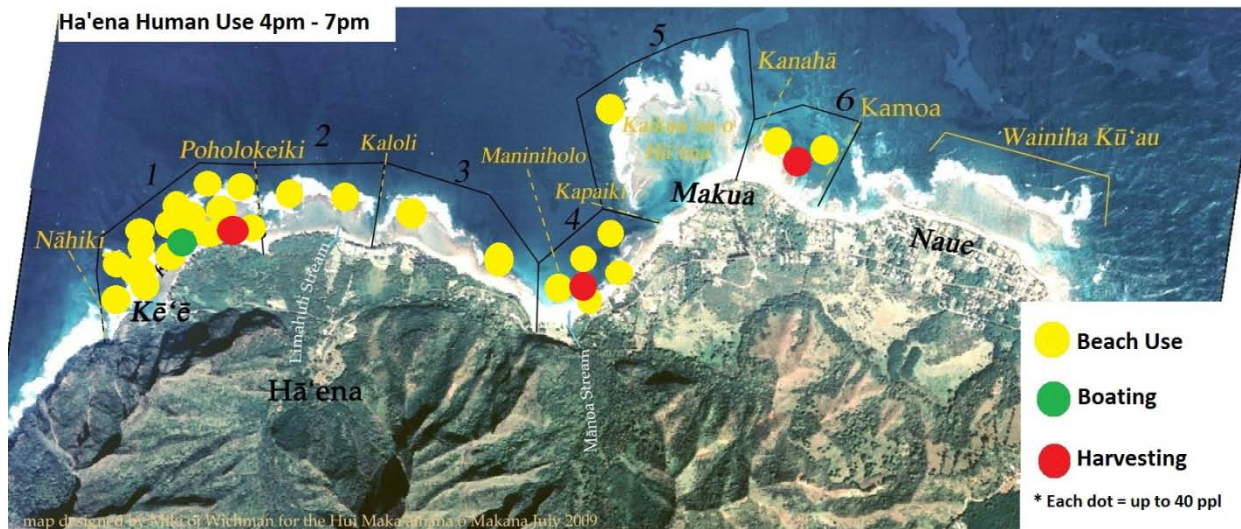
● Beach Use  
● Boating  
● Harvesting

\* Each dot = up to 40 ppl

map designed by Miki O'Wichman for the Hui Makanihana © Makani July 2009

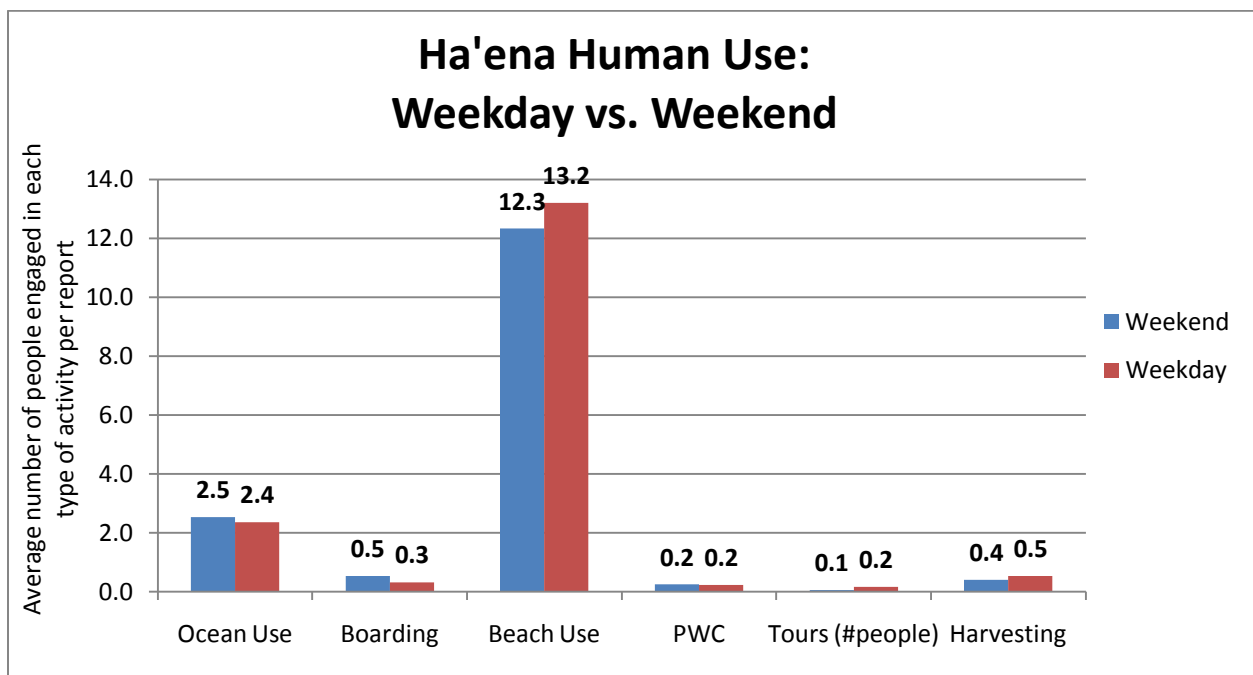






### *Changes in Hā'ena Human Use by Day of Week*

Finally, differences in human use between weekdays and weekends were analyzed. Very few differences were noted; perhaps surprisingly, weekdays showed slightly higher levels of human use than weekends, as illustrated below in the chart showing the average number of people engaged in each category of activity during each report period.



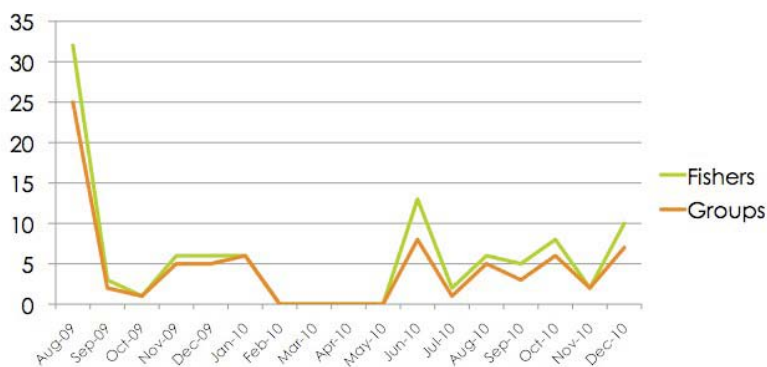
### *Catch-Per-Unit-Effort*

In addition to monitoring human use, Limahuli Garden and Preserve staff members collected information on the fishing activity in the Hā'ena Community-Based Subsistence Fishing Area. Four different basic types of data were collected:

1. **Events:** Data collected about the sampling day, or “event.” Includes start/end time, date, tides, weather information.
2. **Observations:** Data collected about persons observed fishing. Enumerators observed fishing activity from the shoreline using binoculars. Includes number of persons, gear used, and fishing location/zone.
3. **Intercept Interviews:** Data collected during in-person interviews with anglers. Includes number interviewed, zip code of residence, gear used, number of persons, and intended disposition of catch.
4. **Catch Recording:** If anglers intercepted with catch, enumerators attempted to collect data on catch. Includes number, size, weight, and disposition.

There were 64 sampling events of approximately three hours each, representing a total of about 160 hours of sampling. Of these, 32 fell on a weekend day (Saturday or Sunday), and 32 fell on a weekday (Monday through Friday). The goal was for enumerators to complete a survey eight times during one month—four times during the day (two weekend days and two weekdays) and four times during the night (two weekend days and two weekdays). Dates were randomly selected using random number assignment.

Eighty-six groups of fishers were observed. Thirty, or approximately 35%, of these groups were approached for an interview. Three groups representing six individuals refused to be interviewed, an 8.6% refusal rate. Of those who agreed to be interviewed, one group refused to show its catch, a refusal rate of 3.7%. Because fishers could be interviewed more than once (sampled with replacement), the sum of the number of fishers/group is interpreted to represent the number of “fishing days”—not individual fishers—captured during the 16-month study period. Over the course of the study period, there were 100 individual fishing days observed.

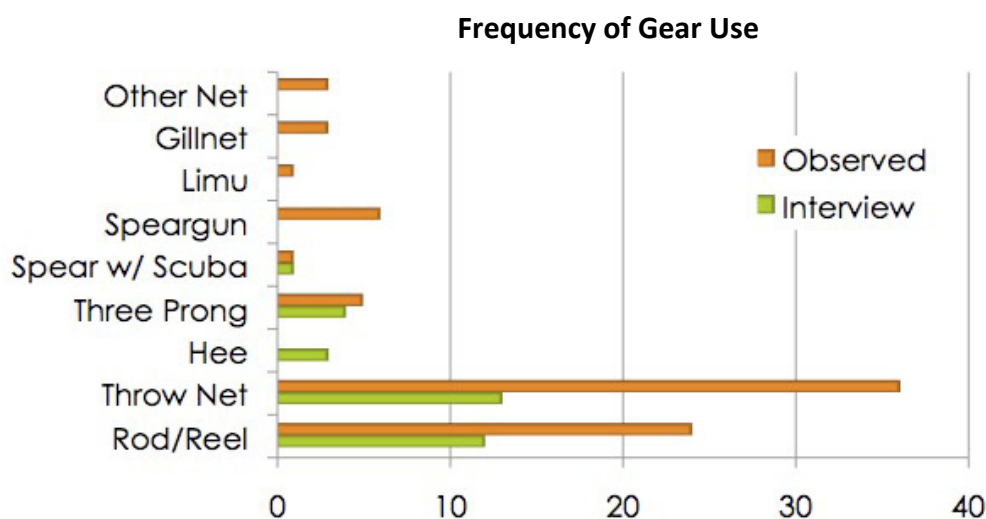


To summarize, fishing effort occurs more heavily on the weekend than during weekdays. Most fishers are from Hā'ena and Kaua'i, and throw nets are the most common gear used, followed by pole and line. Not surprisingly given the types of gear used, the inner reef experiences the greatest effort, followed closely by the shoreline.

A higher degree of fishing was recorded on weekends (71) when compared with weekdays (29), indicating more intense fishing effort on weekends.

Eight interviewees identified themselves as Hā'ena residents. Other fishers came from Hanalei (9), Kilauea (3), Kapa'a (2), Wailuā (1), Līhu'e (2), and California (1).

Throw nets were the most popular type of fishing gear utilized, followed by rod and reel.



Of the 100 fishers observed over the 16-month study, 44 were observed fishing from shore, 48 in the inner reef, and 16 in the outer reef.



Reported species and fish types were consolidated into species groups developed by the Pacific Islands Fisheries Science Center (PIFSC). These categories were created to consolidate the 150 marine species reported on by the Hawai‘i Division of Aquatic Resources (DAR) in order to simplify the reporting of landings. In all, catch was recorded for 18 different types of fish/marine invertebrates: ‘Oama, Nenu, He‘e, Manini, Pāpio, Limu, Mullet, Toau, Hinalea, Kole, Āholehole, Lobsters, Perch, Weke, ‘Ama‘ama, ‘Āweoweo, Mamo, and Taape. 176 identified individuals were recorded as caught over study period.

The vast majority of fishers interviewed intended to eat their catch (26), followed by giving part or all of the catch to others (11). Of those planning to give or share, nine intended to give to family members on Kaua‘i (two declined to disclose). No one interviewed said they planned to sell their catch, one person intended to use the catch as bait, and four interviewees said they planned to throw back whatever they caught.

The catch-per-unit-effort, where catch equals the number of fish caught and effort is measured in hours, was 1.54 individuals per hour for those interviewed. In addition, several expert fishermen of Hā‘ena tracked their catch and effort over the course of the study, and their catch-per-unit-effort was significantly higher at 9.11 individuals per hour.

The study indicated that expert fishers were significantly more efficient than the average fisher and that Hā‘ena is utilized primarily as a subsistence fishery, with the majority of fishers coming from Hā‘ena and nearby Kaua‘i communities. Most of the fish is consumed on-island by the fishers themselves and their family members and friends.

### **Critical resources and threats**

Interviews with fishermen, conducted by cultural historian Kepa Maly in 2003 and by Hā‘ena community members Lahela Chandler Correa and Megan Juran in 2007 and 2008, indicated that the following nearshore fish species are important food fishes for the Hā‘ena community: akule (bigeye scad), moi (Pacific threadfin), ‘ama ‘ama (mullet), ‘oio (bonefish), nenu (rudderfish), aholehole (flagtail), aweoweo (Hawaiian bigeye), manini (convict tang), kala (bluespine unicornfish), oama (juvenile goatfish), kumu (whitesaddle goatfish), papio and ulua, he‘e (octopus), ula (lobsters), ‘a‘ama (crab), and several kinds of limu (seaweed).

The Hā‘ena Fisheries Committee, composed mainly of representatives of Hā‘ena’s traditional families—most of whom fish—identified resources critical to cultural and subsistence use. They also rated the condition of those resources. The resources cited and their perceived condition are as follows:

<b>1 = Excellent, like the 1940s and 1950s</b>	<b>2 = Good</b>	<b>3 = Fair: Stressed and in decline</b>	<b>4 = Poor: Degraded</b>	<b>5 = Bad: Severe decline</b>	<b>6 = Pau: No/very limited production</b>
Enenue	Near-shore coral reef ecosystem	Near-shore fishery	Shells	Hinana	
Turtles	Limu kohu	Aweoweo	Akule	'Opihi	
Monk seals	Manini	O'i'o	Moi	Lobster	
	'Oama	Aholehole	Kala		
	Maiko	Kawakawa	'Omilu		
	Uhu	Ulua	Ama'ama		
	Palani	Kahala			
		He'e			
		Wana			
		Sharks			
		Nai'a			

Fishermen interviewed shared that they had seen a change in the fishery, noting a decline in quality and abundance of fish. They believed the changes were caused by the following:

- Loss of the *konohiki* system including *kapu*.
- Disrespect for the ocean and land, demonstrated through taking more than one needs without thought or consideration for the future.
- Traditional access points blocked by new development and gates, putting greater pressure on fewer sites.
- Environmental changes such as changes to freshwater flows and an increase in pollution.
- An increase in visitors, house construction, tour boats, and other human pressures that causes physical damage to the reef, pollution from garbage and sunscreen, and runoff and pollution from coastal development including cesspools.

The Hā'ena Fisheries Committee also reviewed threats to critical resources and prioritized those threats according to the following criteria:

- Target threatened: Number of resource targets threatened by the threat
- Area threatened: Physical space threatened by the threat
  - 1 = small amount
  - 2 = moderate
  - 3 = all
- Intensity of impact: Threat's impact
  - 1 = minor impact/damage

2 = medium

3 = high

D. Urgency: When will the threat have an impact?

3 = now

2 = few months to two years from now

3 = over two years from now

The threats, presented in order of highest score (perceived to be the most threatening) to the lowest score (perceived to be least threatening) are as follows:

Threat	Targets Threatened	Area Threatened	Intensity of Impact	Urgency	Total Score
Coastal development	59	3	3	3	68
Overuse by tourism	59	3	3	3	68
Traditional practices/knowledge not being passed on	58	3	3	3	67
Fishers from outside the ahupua'a taking inappropriately	58	3	3	3	67
Lack of enforcement	58	3	3	3	67
Super Ferry	58	3	3	2	66
Bad policy/legislation	59	3	2	2	66
Pollution/litter	50	3	2	3	58
Drug use (selling fish for drug money)	48	3	3	3	57
Global warming	47	2.5	3	1	53.5
Inappropriate recreational use	42	2.5	3	3	50.5
Seepage	42	3	2	3	50
Sedimentation/runoff <sup>2</sup>	37	3	2.5	3	45.5
Pigs <sup>3</sup>	37	3	2	3	45
Overharvesting	33	3	2	3	41
Taking shells, rock, coral	32	3	2	3	40
Jet skis	33	2	2	3	40
Commercial fishing	28	3	2.5	3	36.5
Illegal fishing methods (chlorine, batteries, etc.) <sup>4</sup>	31	1	3	1	36
Tour boats	28	3	2	3	36

<sup>2</sup> Alien plants contribute to this, and so do pigs.

<sup>3</sup> Spread invasives, contribute bacteria, eat natives, contribute sediment

<sup>4</sup> Chlorine fishing used to occur and killed a section of reef; it hasn't occurred in several years.

Lay net/moemoe	27	3	3	3	36
Invasive fish <sup>5</sup>	26	3	3	3	35
Suntan oil	27	2	1.5	3	33.5
Taking freshwater <sup>6</sup>	26	3	3	1	33
Invasive limu	30	0	0 (for now)	2	32
Arbulet	21	3	2.5	3	29.5
Spear on SCUBA	22	2	2.5	3	29.5
Invasive land plants <sup>7</sup>	19	2	2	3	26
Spear at night	17	3	2	3	25
Surfers	15	2	2	3	22
Kayaking	14	3	2	3	22
Dive/snorkel/scuba	13	3	2	3	21
Honu	11	2.5	2	3	18.5
Driving on the beach	10	1	2	3	16
Seals	9	1.5	1.5	3	15

To restore the fishery, fishermen interviewed remembered and recommended a return to traditional ethics and practices such as these:

- Don't disturb the fish in their home: Fish return to certain areas on certain tides to eat. Fishermen should recognize these patterns and avoid disturbing them. Places of feeding, resting, and spawning need should be disrupted as little as possible so the fish will continue to come and to feel at home.
- What happens on the land affects what happens in the ocean. The entire watershed, from the mountains to the sea, need to be managed as one.
- Fish have ears, so one shouldn't talk about going fishing. One should not take too much fish, or the fish will stop coming to your nets. The first fish should be thrown back or given as an offering of thanks.
- Fish only without your *ahupua'a*. People fished only in their own *ahupua'a*, or in neighboring *ahupua'a* if they had familial ties there. You could fish in a different *ahupua'a* if you went with someone from there or received direct permission to do so.
- Don't take more than you need.
- Share what you catch with others.
- Impose and enforce strict laws. Breaking the *kapu* had severe consequences.

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<sup>5</sup> Ta'ape and roi

<sup>6</sup> This is a future threat, so it's analyzed for its potential threat rather than its current threat

<sup>7</sup> Ironwoods in the dunes, false kamani, leaf litter (does this affect the resources?)

They also believed that educating tourists and commercial operators about cultural perspectives and values would help. A majority interviewees wanted to see tourism, some recreational activities, and commercial fishing regulated.



## **MANAGEMENT APPROACH**

### **Goal for the Hā'ena Community-Based Subsistence Fishing Area**

The goal of the Hā'ena Community-Based Subsistence Fishing Area is to sustainably support the consumptive needs of Hā'ena's people through culturally rooted, community-based management that recognizes and responds to the connection between land and sea and strives to restore the necessary balance of native species.

### **Objectives for the Hā'ena Community-Based Subsistence Fishing Area**

1. To maintain the health of the coral reef ecosystem.
2. To increase the biomass of native fish (larger native fish in greater numbers).
3. To increase the biomass of limu kohu, 'ōpihi, he'e, urchins, and shells.
4. To reduce the impact on coral reef resources from
  - a. Inadequate enforcement of resource regulations
  - b. Pollution from boats and littering
  - c. Recreational overuse and inappropriate use including
    - i. Trampling of coral
    - ii. Sunscreen
    - iii. Harassment of marine life
    - iv. Disturbance of schools of fish
  - d. A lack of awareness and understanding about biological and cultural impacts and how to reduce them
  - e. Land-based sources of sedimentation and pollution caused by erosion, development, seepage, and inadequate freshwater flow.
5. To reduce user conflict and impacts to subsistence fishermen from tourism and recreational activities
6. To perpetuate Hawaiian cultural resource management practices

### **Management strategies**

- Ahupua'a management that addresses key impacts mauka to makai and capitalizes on key ecosystem functions.
- Development of new fisheries regulations that allow sound practices of Hā'ena fishermen but restrict practices not traditional or appropriate for Hā'ena.
  - Gear restrictions
  - Area closures
  - Bag limits
- Makai Watch

- Education and outreach: Outreach and awareness-raising through educational programs, signage, brochures, presentations, and volunteers providing information to visitors and local residents.
- Community assistance with enforcement: Community collaboration with DOCARE in observation and incident-reporting.
- Cultural and historical transmission: Educational programs for youth and community members and that involve *kūpuna* and knowledgeable *makua*.
- Community engagement in monitoring and evaluation of the Community-Based Subsistence Fishing Area.

## Monitoring plan

The proposed rules for the Hā'ena Community-Based Subsistence Fishing Area includes the formation of a Fisheries Council similar to the West Hawai'i Fisheries Council, which would be responsible for conducting a five-year review with community input. The following monitoring activities will contribute critical information to this review:

1. Baseline monitoring before the rules go into effect, using community volunteers and donated time from technical assistance providers.
  - a. Comparison of fish populations between the inside and outside of the Makua Pu'uhonua Area
  - b. 'Ōpihi monitoring in the 'Ōpihi Restoration Area
  - c. Limu monitoring
2. Annual fish monitoring (fish, he'e, urchins, shells, lobster), including monitoring of the inside and outside of the Makua Pu'uhonua Area, 'opihi monitoring, and limu monitoring) conducted by community volunteers with in-kind technical assistance
3. 'Ōpihi Restoration Area monitoring just before the end of the three-year closure, then six months and one year after the end of the closure and the institution of the bag limit conducted by community volunteers with in-kind technical assistance
4. Four years from rules inception:
  - a. Follow-up monitoring comparing the inside and outside of the Makua Pu'uhonua Area
  - b. Follow-up catch-per-unit-effort monitoring
  - c. Follow-up rapid benthic habitat assessment

## Parameters

*Do the proposed rules...*

- Fall under the jurisdiction of the Division of Aquatic Resources?
- Seem to be able to pass the DLNR rule process as mandated by the Legislature in Chapter 91?
- Adhere to U.S. and State constitutional law?

- Strengthen, but not weaken, current State regulations?
- Seem simple to obey?
- Seem enforceable?

## Putting it all together: Rationale behind the proposed DAR rules

Objective	Threat	Strategy	Proposed DAR Rules
To maintain the health of the coral reef ecosystem.	<ul style="list-style-type: none"> <li>- Loss of the <i>konohiki</i> system including <i>kapu</i></li> <li>- Coastal development</li> <li>- Overuse by tourism</li> <li>- Inappropriate recreational use</li> <li>- Seepage, sedimentation/runoff</li> <li>- Overharvesting/commercial fishing/too-effective fishing methods</li> <li>- Illegal fishing methods (chlorine, batteries, etc.)</li> <li>- Suntan oil</li> <li>- Taking freshwater</li> </ul>	<ul style="list-style-type: none"> <li>- Ahupua'a management that addresses key impacts mauka to makai and capitalizes on key ecosystem functions.</li> <li>- Development of new fisheries regulations.</li> <li>- Makai Watch</li> </ul>	<ul style="list-style-type: none"> <li>- Restrict commercial activities</li> <li>- Gear restrictions</li> <li>- Bag limits</li> <li>- Ban on fish feeding</li> <li>- No walking on the reef</li> </ul>
To increase the biomass of native fish (larger native fish in greater numbers).	<ul style="list-style-type: none"> <li>- Loss of the <i>konohiki</i> system including <i>kapu</i></li> <li>- Taking more than one needs</li> <li>- Traditional practices/knowledge not being passed on</li> <li>- Seepage, sedimentation/runoff</li> <li>- Overharvesting/commercial fishing/too-effective fishing methods</li> <li>- Illegal fishing methods (chlorine, batteries, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Ahupua'a management that addresses key impacts mauka to makai and capitalizes on key ecosystem functions.</li> <li>- Development of new fisheries regulations.</li> <li>- Makai Watch</li> <li>- Cultural and historical transmission</li> </ul>	<ul style="list-style-type: none"> <li>- Pu'u honua area</li> <li>- Restrict commercial activities</li> <li>- Gear restrictions</li> <li>- Bag limits</li> </ul>
To increase the biomass of limu koku, 'opihi, he'e, urchins, and shells.	<ul style="list-style-type: none"> <li>- Loss of the <i>konohiki</i> system including <i>kapu</i></li> <li>- Taking more than one needs</li> <li>- Traditional practices/knowledge not being passed on</li> <li>- Seepage,</li> </ul>	<ul style="list-style-type: none"> <li>- Ahupua'a management that addresses key impacts mauka to makai and capitalizes on key ecosystem functions.</li> <li>- Development of new fisheries regulations.</li> <li>- Makai Watch</li> </ul>	<ul style="list-style-type: none"> <li>- 'Opihi restoration area and bag limit</li> <li>- Pu'u honua area</li> <li>- Restrict commercial activities</li> <li>- Gear restrictions</li> <li>- No walking on the reef</li> <li>- Bag limits</li> </ul>

	<ul style="list-style-type: none"> <li>- sedimentation/runoff</li> <li>- Overharvesting/commercial fishing/too-effective fishing methods</li> <li>- Illegal fishing methods (chlorine, batteries, etc.)</li> <li>- Suntan oil</li> <li>- Taking freshwater</li> </ul>	<ul style="list-style-type: none"> <li>- Cultural and historical transmission</li> </ul>	
<p>To reduce the impact on coral reef resources from: (a) inadequate enforcement of resources regulations; (b) pollution from boats and littering; (c) recreational overuse and inappropriate use including trampling of coral, sunscreen, harassment of marine life, and disturbance of schools of fish; (d) a lack of awareness and understanding about biological and cultural impacts and how to reduce them; and (e) land-based sources of sedimentation and pollution caused by erosion, development, seepage, and inadequate freshwater flow.</p>	<ul style="list-style-type: none"> <li>- Coastal development</li> <li>- Overuse by tourism</li> <li>- Traditional practices/knowledge not being passed on</li> <li>- Lack of enforcement</li> <li>- Pollution/litter</li> <li>- Inappropriate recreational use</li> <li>- Seepage, sedimentation/runoff</li> </ul>	<ul style="list-style-type: none"> <li>- Ahupua'a management that addresses key impacts mauka to makai and capitalizes on key ecosystem functions.</li> <li>- Development of new fisheries regulations.</li> <li>- Makai Watch</li> <li>- Cultural and historical transmission</li> <li>- Community engagement in monitoring</li> </ul>	<ul style="list-style-type: none"> <li>- Pu'u honua area</li> <li>- No walking on the reef</li> <li>- Ban on fish feeding</li> </ul>
<p>To reduce user conflict and impacts to subsistence fishermen from tourism and recreational activities.</p>	<ul style="list-style-type: none"> <li>- Access points blocked</li> <li>- Overuse by tourism</li> <li>- Inappropriate recreational use</li> </ul>	<ul style="list-style-type: none"> <li>- Development of new fisheries regulations.</li> <li>- Makai Watch</li> <li>- Community engagement in monitoring</li> </ul>	<ul style="list-style-type: none"> <li>- Restrict commercial activities</li> <li>- No walking on the reef</li> </ul>

## PROPOSED REGULATIONS AND ZONES

**Purpose.** The goal of the Hā 'ena CommunityBased Subsistence Fishing Area is to sustainably support the consumptive needs of Hā 'ena's people through culturally rooted community-based management that recognizes and responds to the connection between land and sea and strives to restore the necessary balance of native species.

**Boundaries.** The Hā'ena Community-Based Subsistence Fishing Area (the Area) shall include that portion on the northwestern coast of Kaua'i consisting of all State waters and submerged lands bounded by the highwater mark on the shore of the Hā'ena district as specified in the tax map of the county of Kaua'i; a line that follows an imaginary extension of the boundary between Hā'ena State Park and Na Pali State Park (22°12'42.50"N, 159°35'44.50"W) that extends seaward for one mile from the shoreline (22°13'21.62"N, 159°36'22.27"W); an irregular line one mile offshore that is parallel to the contours of the shoreline, terminating at 22°14'19.91"N, 159°33'6.21"W; and a line that follows an imaginary extension of the boundary between Hā'ena and Wainiha (22°13'28.00"N, 159°33'13.50"W), as identified in a map located at the end of this chapter titled "Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i" dated Xxx and made part of this chapter. Should there be a stream or river flowing into the ocean, the landward boundary shall be an imaginary straight line drawn between the highwater marks on either side of the stream or river, as if the stream or river was not there.

**Special subzones.** Within the Hā'ena Community-Based Subsistence Fishing Area as defined in the preceding section, there are established the following special subzones:

- (1) Ōpihi restoration area, which shall include all State waters and submerged lands bounded by the highwater mark on the shore, bounded to the west by the western boundary of the Hā'ena ahupua'a (22°12'42.50"N, 159°35'44.50"W), extending seaward 300 feet from the shoreline, an imaginary line offshore terminating 300 feet seaward of the western edge of Kē'ē Beach (22°13'15.75"N, 159°35'7.34"W), extending to land at the western edge of Kē'ē Beach (22°13'13.61"N, 159°35'5.11"W), as identified in a map located at the end of this chapter titled "Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i" dated Xxx and made part of this chapter.
- (2) Makua pu'uhonua area, which shall include the all State waters and submerged lands within the Makua lagoon as indicated by the break of whitewater on the reef, or bounded to the northeast at 22°13'44.29"N, 159°33'32.98"W, to the southeast at 22°13'35.18"N, 159°33'31.68"W, to the southwest at 22°13'32.15"N, 159°33'41.71"W, and to the northwest at 22°13'41.16"N, 159°33'44.66"W), as identified in a map located at the end of this chapter titled "Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i" dated Xxx and made part of this

chapter.

- (3) Vessel transit boundary, for vessels transiting through the Area carrying fishing gear restricted by the prohibited activities listed in section xx below, a line that follows an imaginary extension of the boundary between Hā'ena State Park and Na Pali State Park (22°12'42.50"N, 159°35'44.50"W) that extends seaward for 1000 feet from the shoreline to 22°12'49.98"N, 159°35'51.79"W, then extends eastward to a point 1300 feet from the shoreline at 22°13'35.57"N, 159°34'59.73"W, then extends eastward to a point seaward of the Makua reef and lagoon and 2300 feet from the shoreline at 22°13'55.42"N, 159°33'42.00"W, then extends eastward to an imaginary extension of the boundary between Hā'ena and Wainiha that is 2100 feet from the shoreline at 22°13'48.84"N, 159°33'10.76"W, as identified in a map located at the end of this chapter titled "Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i" dated Xxx and made part of this chapter.

General conditions. (a) Nothing in this chapter shall be construed as allowing within the Community-Based Subsistence Fishing Area any activity otherwise prohibited by law or rules adopted by another department of the state. (b) A table of designated subzones with their corresponding latitude and longitude coordinates is provided at the end of this chapter, entitled "Subzone Boundaries," dated xxx. (c) Nothing in these rules shall be interpreted to limit or restrict Native Hawaiian customary and traditional rights, including, but not limited to, access for spiritual, religious, cultural, and subsistence purposes.

Penalty. Any person found violating the provisions of this chapter, or the terms and conditions of any permit issued as provided by this chapter, shall be punished as provided by sections 187A-12.5 and 188-70, Hawaii Revised Statutes, or may be otherwise provided by law.

Asset forfeiture. Any equipment, article, instrument, aircraft, vehicle, vessel, business record, or natural resource used or taken in violation of this chapter, or the terms and conditions of any permit issued as provided by this chapter, may be seized and subject to forfeiture as provided by HRS section 199-7 and chapter 712A.

Severability. If any provision of this chapter, or the application thereof, to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of the chapter which can be given effect without the invalid provision or application, and to this end the provisions of this chapter are severable.

Definitions. As used in this chapter unless otherwise provided:

"Commercial activity" means any activity including ocean recreation or that which involves

the taking of marine life for which compensation of any kind is received by any person; or any action, service, or goods that are provided, in exchange for compensation of any kind, regardless of whether the exchange occurs inside or outside of the Hā'ena Community-Based Subsistence Fishing Area. Display of merchandise or demanding or requesting gifts, money, or services shall be considered commercial activity, including trade of such merchandise, gifts or services.<sup>8</sup>

"Daily bag limit" means the maximum number of an indicated animal allowed to be caught, taken, or kept per person per day.

"Day" means a 24-hour period.

"Department" means the Department of Land and Natural Resources.

"Finfish" means any of various species of marine life that uses fins to swim, not including marine mammals or sea turtles.

"Fish feeding" means deliberately introducing any food material, substance device, or chemical directly to or in the vicinity of any marine life, by any means for any purpose.

"He'e" means any mollusk known as *Octopus cyanea*, *Octopus ornatus*, or any recognized synonym.

"Hook-and-line" means a type of fishing gear consisting of a length of fishing line, to which is attached one or more hooks or other device for capturing marine life. A weight and a pole may also be used to aid in the placement of the fishing line in the water.

"Kupe'e" means an edible marine snail (*Nerita polita*) also known as ānuenuē, 'ele'ele, kāni'o, mahiole, palaoa, puna, 'ula.

"Lay net" means a panel or panels of net mesh made of various materials that is suspended vertically in the water with the aid of a float line that supports the top edge of the net upwards towards the water surface and opposite to a lead line that keeps the bottom edge of the net downward towards the ocean floor.

"Limu" means any native marine algae including algae in the intertidal zone.

"Live rock" means any rock or coral to which marine life is visibly attached or affixed.

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<sup>8</sup> From Section 13-230-8, HAR, Definitions



“Lobster” means any crustacean in the family Scyllaridae or the family Panulirus. This includes spiny lobster, slipper lobster, or other recognized synonyms.

“Marine life” means any type or species of saltwater fish, shellfish, mollusks, crustaceans, coral, or other marine animals, including any part, product, egg, or offspring thereof; or seaweeds or other marine plants, including any part, product, seed, or root thereof.

“ ‘Ōpihi” means any mollusk of the genus Cellana or a recognized synonym. The animal is also known as kō'ele, 'ālinalina, maka-ia-uli, and limpets.

“Pipipi” means a small mollusk including Theodoxus neglectus.

“Pole-and-line” means a type of fishing gear consisting primarily of a pole and a length of fishing line.

“Pūpū” means a general name for marine and land shells.

“Purse seine net” means a type of fishing net made to hang vertically in the water with weights attached along the bottom of the net, floats attached along the top of the net, and a purse cable which acts as a drawstring to close the bottom of the net, used to encircle a school of fish.

“Recreation” means a diversion such as a hobby or other leisure time activities<sup>9</sup>.

“Reef” means any submerged fixed, natural object or structure that modifies ocean currents.

“Scoop net” means a type of hand net consisting of a bag of mesh material attached to a frame to hold the bag open, and a handle. The net is small enough to use with one hand by one person.

“Sea urchin” means invertebrate marine animals of the class Echinoidea, variously referred to as, but not limited to, wana, hālula, hā'uke'uke, hāwa'e or 'ina.

“Sea shells” means the hard, protective outer layer grown by a mollusk.

“Slurp gun” means a device with a plunger that sucks fish into a tube to capture them.

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<sup>9</sup> §13-250-5

“Snorkel” means a breathing apparatus consisting of a tube no more than two feet in length that is held in the mouth.

“Spear” means any device or implement either hand held, released completely by the user (i.e., a projectile), or attached by a line to another device, which is used to impale marine life by means of a pointed or sharpened tip(s), including but not limited to trigger-style spear guns, arbalettes (arbalete), bow and arrow, Hawaiian slings, or three-prong spears.

“Take” means to fish for, catch, injure, kill, remove, capture, confine, or harvest, or to attempt to fish for, catch, injure, kill, remove capture, confine, or harvest, marine life. The use of any gear, equipment, tool, or any means to fish for, catch, injure, kill, remove, capture, confine, or harvest, or to attempt to fish for, catch, capture, injure, kill, remove, confine, or harvest, marine life by any person who is in the water, or in a vessel on the water, or on or about the shore where marine life can be fished for, caught, injured, killed, removed, captured, confined, or harvested, shall be construed as taking.

“Three-prong spear” means a device with a straight shaft ending in a prong which is used to impale marine life, which is manually cocked, which has no more than two rubbers attached, and which is no longer than eight feet in length from the tip of the prong to the end of the spear.

“Underwater breathing apparatus” means any apparatus that provides a person with the means to breathe underwater.

“Vessel” means any watercraft, used or capable of being used as a means of transportation on or in the water.

Prohibited activities. It is unlawful for any person to engage in or attempt to engage in the following activities within the Area, except as may be allowed under sections xxx and xxx, or other applicable law:

- (1) Conduct any commercial activity involving any form of ocean recreation or involving the take of marine life in the Hā’ena Community-Based Subsistence Fishing Area, including but not limited to commercial tours, dive groups, sightseeing tours, hikes, guided services, or commercial fishing, with the exception of the three existing commercial use permits for Hā’ena. (Auth: HRS §190-2, 190-3, 190-4.5) (Imp: HRS § 190-2, 190-3, 190-4.5)
- (2) Fish for, catch, take, injure, kill, possess, or remove any live sea shell.
- (3) Use or possess a slurp gun to take any marine life, with the exception that a person may possess a slurp gun on a vessel transiting through the Area as long as the vessel

is north of the vessel transit boundary described in section xx above.

- (4) Use or possess a spear to take any marine life with the exception that take with a three-prong or Hawaiian sling spear is allowed, and with the exception that a person may possess a spear on a vessel transiting through the Area as long as the vessel is north of the vessel transit boundary described in section xx above.
- (5) Use or possess a spear and underwater breathing apparatus while in the water or on a vessel, with the exception that a snorkel may be possessed or used, and with the exception that a person may possess a spear and underwater breathing apparatus on a vessel transiting through the Area as long as the vessel is north of the vessel transit boundary described in section xx above.
- (6) Use or possess a spear while in the water or on a vessel during any time between sunset and sunrise, with the exception that a person may possess a spear between sunset and sunrise on a vessel transiting through the Area as long as the vessel is north of the vessel transit boundary described in section xx above.
- (7) Use or possess underwater breathing apparatus to take sea shells, with the exception that take of empty shells while using a snorkel is allowed.
- (8) Use or possess a scoop net, with the exception that a daily maximum of three individuals of any one species of marine life may be possessed or taken with a scoop net, and with the exception that people age 12 and under may use and possess a scoop net without this restriction.
- (9) Use or possess a purse seine net, with the exception that a person may possess a purse seine net on a vessel transiting through the Area as long as the vessel is north of the vessel transit boundary described in section xx above.
- (10) Use a lay net, except that lay nets may be used where at least two people are in the ocean and touching the net or are within five feet of the net as in the fishing practices commonly referred to as bang-bang or pa'ipa'i, or surround or ho'opuni. Practices that use lay nets which do not require at least two people immersed in the ocean and touching the net or within five feet of the net at all times, such as in the practices known as lay/set/soak or moemoe, are not allowed.
  - a. All vessels used in surround net fishing must be 14 feet or smaller and launched from the beach in the Hā'ena CBSFA.
  - b. It is unlawful for any person using a lay net to leave a lay net unattended at any time.
- (11) Engage in or attempt to engage in fish feeding, with the exception that feeding fish for Native Hawaiian traditional and customary practices is allowed.
- (12) Set foot on the reef or live rock, with the exception that a person engaged in harvesting, as evidenced by possession of a throw net, three-prong spear, or bag constructed of cotton or mesh; with the exception that a person may set foot on the reef or live rock only in the case of an emergency.

Permitted activities. A person may:

- (1) Take or possess limu; provided that limu may be taken by hand harvesting only, including by any person possessing a commercial fishing license.
- (2) Take or possess any sea urchin with a daily bag limit of not more than five sea urchins per person per day, including any person possessing a commercial fishing license.
- (3) Take or possess any lobster; provided that no more than two lobsters per person per day may be taken or possessed by hand harvesting only, including by any person possessing a commercial fishing license.
- (4) Take or possess any he'e; provided that no more than two he'e per person per day may be taken or possessed by hand harvesting or stick harvesting only, including by any person possessing a commercial fishing license.
- (5) Take, possess, or remove any finfish by hook-and-line or pole-and-line from the shoreline only; provided that no person may use more than two poles with one line per pole and with no more than two hooks per line.

'Ōpihi restoration area activities. Beginning on \_\_\_\_\_ for a period of three years, no person shall take 'ōpihi, pipipi, kupe'e, or pupu in the 'ōpihi restoration area. After three years, a person may take 'opihi, pipipi, kupe'e, or pūpū in the 'ōpihi restoration area with a daily bag limit of 20 legal-size animals.

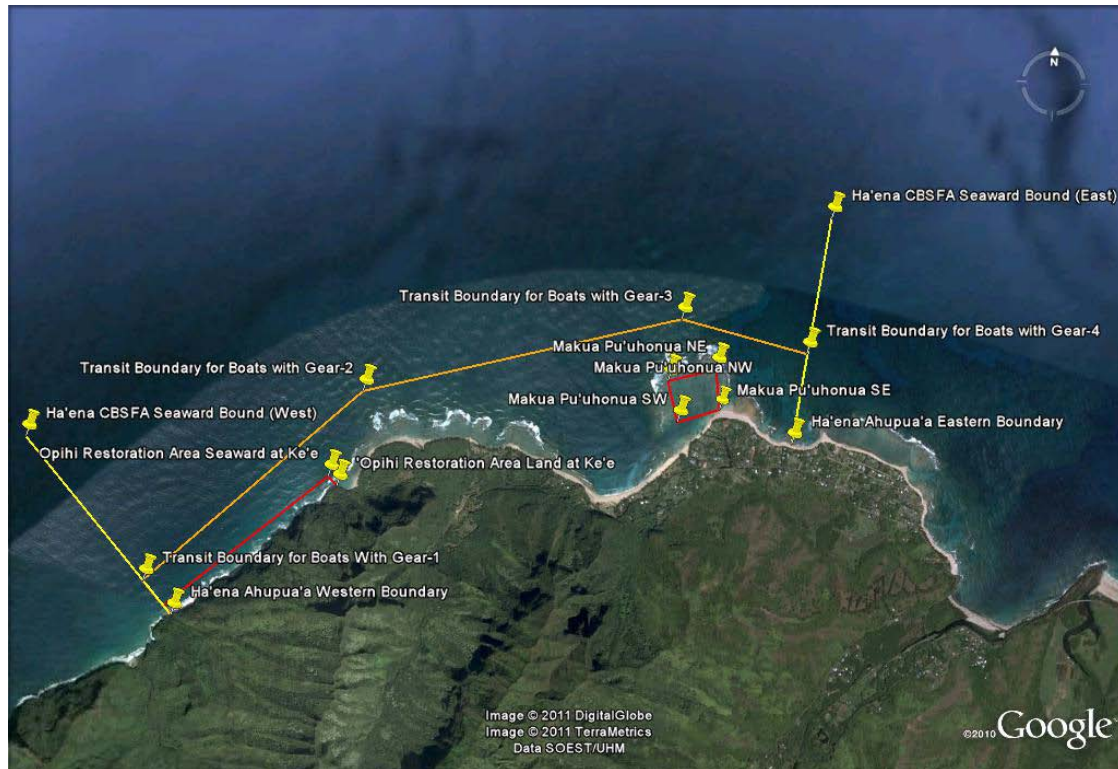
Makua pu'uhonua area activities. No person shall engage in the following activities in the Makua pu'uhonua area:

- a. Fish for, catch, take, injure, kill, possess, or remove any finfish, crustacean, mollusk including sea shell and 'ōpihi, live coral, algae or limu, or other marine animal, or other marine life, or eggs thereof;
- b. Take, alter, deface, destroy, possess, or remove any sand, coral, rock, or other geological feature or specimen; or
- c. Have or possess any fishing gear or device that may be used for the taking, injuring, or killing of marine life, or the altering of geological feature or specimen, the possession of which shall be considered prima facie evidence in violation of this rule.
- d. Engage in any activity in the area, including recreation which includes but is not limited to surfing, kitesurfing, windsurfing, paddle boarding, stand-up paddle-boarding, swimming, snorkeling, and SCUBA diving.

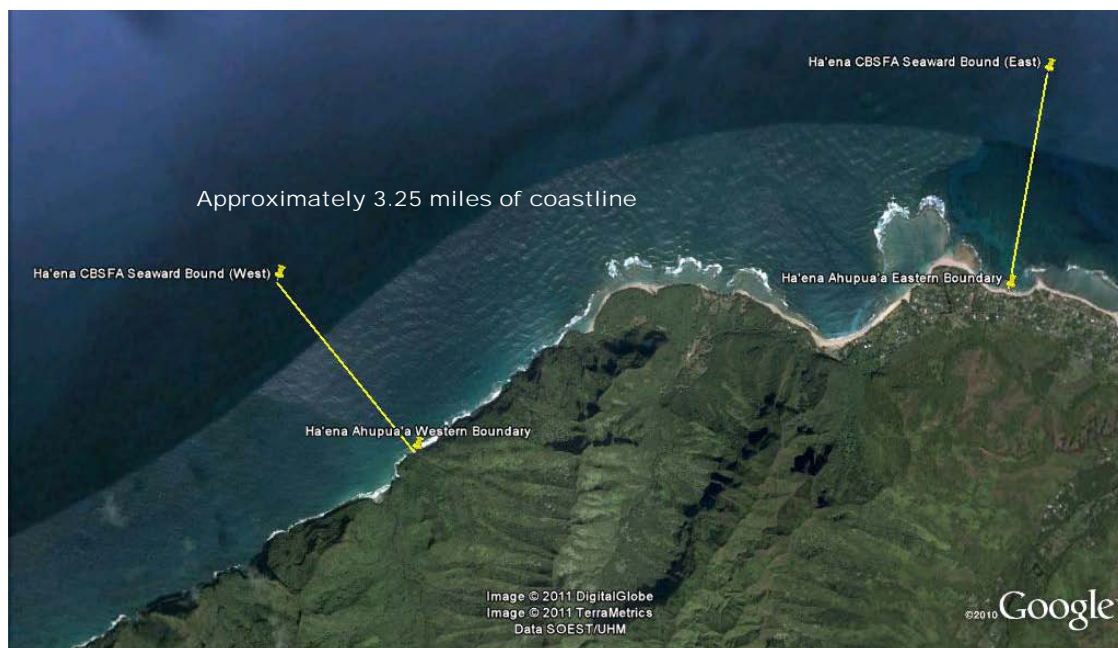
Review. A review of the effectiveness of the Hā'ena Community-Based Subsistence Fishing Area rules and management plan shall be conducted every five years by a Hā'ena Fisheries Council composed of representatives of the Department of Land and Natural Resources, the Hui Maka'āinana o Makana, the Hanalei-to-Hā'ena Community Association, Limahuli

Garden and Preserve, and a representative of the permitted commercial users. As part of the review, the Council shall hold one public meeting to gather input on the rules, and make recommendations as needed, including recommendations to revise the rules for the Area, to the Department of Land and Natural Resources. Any revisions, additions, or repeals of rules for the Hā'ena Community-Based Subsistence Fishing Area shall be handled by the Council. The Council shall be included in decisions regarding any revisions, additions, or repeals of rules or permitting by the Department of Land and Natural Resources within the Hā'ena Community-Based Subsistence Fishing Area.

## Map of the Hā'ena Community-Based Subsistence Fishing Area, Kaua'i



## Hā'ena Community-Based Subsistence Fishing Area Eastern and Western Boundaries





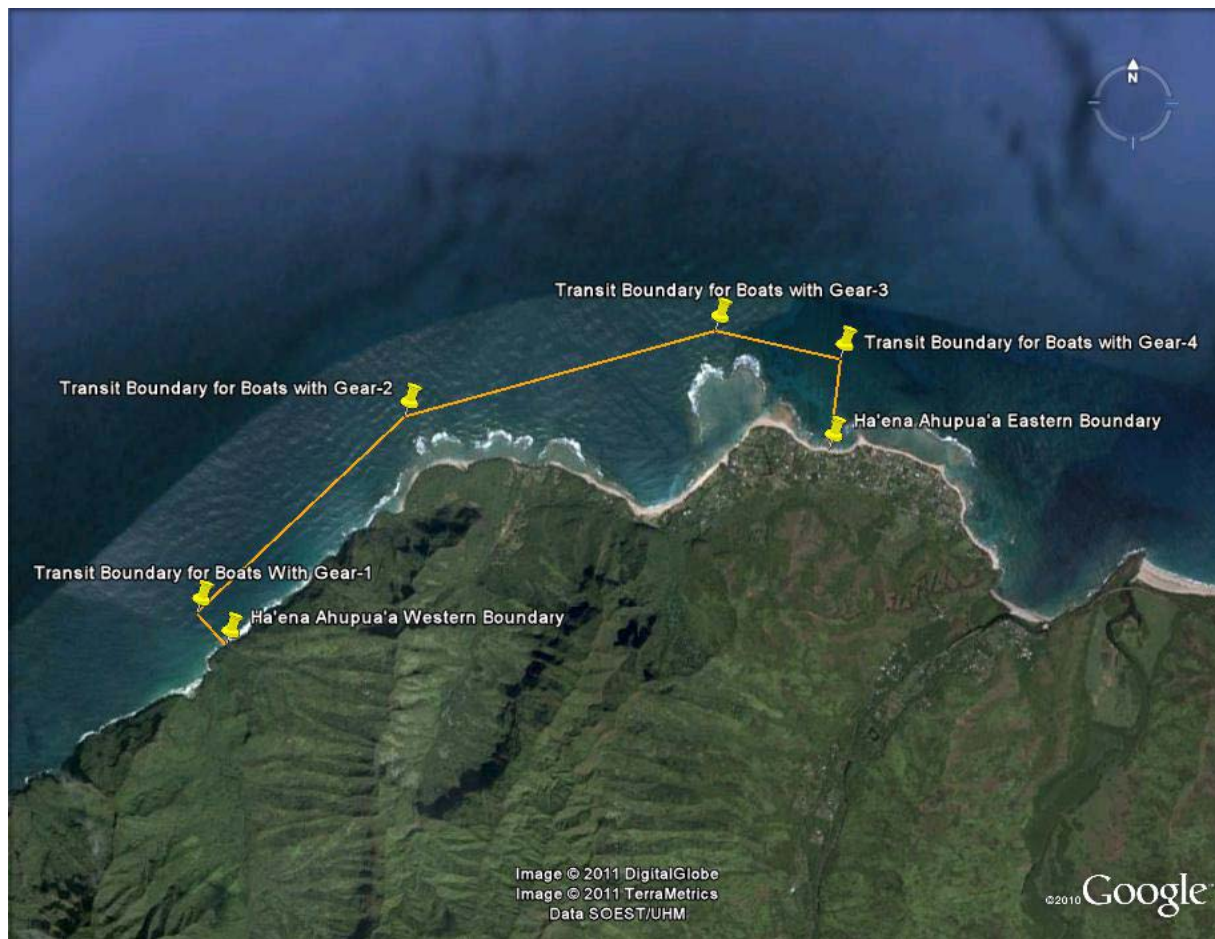
## Hā'ena Community-Based Subsistence Fishing Area 'Ōpihi Restoration Area



## Hā'ena Community-Based Subsistence Fishing Area Makua Pu'uhonua Area



## Transit Boundary for Vessels Carrying Restricted Fishing Gear





## Subzone Boundaries

Boundary Description	Latitude	Longitude	Length from Shoreline, as Applicable
Ha'ena Ahupua'a Western Boundary	22°12'42.50"N	159°35'44.50"W	
Ha'ena CBSFA Seaward Bound (West)	22°13'21.62"N	159°36'22.27"W	One mile from the shoreline
Ha'ena CBSFA Seaward Bound (East)	22°14'19.91"N	159°33'6.21"W	One mile from the shoreline
Ha'ena Ahupua'a Eastern Boundary	22°13'28.00"N	159°33'13.50"W	
'Ōpihi Restoration Area Seaward Boundary (Kē'ē)	22°13'15.75"N	159°35'7.34"W	300 feet from the shoreline
'Ōpihi Restoration Area Land Boundary (Kē'ē)	22°13'13.61"N	159°35'5.11"W	300 feet from the shoreline
Makua Pu'uhonua NE	22°13'44.29"N	159°33'32.98"W	
Makua Pu'uhonua SE	22°13'35.18"N	159°33'31.68"W	
Makua Pu'uhonua SW	22°13'32.15"N	159°33'41.71"W	
Makua Pu'uhonua NW	22°13'41.16"N	159°33'44.66"W	
Transit Boundary for Boats With Gear-1	22°12'49.98"N	159°35'51.79"W	1000 feet from the shoreline
Transit Boundary for Boats with Gear-2	22°13'35.57"N	159°34'59.73"W	1300 feet from the shoreline
Transit Boundary for Boats with Gear-3	22°13'55.42"N	159°33'42.00"W	2300 feet from the shoreline
Transit Boundary for Boats with Gear-4	22°13'48.84"N	159°33'10.76"W	2100 feet from the shoreline

## **APPENDIX 1: Text of HRS Chapter 188 Section 22.6 “Designation of community based subsistence fishing area**

### **PART II. FISHING REGULATIONS, GENERALLY**

#### **[§188-22.6] Designation of community based subsistence fishing area.**

(a) The department of land and natural resources may designate community based subsistence fishing areas and carry out fishery management strategies for such areas, through administrative rules adopted pursuant to chapter 91, for the purpose of reaffirming and protecting fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion.

(b) Proposals may be submitted to the department of land and natural resources for the department’s consideration. The proposal shall include:

- (1) The name of the organization or group submitting the proposal;
- (2) The charter of the organization or group;
- (3) A list of the members of the organization or group;
- (4) A description of the location and boundaries of the marine waters and submerged lands proposed for designation;
- (5) Justification for the proposed designation including the extent to which the proposed activities in the fishing area may interfere with the use of the marine waters for navigation, fishing, and public recreation; and
- (6) A management plan containing a description of the specific activities to be conducted in the fishing area, evaluation and monitoring processes, methods of funding and enforcement, and other information necessary to advance the proposal.

Proposals shall meet community based subsistence needs and judicious fishery conservation and management practices.

(c) For the purposes of this section:

- (1) “Native Hawaiian” means any descendant of the races inhabiting the Hawaiian Islands prior to 1778; and
- (2) “Subsistence” means the customary and traditional native Hawaiian uses of renewable ocean resources for direct personal or family consumption or sharing. [L 1994, c 271, §1]

## APPENDIX 2: ACT 241 Creating the Hā'ena CBSFA

Approved by the Governor  
on JUN 26 2006

## ACT 24

THE SENATE  
TWENTY-THIRD LEGISLATURE, 2006  
STATE OF HAWAII

S.B. NO. 2501  
S.D. 1  
H.D. 1  
C.D. 1

## A BILL FOR AN ACT

RELATING TO FISHING.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1       SECTION 1. The purpose of this Act is to create and amend  
2 fishing provisions that affect the communities of Ha'ena, Kauai  
3 and Kahului, Maui. Specifically, part I of this Act establishes  
4 a community-based subsistence fishing area for the ahupua'a of  
5 Ha'ena to protect the fish stocks and coral reef habitats. Part  
6 II of this Act extends the effective date of Act 218, Session  
7 Laws of Hawaii 2005, to allow the department of land and natural  
8 resources time to adopt necessary rules regulating user  
9 conflicts in Kahului harbor.

## 10 PART I

SECTION 2. The ahupua'a of Ha'ena is the westernmost land in the moku of Halele'a on the northwest coast of Kauai. The public highway ends in this ahupua'a, a land filled with many wahi pana or storied places, sites that are sacred to native Hawaiians and important to the whole state. The ahupua'a of Ha'ena and its offshore waters, since time immemorial, have been an important subsistence fishery resource for native Hawaiians and local families of the ahupua'a. However, the beauty of the

2006-2866 SB2501 CD1 SMA.doc



1 land and sea and the proximity to the end of the public highway  
2 in the ahupua'a of Ha'ena attract hundreds of thousands of  
3 visitors to the area every year. As a result of this influx of  
4 visitors and a growing problem of indiscriminate fishing  
5 practices, there has been an adverse impact to the fish stocks  
6 and the integrity of the coral reef habitats in the area.

7 The legislature finds that a traditionally managed fishery  
8 wherein the inhabitants of the ahupua'a develop and assist in  
9 development and enforcement of traditional regulations for the  
10 maintenance of the fishery is needed for the ahupua'a of Ha'ena.

11 The purpose of this Act is to establish a community-based  
12 subsistence fishing area in the ahupua'a of Ha'ena.

13 SECTION 3. Chapter 188, Hawaii Revised Statutes, is  
14 amended by adding a new section to part II to be appropriately  
15 designated and to read as follows:

16 "§188- Ha'ena community-based subsistence fishing area;  
17 restrictions; regulations. {a} There is designated the Ha'ena  
18 community-based subsistence fishing area on the northwestern  
19 coast of Kauai, which shall consist of all state waters and  
20 submerged lands bounded by:

21 {1} The shoreline of the Haena district;

- 1        (2) A line that follows an imaginary extension of the  
2        boundary between Hae'na state park and Na Pali state  
3        park that extends seaward for one mile from the  
4        shoreline;
- 5        (3) An irregular line one mile offshore that is parallel  
6        to the contours of the shoreline; and
- 7        (4) A line that follows an imaginary extension of the  
8        boundary between Hae'na and Wainiha, as specified in  
9        the tax map of the county of Kauai, that extends  
10       seaward for one mile from the shoreline.
- 11       (b) In addition to the provisions of this chapter, the  
12       following uses or activities shall be regulated in the Ha'ena  
13       community-based subsistence fishing area:
- 14       (1) Any activities with a commercial purpose, as defined  
15       in section 187A-1;
- 16       (2) The issuance of any commercial marine license, as  
17       defined in section 187A-1;
- 18       (3) The issuance of any aquarium fish permits, pursuant to  
19       section 188-31;
- 20       (4) Fishing with the use of gill nets;
- 21       (5) Fishing with self-contained underwater breathing  
22       apparatus and spears; and

1       (6) Any other use or activity that the department of land  
2       and natural resources, in consultation with the  
3       inhabitants of the ahupua'a of Ha'ena and other  
4       interested parties, seems appropriate.

5       (c) The department of land and natural resources, as soon  
6       as practical, shall consult with as broad a base as possible,  
7       group of inhabitants of the ahupua'a of Ha'ena and other  
8       interested parties to establish rules for the Ha'ena  
9       community-based subsistence fishing area, to include but not be  
10      limited to:

11      (1) A determination of fishing practices that are  
12      customarily and traditionally exercised for purposes  
13      of native Hawaiian subsistence, culture, and religion  
14      in the fishing area;

15      (2) A management plan recognizing existing marine  
16      activities permitted by the department of land and  
17      natural resources and containing a description of  
18      specific activities to be conducted in the fishing  
19      area, including evaluation and monitoring processes  
20      and methods of funding and enforcement;

21      (3) Limits on the harvest of aquatic life, as those terms  
22      are defined in section 187A-1, in the fishing area;

- 1        (4) The establishment of no harvesting zones within the  
2        fishing area without depriving ahupua'a inhabitants of  
3        access to traditional sources of subsistence; and  
4        (5) A process for the expansion of the fishing area to  
5        include other ahupua'a.  
6        The department of land and natural resources shall adopt  
7        rules pursuant to chapter 91 necessary for the purpose of this  
8        section."



## APPENDIX 3: Letter from Kaua'i Mayor Bernard P. Carvalho Jr.

**Bernard P. Carvalho, Jr.**  
Mayor



**Gary K. Heu**  
Managing Director

**OFFICE OF THE MAYOR**  
County of Kaua'i, State of Hawai'i  
4444 Rice Street, Suite 235, Lihue, Hawai'i 96766  
TEL (808) 241-4900 FAX (808) 241-6877

May 24, 2011

Board of Land and Natural Resources  
Kalanimoku Building  
1151 Punchbowl St.  
Honolulu, Hawai'i 96813

Aloha Honorable Board Members,

As Mayor of the County of Kaua'i I would like to submit the following testimony in support of the proposed administrative rules that would govern the Hā'ena community-based subsistence fishing area established pursuant to Hawai'i Revised Statutes ("HRS") §188-22.9.

The County of Kaua'i has been informed that these rules are a product of a prolonged process that originated in the Hā'ena community and are an important step in that community taking more responsibility for their environment and better maintaining their resources. I support this type of local action and am pleased that the Hā'ena community recognizes that ultimately it is their kuleana to care for their place.

Although this is the first time that something like this has occurred in Hawai'i I am optimistic that the outcome will be successful. It is in this spirit of hope that I support these rules and ask you to support them as well.

Mahalo Nui Loa,

Bernard P. Carvalho Jr.  
Mayor, County of Kaua'i

## APPENDIX 4: Letter from DOBOR's Kaua'i Branch Chief

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**  
**DIVISION OF BOATING AND OCEAN RECREATION**  
4370 KUKUI GROVE ST. STE. 109  
LIHUE, HAWAII 96766

WILLIAM J. AILA, JR.  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

GUY H. KAULUKUKUI  
FIRST DEPUTY

WILLIAM M. TAM  
DEPUTY DIRECTOR - WATER


EDWARD R. UNDERWOOD  
ADMINISTRATOR  
DIVISION OF BOATING AND OCEAN RECREATION

May 19, 2011

Aloha,

The Division of Boating and Ocean Recreation Kauai District, has no objections regarding the Bill for an Act Relating to Fishing" (Act 241), establishing, "a community-based subsistence fishing area for the ahupua'a of Hā'ena." This law is the culmination of a longstanding collaborative endeavor between the Hā'ena Ahupua'a Project of Limahuli Garden and Preserve (NTBG), the Hui Maka'āinana o Makana, and, more recently, the Hawai'i Community Stewardship Network (HCSN).

Regards,

  
Joseph V. Borden  
Kauai District Manager

## Appendix 5: Letter from DOCARE's Kaua'i Branch Chief

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF CONSERVATION & RESOURCES ENFORCEMENT  
3060 EIWA STREET, ROOM 205  
LIHUE, HAWAII 96766

WILLIAM J. AILA, JR.  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

GUY H. KAULUKUKUI  
FIRST DEPUTY

WILLIAM M. TAM  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

May 31, 2011

Aloha,

The Division of Conservation and Resources Enforcement have met with members of the Ha'ena Ahupua'a Project of Limahuli Garden and Preserve (NTGB) (Kawika Winters), the Hui Maka'ainana o Makana, (Maka'ala Kaa'umoana) and the Hawaii Community Stewardship Network (Debbie Gowensmith) several times. The meetings were to discuss the proposed rules that would apply to the "Ha'ena Community-Based Subsistence Fishing Area."

At this time the Division of Conservation and Resources Enforcement supports the present rule package and has no objections regarding the "Bill for an Act Relating to Fishing" (Act 241), establishing, "a community-based subsistence fishing area for the ahupua'a of Ha'ena."

We will continue to offer our support in the enforcement arena, in sharing our knowledge of fishing and other rules that could apply to the HCBSFA.

I am happy to see the Ha'ena community in collaboration with the NTBG, Hui Maka'ainana o Makana and HCSN come together to implement such a program, for the betterment and sustainability of our oceans natural resources.

Regards,

  
Francis P. Mission  
Kauai Branch Chief, DOCARE

## APPENDIX 6: Letter from the Hanalei to Hā'ena Community Association

Hanalei-to-Ha'ena Community Association  
Post Office Box 789  
Hanalei, Hawaii 96714

June 1, 2011

To: Department of Land and Natural Resources  
1151 Punchbowl St # 330  
Honolulu, HI 96813-3088

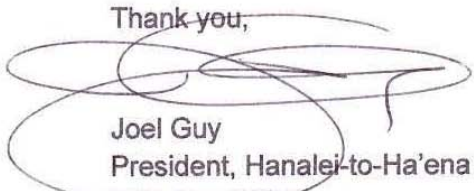
Aloha DLNR fisheries department,

The Hanalei-to-Ha'ena Community Association is writing to express its support of the proposed management plan and new rules for the Ha'ena Community-Based Subsistence Fishing Area.

The Association was involved in three constituent meetings over the past three years (two in 2009 and one in 2011) to gather input from the community and to inform the community of progress and results. We also helped to coordinate meetings between specific constituent groups and the Ha'ena Fisheries Committee, again to provide opportunities for input and to inform groups about results. Because of the open process used to develop these proposed rules and because of their potential for positive long-term impact, the Association encourages the Department of Land and Natural Resources to adopt these rules.

If you have any questions please feel free to call me at (808) 635-2074.

Thank you,



Joel Guy  
President, Hanalei-to-Ha'ena Community Association  
P.O. Box 789  
Hanalei HI 96714  
808 635-2074

## APPENDIX 7: Community Support



UNIVERSITY  
of HAWAII®  
MĀNOA

Hawai'iinuiākea School of Hawaiian Knowledge  
Kamakakūokalani Center for Hawaiian Studies

May 25, 2011

Aloha kakou,

I would like to submit a letter of support for the establishment of a community-based subsistence fishing area for the ahupua'a of Hā'ena (Bill for an Act Relating to Fishing [Act 241]).

The effort towards developing agreement between sectors of the community, business interests and government agencies has been often times difficult but the community in Hā'ena and Halele'a has labored for many hours, many days, weeks and months to develop the proposed management plan and set of rules it hopes will assist in guiding activities within the area concerned.

This plan and rules are designed in order to enlist community and governmental agency to partner in preserving and protecting not only the natural resources that exist in Hā'ena but also to support the relevant State agencies in their duty to "affirm and protect all rights, customarily and traditionally exercised for subsistence ..." as stated in the Hawai'i State Constitution (Article XII, section 7).

This effort by community to be recognized and be an active and integral part of caring for the unique resources that we have in Hawai'i should be commended and will have beneficial and long reaching effect on the effectiveness of both government and community in the efforts to "Mālama" our precious resources both human and natural.

Mahalo for your consideration and support of this effort.

A handwritten signature in black ink, reading "Carlos Andrade".

Carlos Andrade, Ph. D.  
Director  
Kamakakūokalani Center for Hawaiian Studies

2645 Dole Street, Kamakakūokalani Building, Rm 209A Honolulu, Hawai'i 96822  
Telephone: (808) 973-0989 Fax: (808) 973-0988  
Email: chsuhm@hawaii.edu  
An Equal Opportunity/Affirmative Action Institution

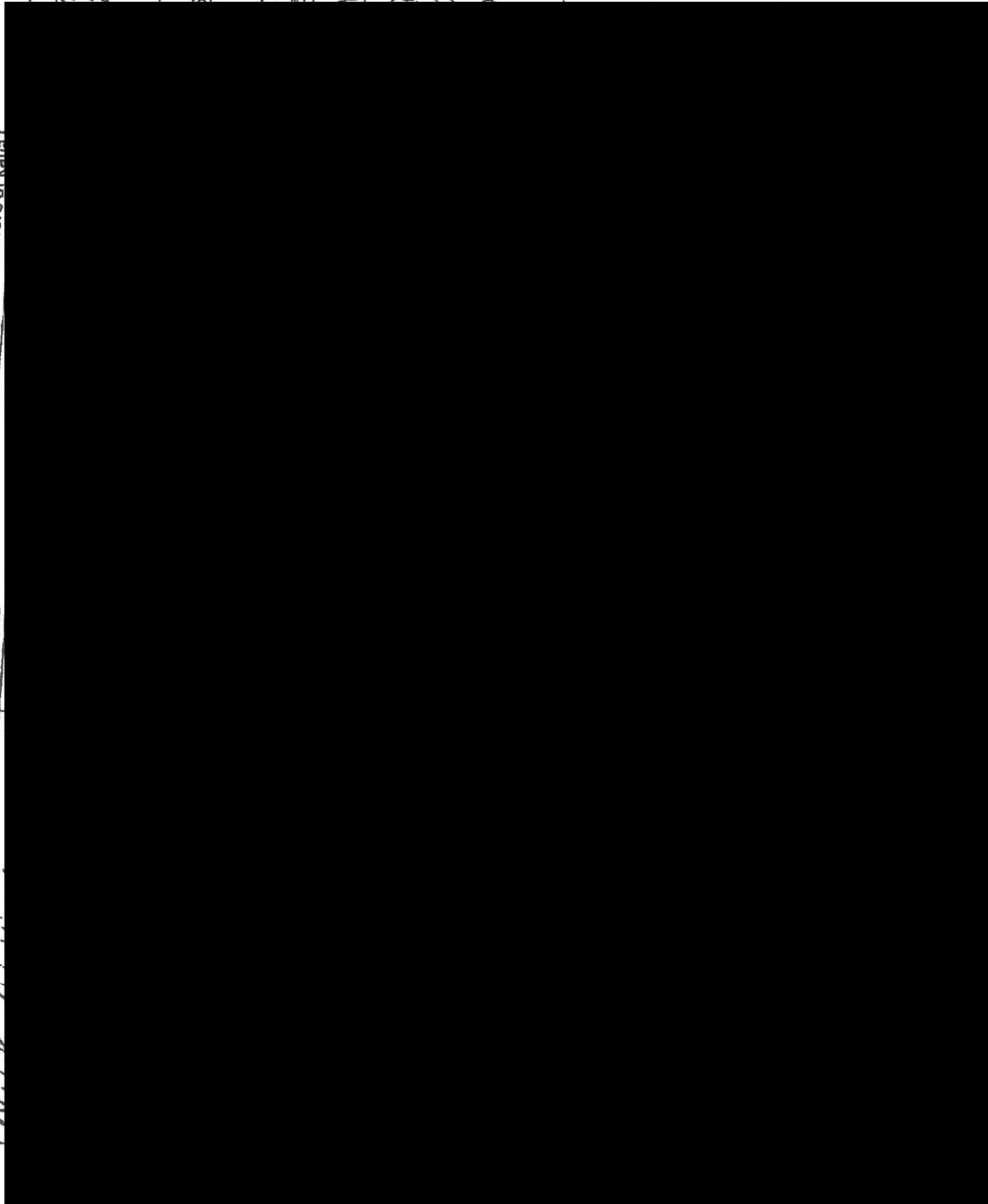


We, the undersigned, support the proposed rules for the Hi'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kauai.

PRINTED NAME

*Alison A. ...*

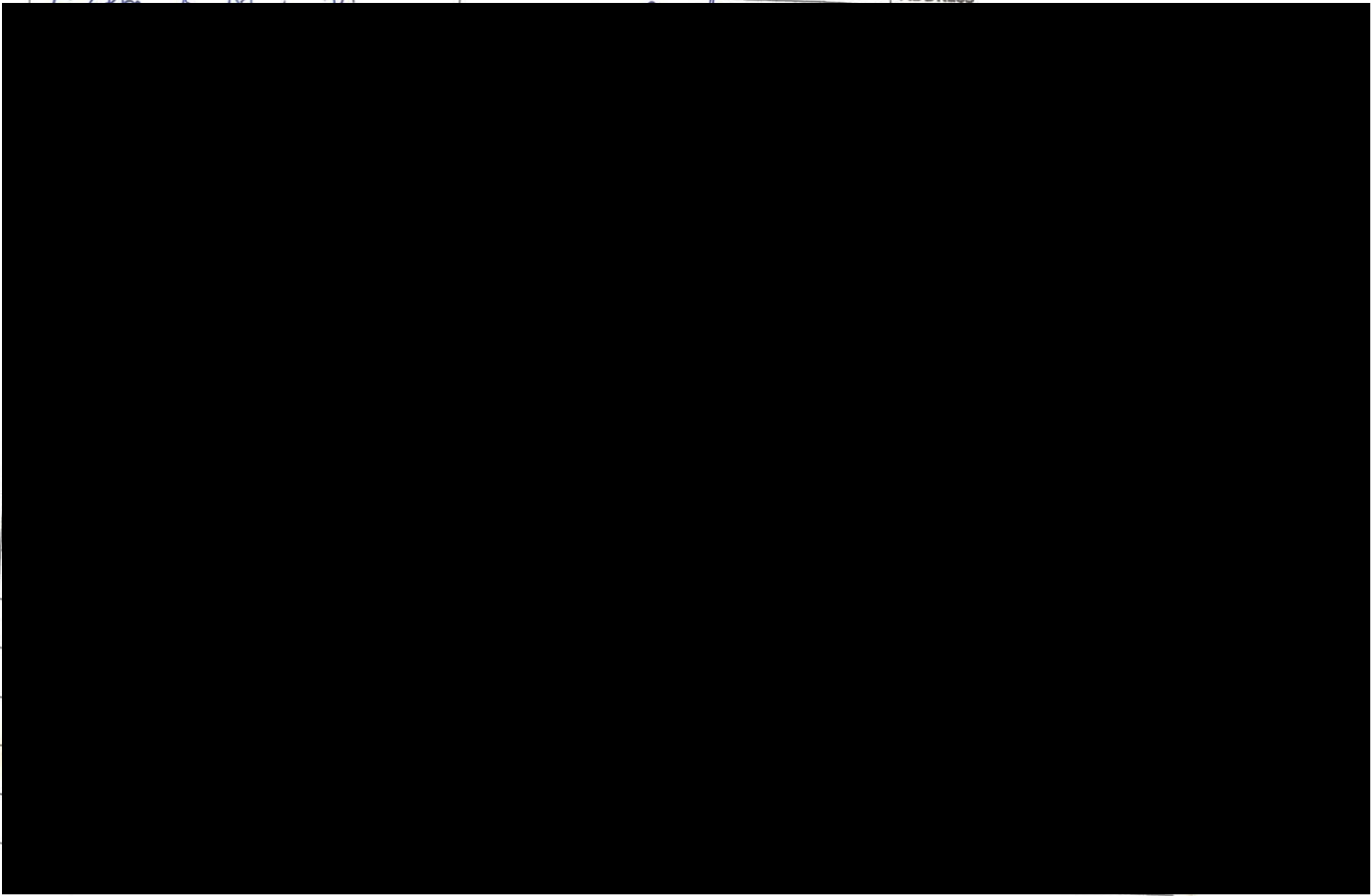
SIGNATURE



*For Cathy Han Young D912*

We, the undersigned, support the proposed rules for the Hā'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kaua'i.

PRINTED NAME	SIGNATURE	ADDRESS
Elizabeth M. [illegible]	[illegible]	[illegible]



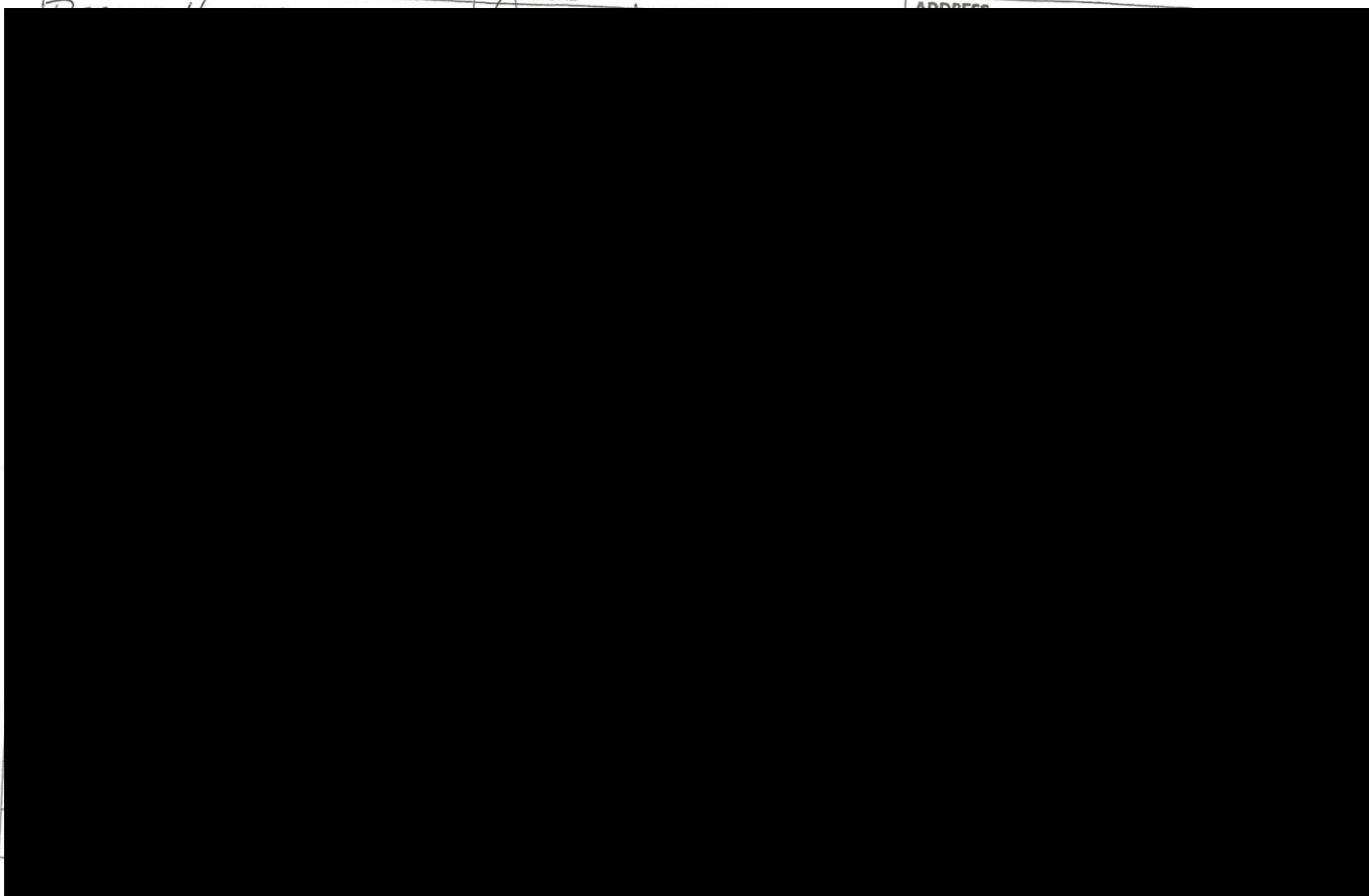


We, the undersigned, support the proposed rules for the Hā'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kaua'i.

PRINTED NAME

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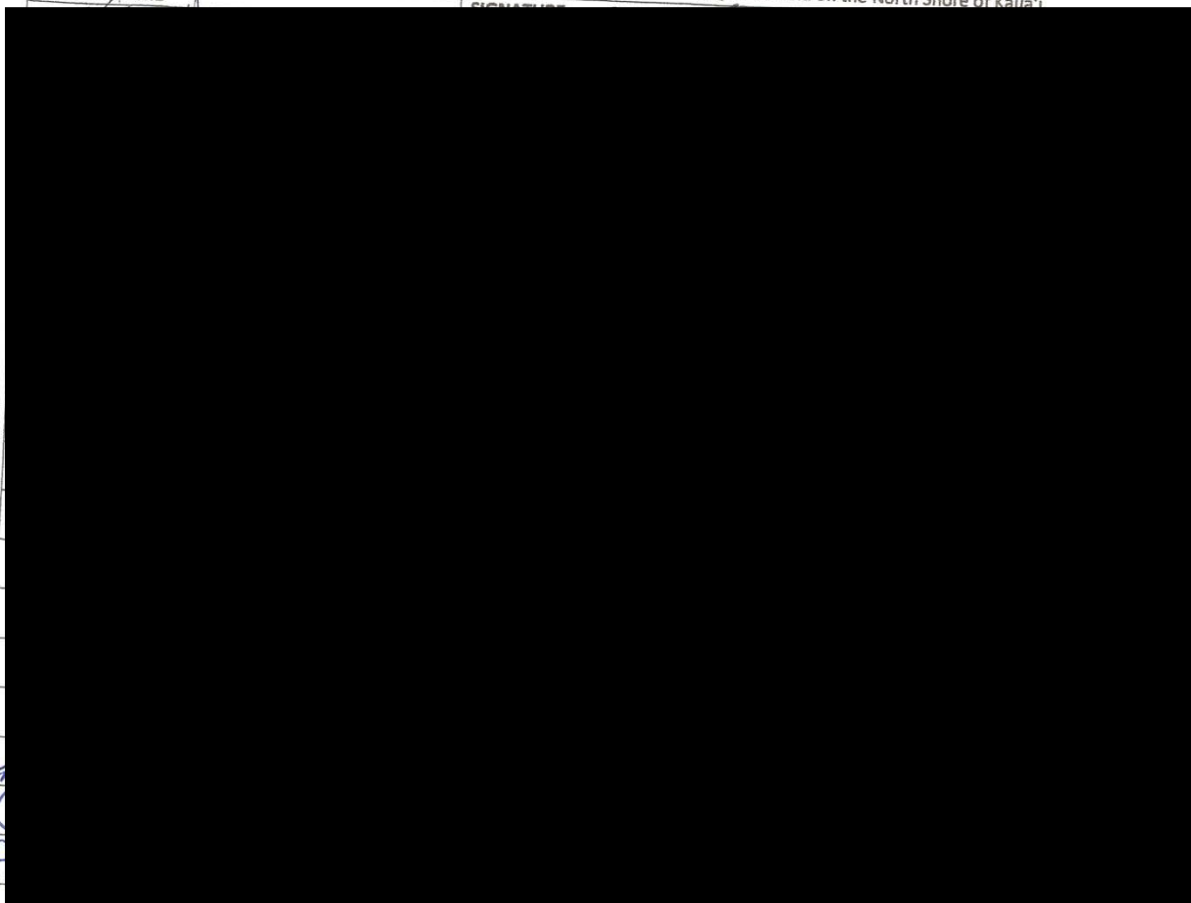
ADDRESS



We, the undersigned, support the proposed rules for the Hā'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kaua'i.

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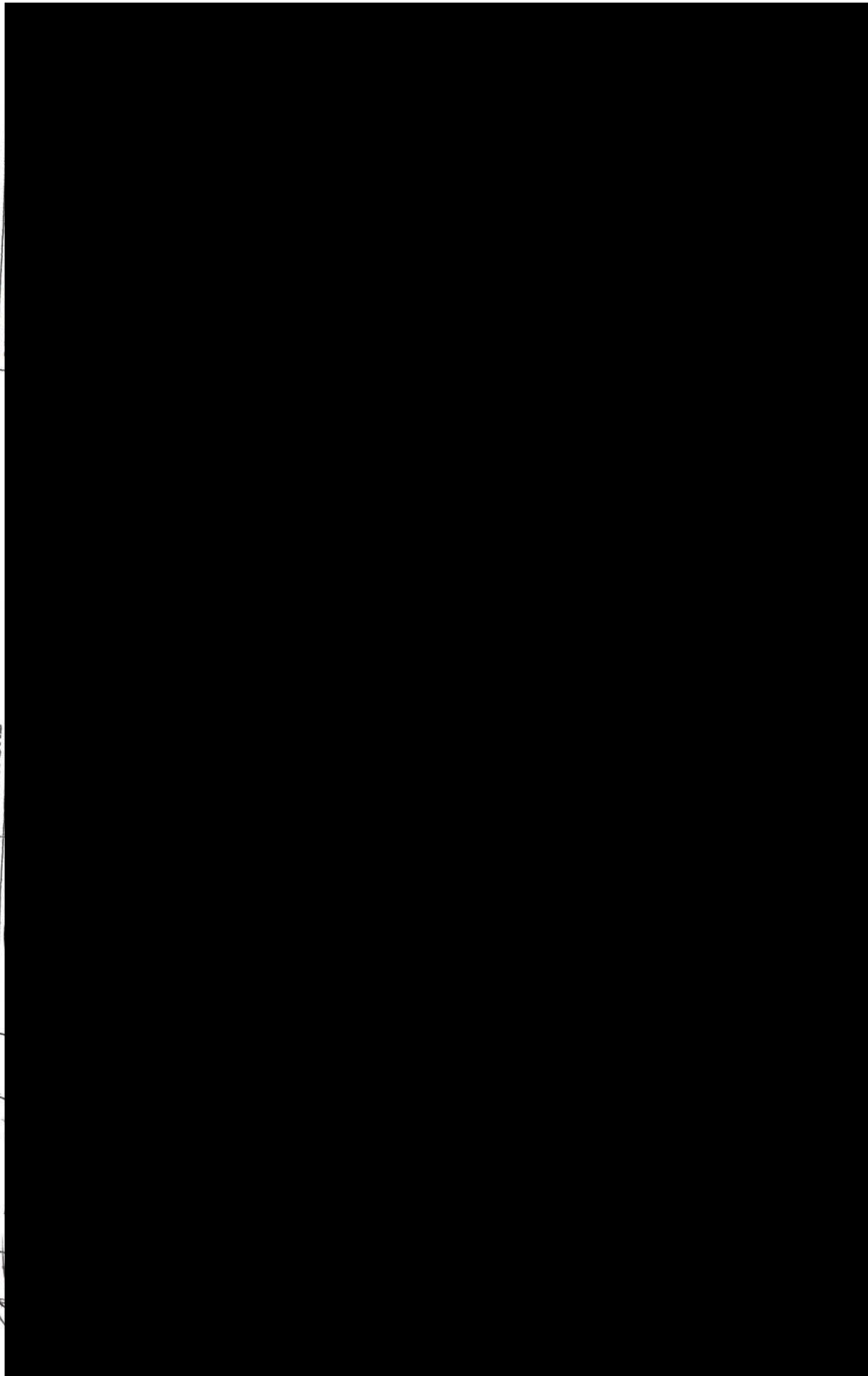


*[Handwritten signature]* 400 225852 W 9/6/22

We, the undersigned, support the proposed rules for the Hā'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kaua'i.

PRINTED NAME

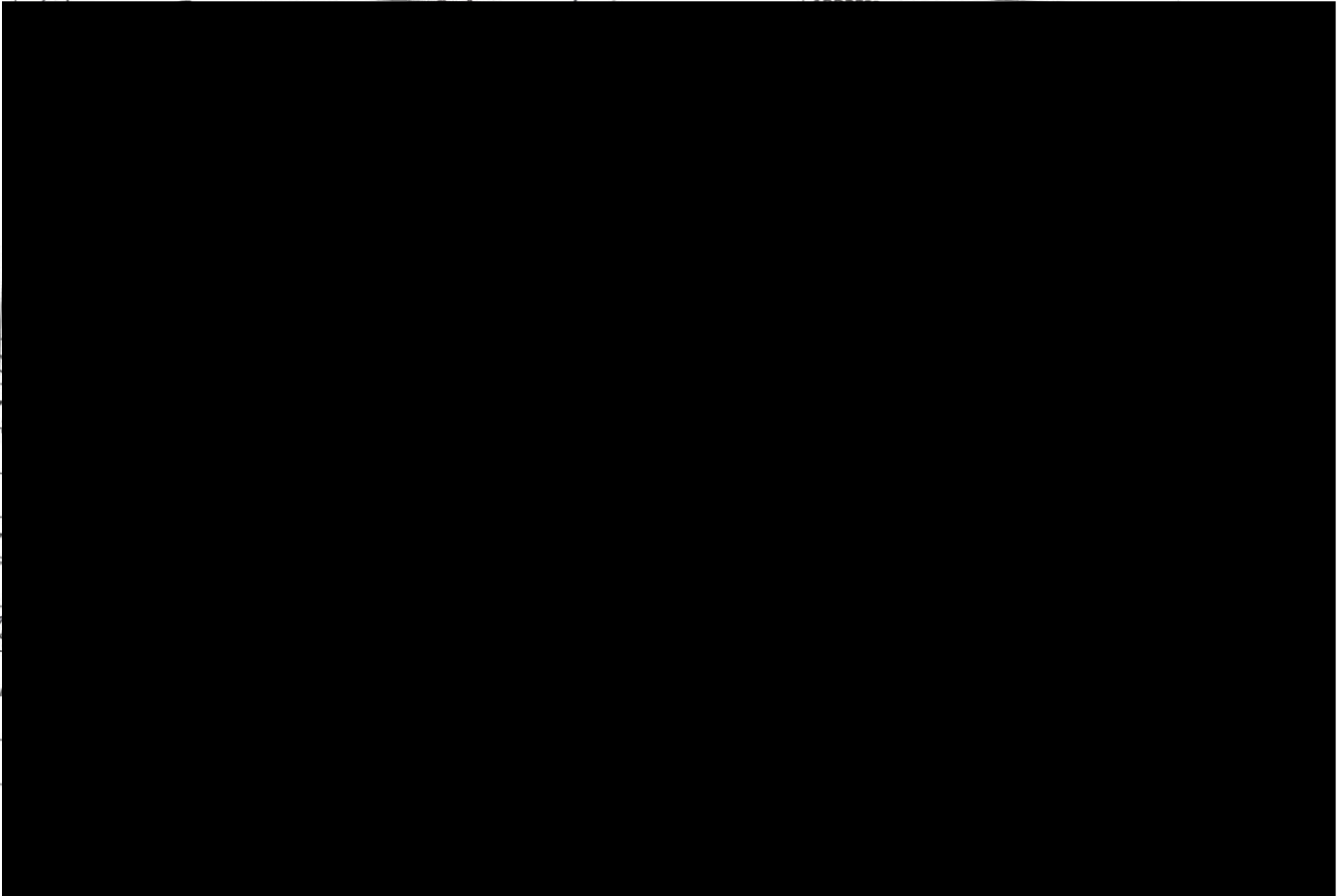
SIGNATURE




We, the undersigned, support the proposed rules for the Hā'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Land and Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kaua'i.

PRINTED NAME

SIGNATURE



PRINTED NAME

**SIGNATURE**

100

We, the undersigned, support the proposed rules for the Hā'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kaua'i.

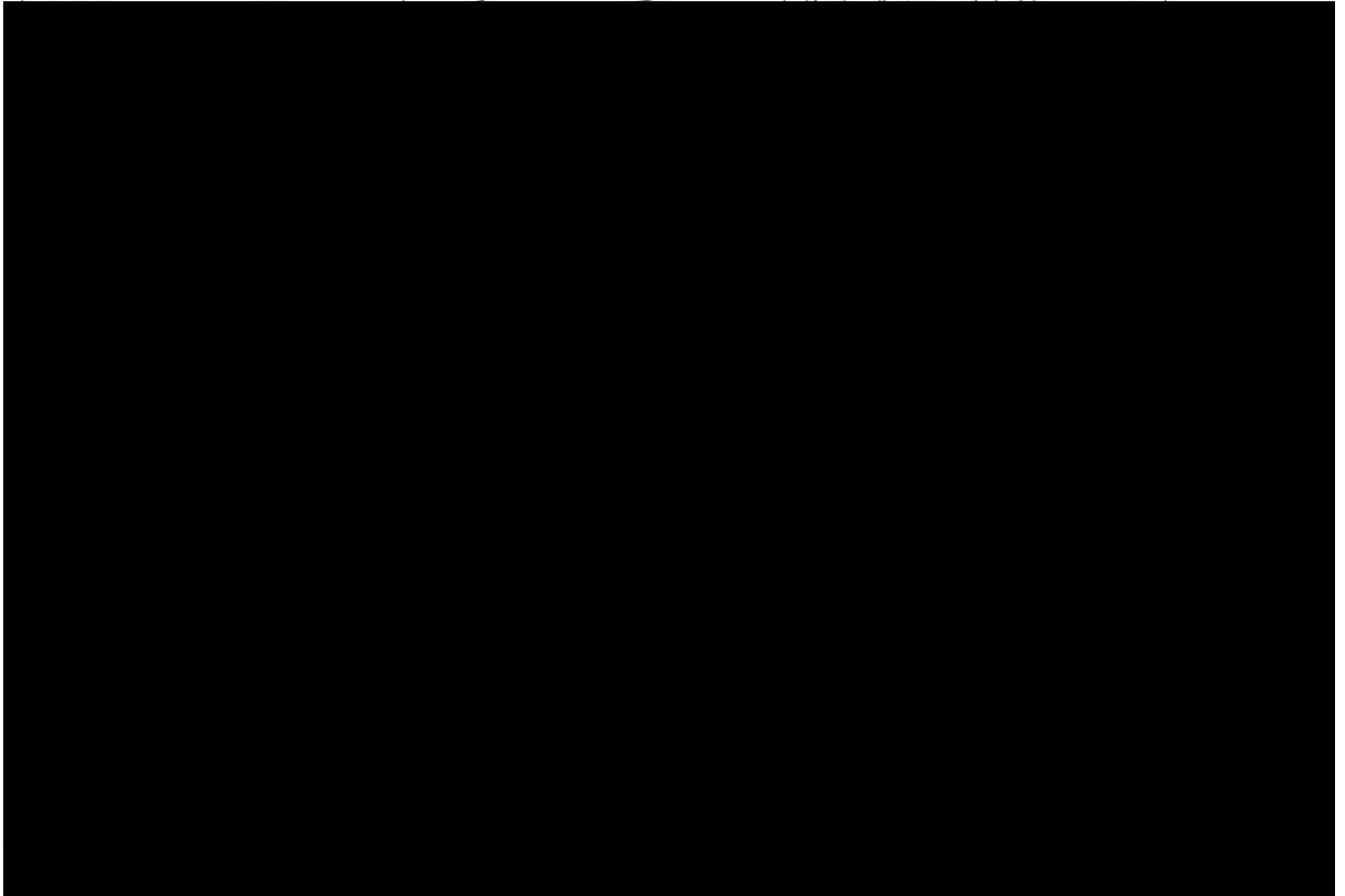
PRINTED NAME

SIGNATURE

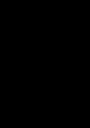
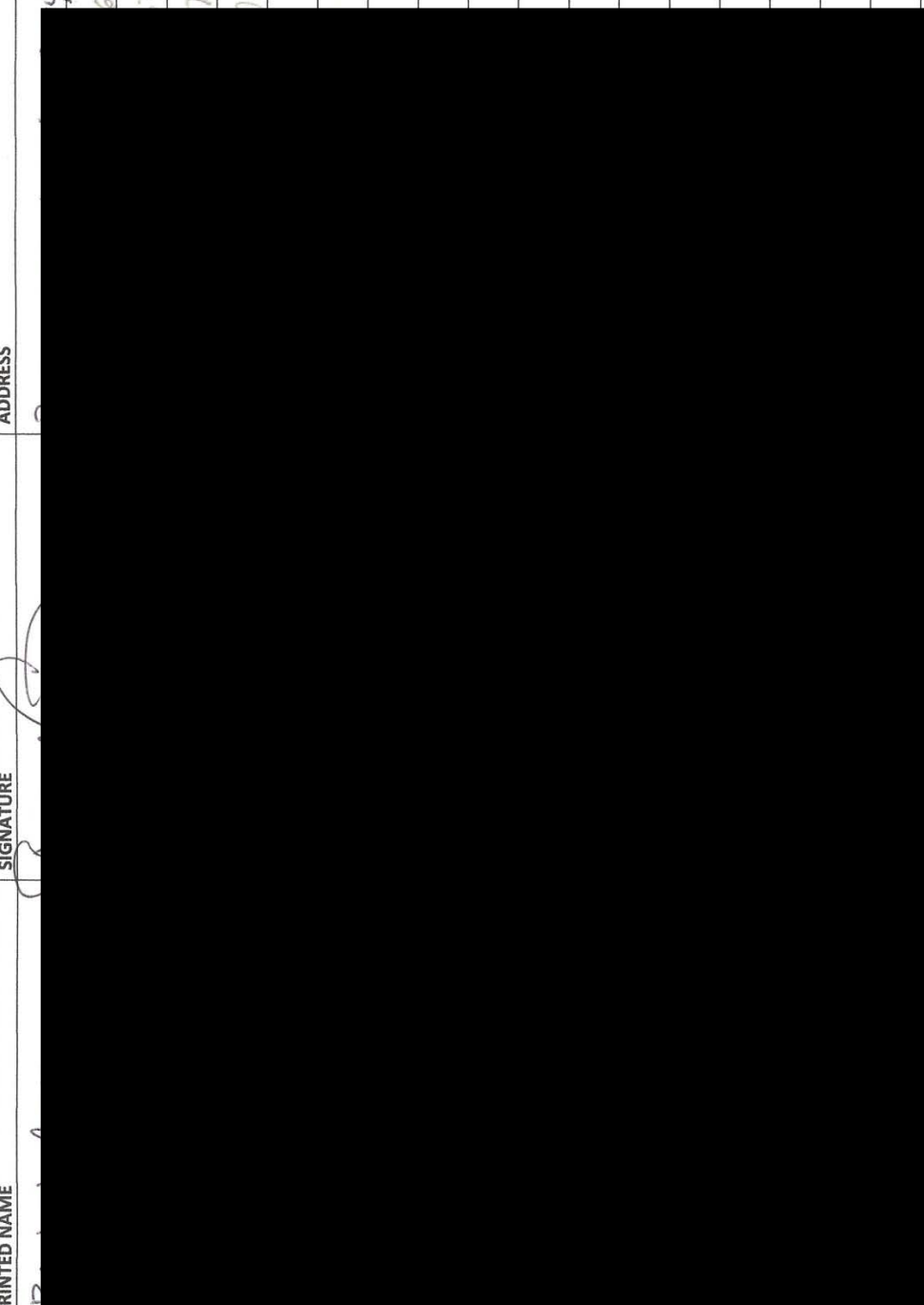



We, the undersigned, support the proposed rules for the Hā'ena Community-Based Subsistence Fishing Area, hereby submitted to the Department of Land and Natural Resources, May 2011. We urge the DLNR to approve these for a public hearing to be held on the North Shore of Kaua'i.

PRINTED NAME	SIGNATURE	ADDRESS
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## APPENDIX 8: Draft Budget

	Start-Up Costs	Start-Up In-Kind	Annual Costs	Annual In-Kind	Intermittent Costs	Intermittent In-Kind
<b>OUTREACH</b>						
Installation of seasonal buoys for the Makua Pu'u honua Area						
<i>Supplies</i>	\$1,000.00					
<i>Manual installation, removal, and maintenance</i>		\$800.00				
Replacement buoys as needed						
<i>Supplies</i>			\$500.00			
<i>Manual installation, removal, and maintenance</i>				\$800.00		
Development of interpretive signage about the CBSFA						
<i>Graphic design</i>	\$2,500.00					
<i>Printing and materials</i>	\$5,500.00					
<i>Manual installation</i>		\$600.00				
Printing and reproduction: Letters in vacation rentals, brochures, outreach materials						
<i>Content development</i>		\$1,000.00		\$500.00		
<i>Graphic design</i>	\$1,500.00			\$750.00		
<i>Printing and reproduction</i>	\$2,000.00		\$750.00			
Advertising, press releases, articles		\$1,000.00		\$750.00		
Radio interviews		\$500.00		\$500.00		
Ho'ike broadcast		\$3,500.00		\$3,500.00		
Public service announcements						
<i>Content development</i>		\$500.00				
<i>Filming and editing</i>		\$3,000.00				
<i>Airing</i>	\$5,000.00		\$5,000.00			
Speaking engagements		\$150.00		\$150.00		
Volunteer outreach and compliance program (Makai Watch)						
<i>Program coordination</i>			\$10,000.00			
<i>Compliance monitoring</i>				\$7,800.00		

<i>Public outreach</i>				\$7,800.00		
<i>Data entry and analysis</i>			\$920.00			
<i>Supplies</i>	\$2,000.00		\$1,000.00			
Youth education programs						
<i>Program coordination</i>			\$7,200.00			
<i>Stipends</i>			\$3,000.00			
<i>Supplies</i>			\$5,000.00			
<i>Transportation</i>			\$1,200.00			
<b>BIOLOGICAL MONITORING</b>						
Baseline fish monitoring comparing the inside and outside of the Makua Pu'uhonua Area						
Baseline 'opihi monitoring						
Baseline limu monitoring						
<i>Monitoring personnel</i>		\$16,000.00				
<i>Technical assistance</i>		\$6,000.00				
<i>Data entry and analysis</i>	\$800.00					
<i>Supplies</i>	\$7,000.00					
Annual fish monitoring (fish, he'e, urchins, shells, lobster), including monitoring of the inside and outside of the Makua Pu'uhonua Area, 'opihi monitoring, and limu monitoring						
<i>Monitoring personnel</i>				\$2,400.00		
<i>Technical assistance</i>				\$3,000.00		
<i>Data entry and analysis</i>			\$800.00			
<i>Supplies</i>			\$1,000.00			
Opihi monitoring just before the end of the three-year closure						
Opihi monitoring 6 months and 1 year after the end of the three-year closure and the institution of the bag limit						
<i>Monitoring personnel</i>						\$2,400.00
<i>Technical assistance</i>						\$3,000.00
<i>Data entry and analysis</i>					\$800.00	

<i>Supplies</i>					\$1,000.00	
4 years from rules inception: Follow up monitoring comparing the inside and outside of the Makua Pu'uhonua Area						
4 years from rules inception: CPUE follow-up						
4 years from rules inception: Rapid benthic habitat follow-up						
<i>Monitoring personnel</i>						\$2,400.00
<i>Technical assistance</i>						\$3,000.00
<i>Data entry and analysis</i>					\$800.00	
<i>Supplies</i>					\$1,000.00	
<b>COUNCIL MEETINGS</b>						
Quarterly meetings						
Five-year review						
Community meetings						
<i>Council coordination</i>			\$640.00			
<i>Printing and reproduction</i>			\$250.00			
<i>Meeting venues</i>				\$800.00		
<b>TOTALS</b>	<b>\$27,300.00</b>	<b>\$33,050.00</b>	<b>\$37,260.00</b>	<b>\$28,750.00</b>	<b>\$3,600.00</b>	<b>\$10,800.00</b>