

West Maui Coastal Uses Participatory Mapping Project



Human Uses Map Book

**Results from:
Participatory Coastal Use Mapping Workshops
Honolua - Wahikuli Region
West Maui**

**Kaunoa Center, Lahaiana
August 10-13th, 2011**



May 2012



TABLE OF CONTENTS

2	Project Overview
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Extractive Coastal Uses

6	Use List and Definitions
7	Aquarium Collecting
11	Bait Netting
15	Free diving and SCUBA-based harvesting
19	Net fishing from boat
23	Net fishing from shore or nearshore
27	Pole and line fishing from boat
31	Pole and line fishing from shore
35	Shoreline and nearshore gleaning/gathering
39	Throw Nets

Non-extractive Coastal Uses

44	Use List and Definitions
45	Camping
49	Commercial diving and snorkeling
53	Commercial, motorized boating and marine mammal watching
57	Non-commercial, non-motorized boating
61	Recreational diving and snorkeling
65	Surfing
69	Swimming
73	Thrill craft and high speed activities

West Maui Coastal Use Participatory Mapping Project

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May 2012



Introduction

This map book contains cartographic products derived from the West Maui Human Coastal Use Mapping project conducted at the Kaunoa Senior Center in Lahaina, Maui from Thursday, August 10th to Saturday, August 13th, 2011. Data was obtained through a participatory GIS workshop designed to gather spatial data on human uses of the coastal and nearshore marine environment adjacent to the Honolua to Wahikuli watersheds, in western Maui. The project was intended to fill a critical information gap regarding the spatial distribution and intensity of human activities in the Hawaii Coral Reef Strategy priority site in order to better inform coastal and marine planning and management activities.

This effort was undertaken as a partnership between multiple NOAA line offices, including the Pacific Islands Regional Office (PIRO), the Pacific Services Center (PSC), the Office of Ocean and Coastal Resource Management (OCRM), the Coastal Services Center (CSC), and the Pacific Islands Fisheries Science Center (PIFSC), working together with the Hawai'i Division of Aquatic Resources (DAR). Primary funding for the project is from NOAA's Coral Reef Conservation Program, with in-kind support from Hawaii State Division of Aquatic Resources (DAR), NOAA partner offices, and the Kaunoa Senior Center. Mapping results were processed by NOAA's Pacific Services Center (PSC).

A total of 47 workshop participants, as well as facilitators from NOAA and DAR, were involved during the three workshop days. Participants were selected based on their familiarity with a wide range of locations across West Maui and their expertise in the various human uses and activities occurring in this region. They represented a wide range of overlapping backgrounds relating to marine resources: resource stewards, fishermen, tourism industry experts, watermen/women, natural resource managers, educators, cultural practitioners, scientists, residents, and local business owners.

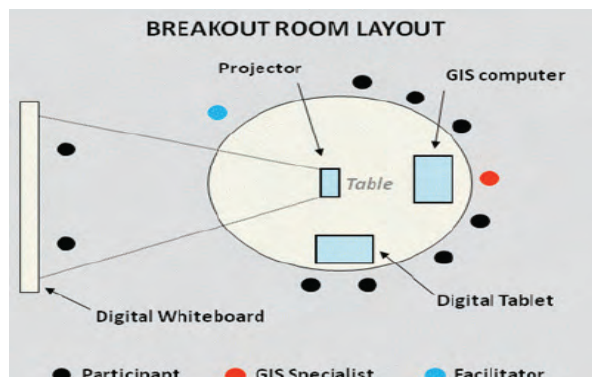
Targeted Uses

Seventeen different human uses were mapped during the workshop, representing a variety of extractive and non-extractive activities. These uses are defined in detail on the Uses List on the following pages. This list was based on the uses mapped during the West Hawaii Coastal Uses Mapping Project (conducted in 2010) and adapted to the West Maui region. Each use was determined and defined with assistance from local stakeholders and resource managers.

Generalized Workshop Process

Each workshop day began with an introductory presentation regarding the project purpose, background, and scope. Participants were then assigned to a work group and an associated mapping station, and the mapping process and technology was explained and demonstrated. With guidance from the facilitators, participants were asked to draw use areas based on their knowledge of where each type of activity is known to occur. Each use was explicitly defined (see uses list) and a total of 5 groups completed maps of the various uses over the course of the 3 day workshop, with different participants in attendance each day. Participants were asked to map the general use footprint and dominant use areas, as described below. For some uses, additional areas were drawn to document seasonality, pulse events, temporal variability (day/night,) and species-specific use areas. Participants also provided relevant supplemental information on the activities (e.g., seasonality, social and cultural significance, historical patterns) that was compiled and added to the final use maps.

- **General Use Footprint:** The general use footprint includes all areas in which the use is known to occur with some regularity (over the past 3-5 years), regardless of its frequency or intensity. The general use footprint does not include areas where the use may occur once or twice or where it might conceivably occur now or in the future. For this step, all areas drawn were included in the final data layer.
- **Dominant Use Areas:** Dominant use areas are defined as ocean areas routinely used by most users most of the time (within the seasonal patterns for that use). Dominant use areas must fall within the general use footprint. Participants worked together to draw dominant use areas as they occur throughout the study region. This step was designed as a group exercise and participants were required to come to a consensus on which areas are dominant use areas and would be included in the final data layer.
- **Supplemental Use Data:** Participants were also asked to provide supplemental information on use patterns both spatially (on the map) and as additional notes collected after the workshop. Workshop facilitators also took detailed notes on additional aspects of each use as they came up in discussion.



Maps

Data compiled during the workshop were processed to create maps documenting the use patterns as drawn by the workshop participants. In cases where discrepancies existed between maps drawn by different groups, final maps were based on data reflecting the majority opinion of the five mapping groups. After initial data processing was completed, draft maps were presented back to workshop participants to review and provide feedback for final revisions. The following maps show the final patterns for each use mapped in the workshops and include the general use footprint and dominant use areas, as well as a compilation of the supplemental data provided by participants throughout the mapping process. A heat map illustrating the overlap of all dominant uses mapped for the region is also provided to highlight areas of high usage.

Contacts

Derived products from this project can be accessed online at www.hawaiicoralreefstrategy.com.

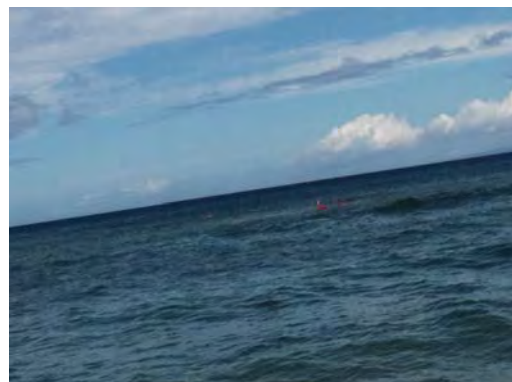
For more information regarding the West Maui Coastal Uses Participatory Mapping project or process, contact:

Arielle Levine
Regional Social Scientist
NOAA Pacific Islands Regional Office
Arielle.Levine@noaa.gov

Kalisi Mausio
GIS Analyst
NOAA Pacific Services Center
Kalisi.Mausio@noaa.gov



EXTRACTIVE COASTAL USES



EXTRACTIVE ACTIVITIES FOR PARTICIPATORY MAPPING – WEST MAUI

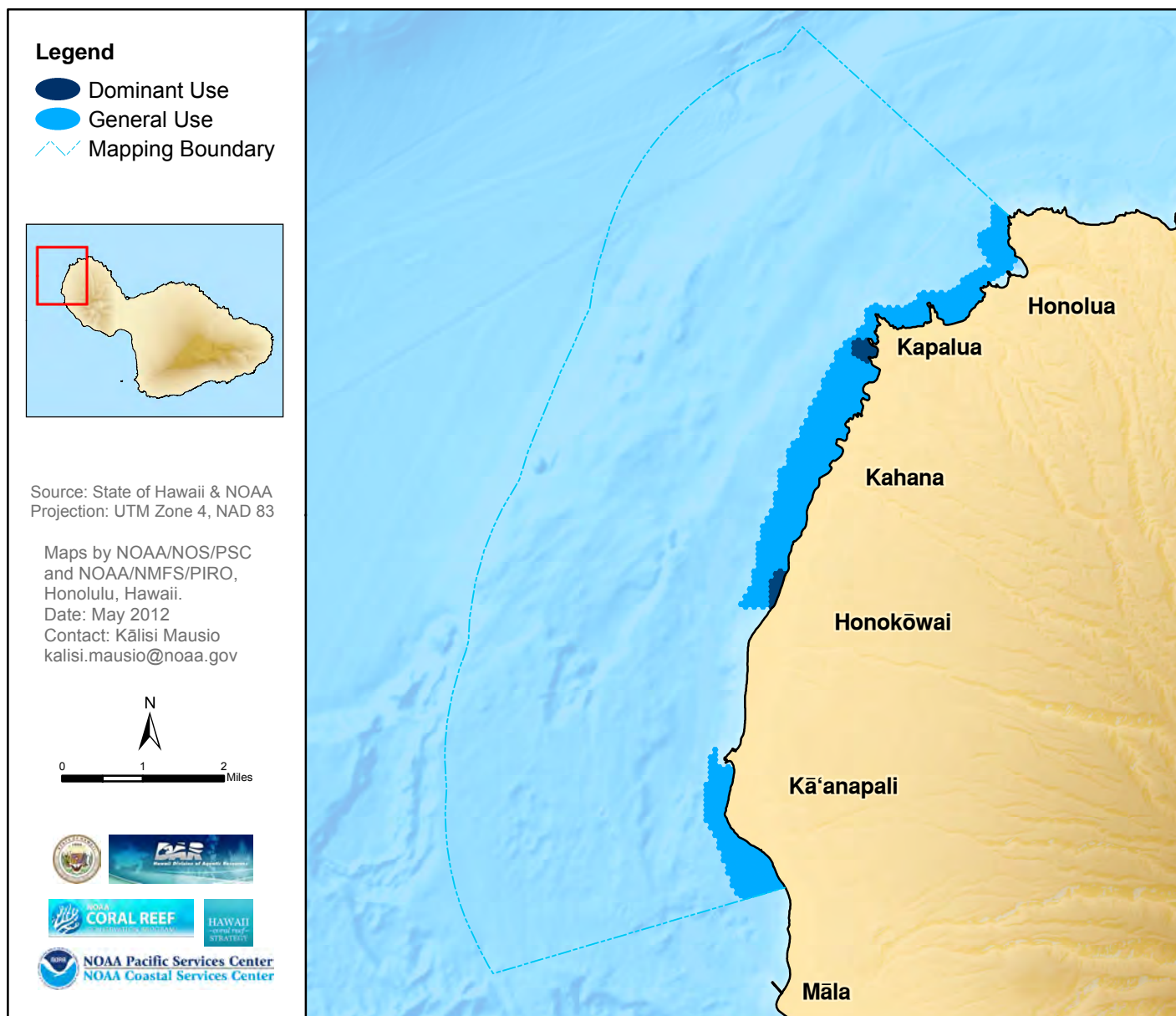
Use type	Includes	Excludes
Aquarium collecting	All gear types, fish and invertebrates	Fishing for species intended to be eaten (or sold as food)
Bait Netting	Net fishing for bait fishes from shore, net fishing for bait fishes from boats, (nehu)	Aquarium collection, other types of net fishing targeting fish for non-bait purposes
Free diving and SCUBA –based harvesting	In water use of spear (gun, 3-prong)for fish and octopus (he'e); hand gathering of lobster (ula) and shells (pupu) >5 foot deep	Shoreline/intertidal gathering, lobster net
Net fishing from boat	Use of boat for net fishing including: lay net, surround net, 'ōpelu net, akule net, bag net, drift net, hoop lift net, Kona crab net, lobster net gear	Throw nets, bait netting, aquarium collecting, shore-based net fishing (<5 ft deep)
Net fishing from shore or nearshore	Lay net, cross net, barricade net, surround net	Aquarium collection, throw net, bait netting, boat-based net fishing, net fishing >5 ft deep
Pole and line fishing from boat	Bottom fishing, trolling, pole and line,whipping, and handlining	Pole and line fishing from shore Aquarium collection, bait netting, 'ōpelu /akule, other types of net fishing
Pole and line fishing from shore	Dunking, whipping, bamboo, fly, slide baiting	Pole and line fishing from a boat
Shoreline and nearshore gleaning/gathering (<5 ft deep)	Intertidal and shallow water gathering of (most) invertebrates including 'opihi , hā'uke'uke/wana (urchin), limu, crab, sea cucumbers, octopus (from shore), shells shore, net fishing for bait fishes from boats, (nehu)	In water diving for fish, lobster, octopus, and invertebrates (>5ft deep)
Throw nets	Throw net	Aquarium collection, bait netting, 'ōpelu /akule, other types of net fishing

Aquarium collecting

Aquarium collecting includes the live collection of species (both fish and invertebrates) to be used for salt water aquariums. It does not include the collection of species intended to be eaten or sold as food.

Workshop participants had very little knowledge regarding this use. In general, the use can occur everywhere in the project area, except in MPAs. Aquarium collecting takes place via scuba-based harvesting from about 40 to 60 feet deep. There is also some shoreline collection.

This activity is less likely to occur in areas that lack collectable tropical fish, including Hanaka'ō'ō Beach north to Westin Maui, and again at the Kahekili area (in front of the beach park) north to Honua Kai Resort.





Aquarium Collecting

- Dominant Use
- General Use
- Golf Course
- Marine Managed Area
-  Hotel
-  Beach Park
-  Shoreline Access
-  Mapping Boundary



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



Pailolo Channel

Kapalua

Kapalua Bay

Napili Bay

Hale Napili

Honokeana Bay

Kahana Sunset

Kahana

Kahana Beach Resort

S-Turns

Hui O Pohaku Park

Mahina Surf

Kapalua Airport

Honoapiʻilani Hwy

Honokowai Beach Park

Maui Sands

Honokōwai

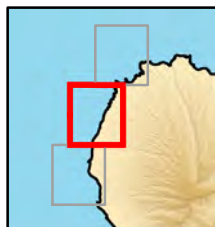
Aston Kaanapali Shores Resorts

Honokōwai Pt

Honua Kai Resort

Aquarium Collecting

- Dominant Use
- General Use
- Golf Course
- Marine Managed Area
- Hotel
- Beach Park
- Shoreline Access
- Mapping Boundary

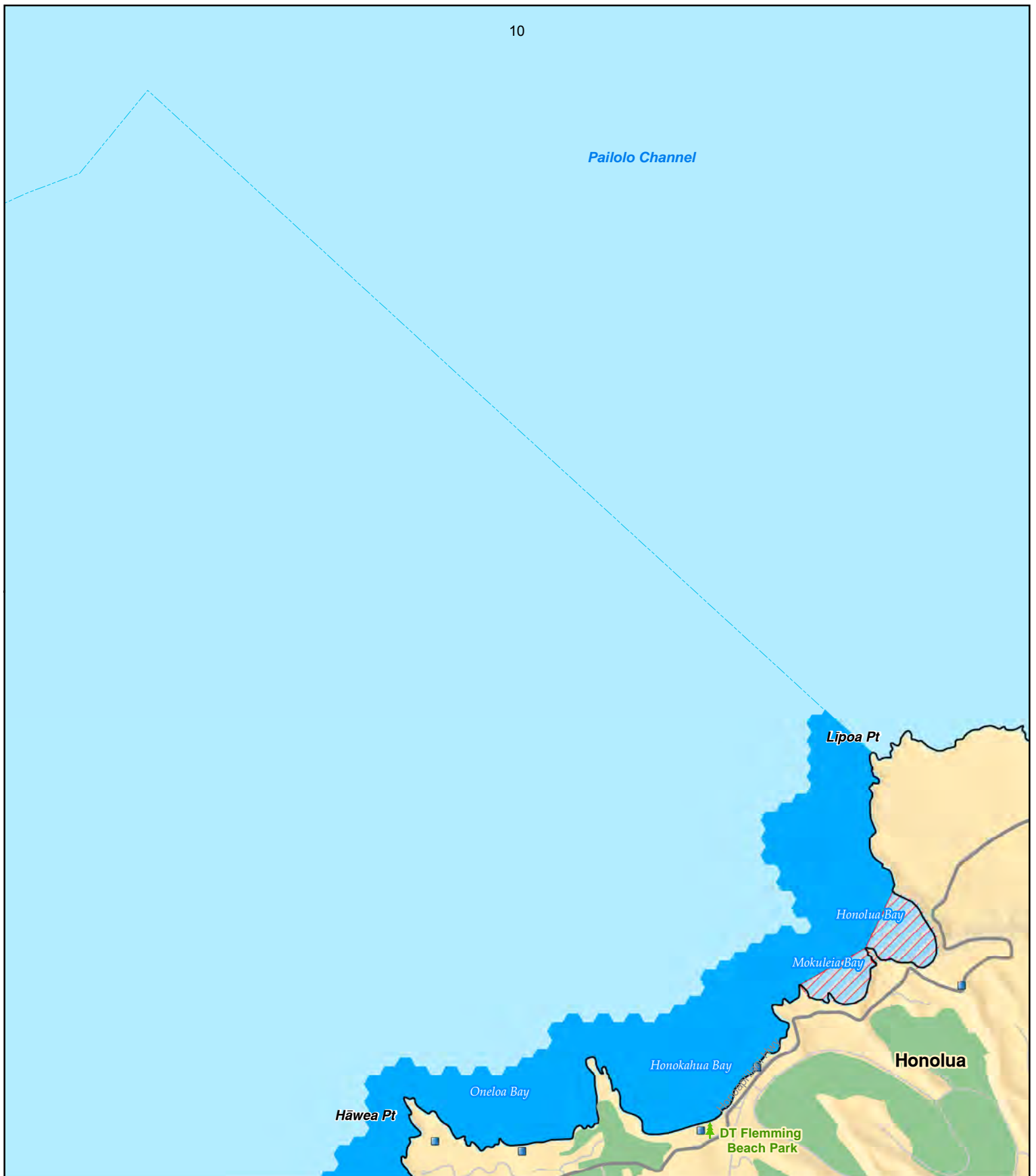


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Honolua - Wahikuli Region, August 2011

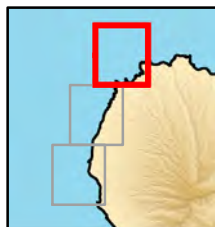


Pailolo Channel



Aquarium Collecting

- | | |
|---------------------|------------------|
| Dominant Use | Hotel |
| General Use | Beach Park |
| Golf Course | Shoreline Access |
| Marine Managed Area | Mapping Boundary |



West Maui Coastal Uses Participatory Mapping Project

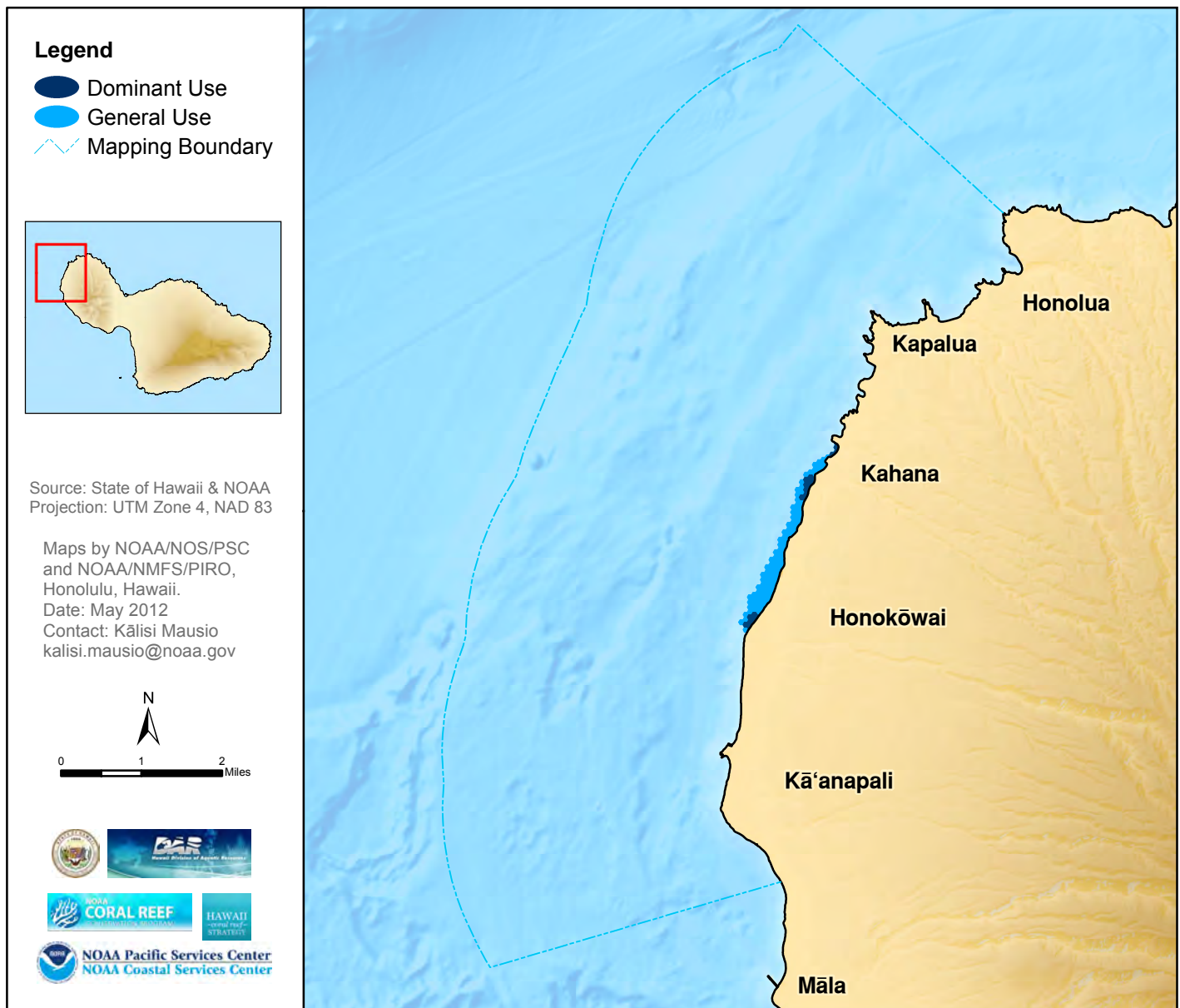
Honolua - Wāhikuli Region, August 2011



Bait netting

This activity includes net fishing for bait fishes (nehu) from shore and from boats. It excludes aquarium collection and other types of net fishing targeting fish for non-bait purposes.

There was very little knowledge amongst participants regarding this use. Sardines are found in the Kahana area.





Bait netting

Dominant Use

General Use

Golf Course

Mapping Boundary

Hotel

Beach Park

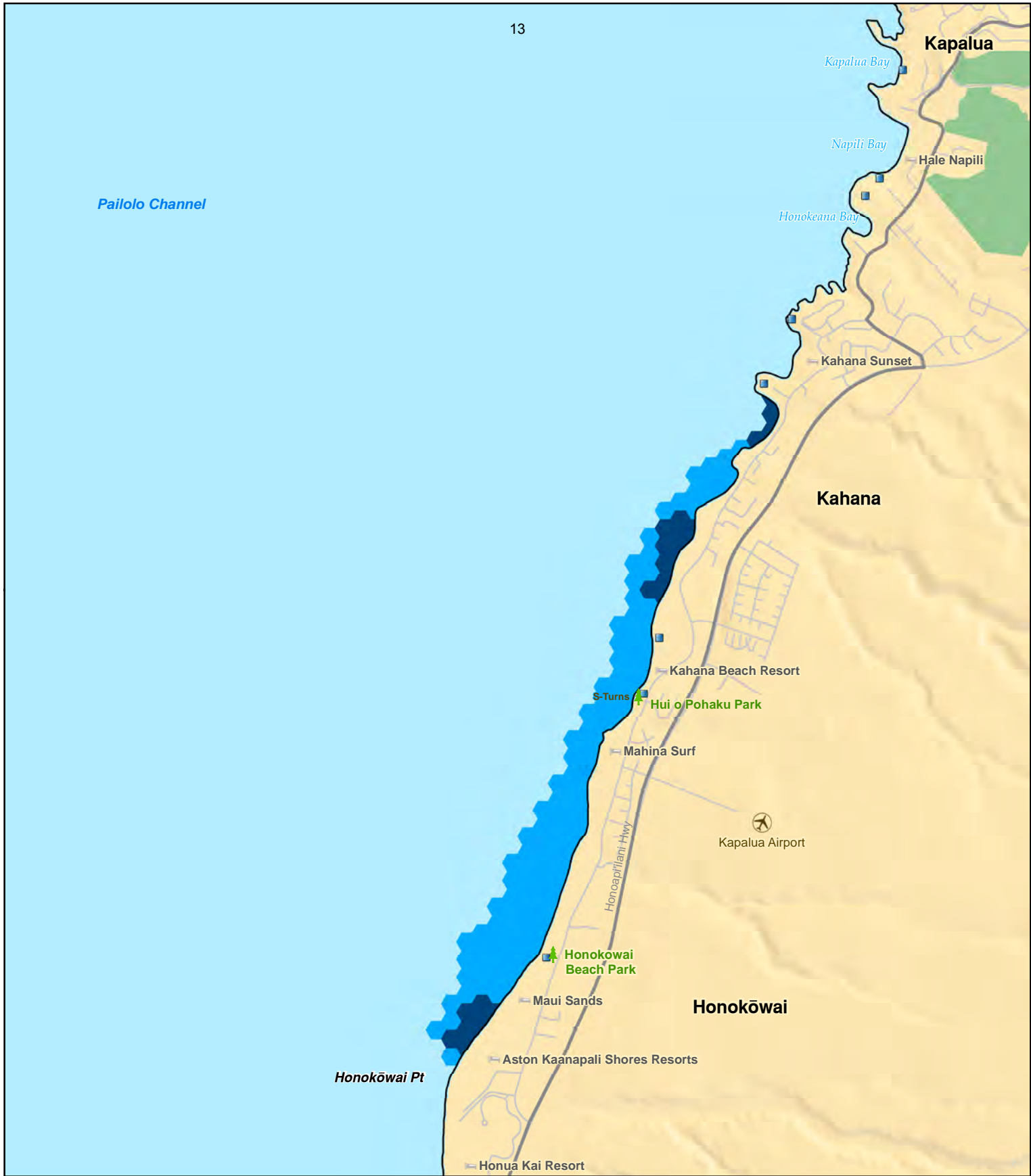
Shoreline Accessway



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011





Bait netting

- Dominant Use
- General Use

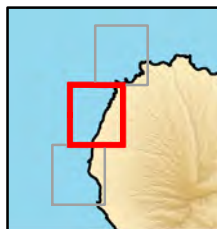
● Golf Course

~ Mapping Boundary

Hotel

Beach Park

Shoreline Accessway



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011





Bait netting

- Dominant Use
- General Use

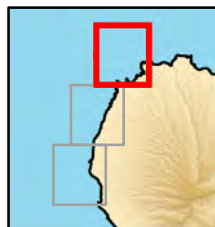
■ Golf Course

--- Mapping Boundary

☐ Hotel

🌴 Beach Park

■ Shoreline Accessway



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



Free diving and SCUBA-based harvesting

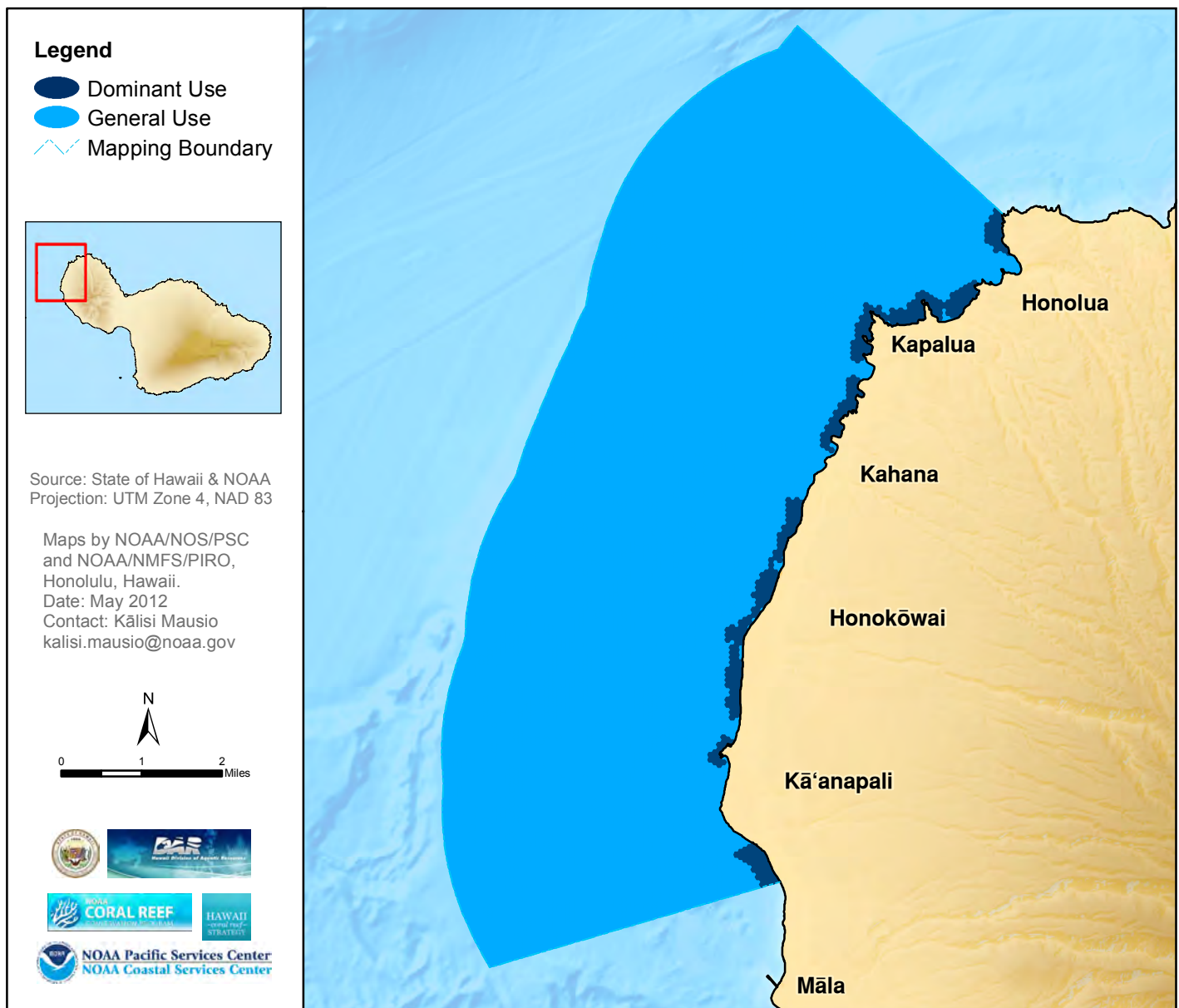
This activity includes in water use of a spear (gun, three-prong) for fish and octopus (he'e), as well as hand gathering of lobster (ula) and shells (pupu). It does not include shoreline/intertidal gathering, lobster net, or any activities that take place at a depth below five feet.

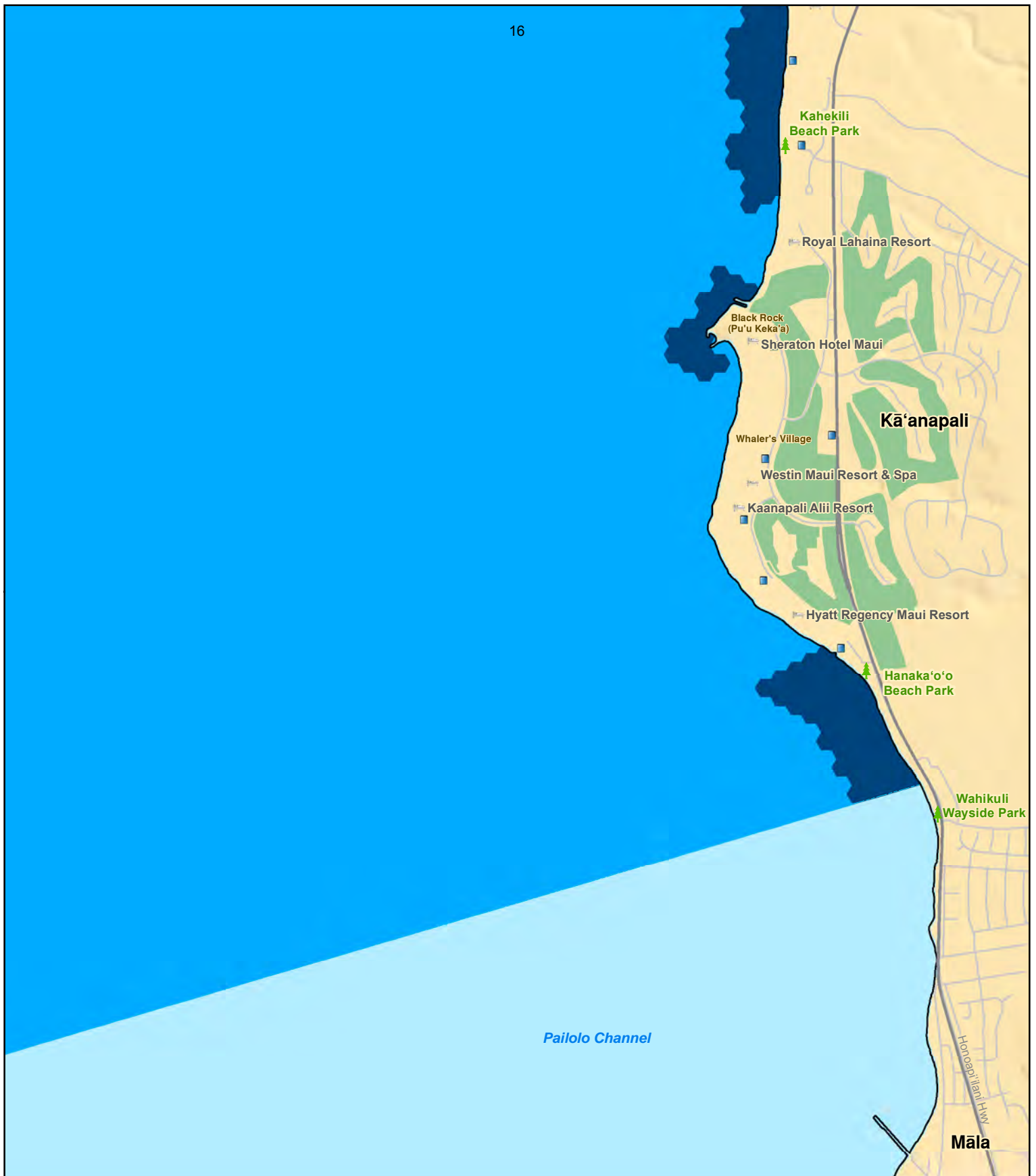
The project area is considered a good region for this use, which can occur everywhere there is a reef offshore. It can happen year round, but is swell dependent in the winter. It usually takes place at less than 60 feet, but rarely occurs up to 150 feet depth in blue water. Bottom oriented fishing is not deeper than 100 feet. Coastal diving happens day and night (more frequently during the day), but not during winter swell months. Free diving occurs largely during the daytime, whereas night-time harvesting is predominantly commercial scuba-based harvesting. The activity is more frequent during the summer in the lee of the mountain. Spearfishing tours take place as a tourist activity.

Use is largely based on access points. There is an access issue in Honokeana Cove in Napili, where the access is unmaintained. Conflicts were reported with charter boats in this area and with jet skis and parasailing groups further south in the Kā'anapali area.

Occasional illegal harvesting was reported in some of the MLCs, in Honolua Bay and north to Mokuleia Bay. Illegal fishing is rarely reported to DLNR, as it takes too long for them to arrive.

The beginning of lobster season is a pulse event, where many people go out at once to harvest lobster, having immediate impact. Black coral diving was not mapped, but may be occurring. Black coral was seen on the docks around 10-15 years ago, but is not seen often now (just one boat brings it in from very deep).





Free diving and
SCUBA-based harvesting

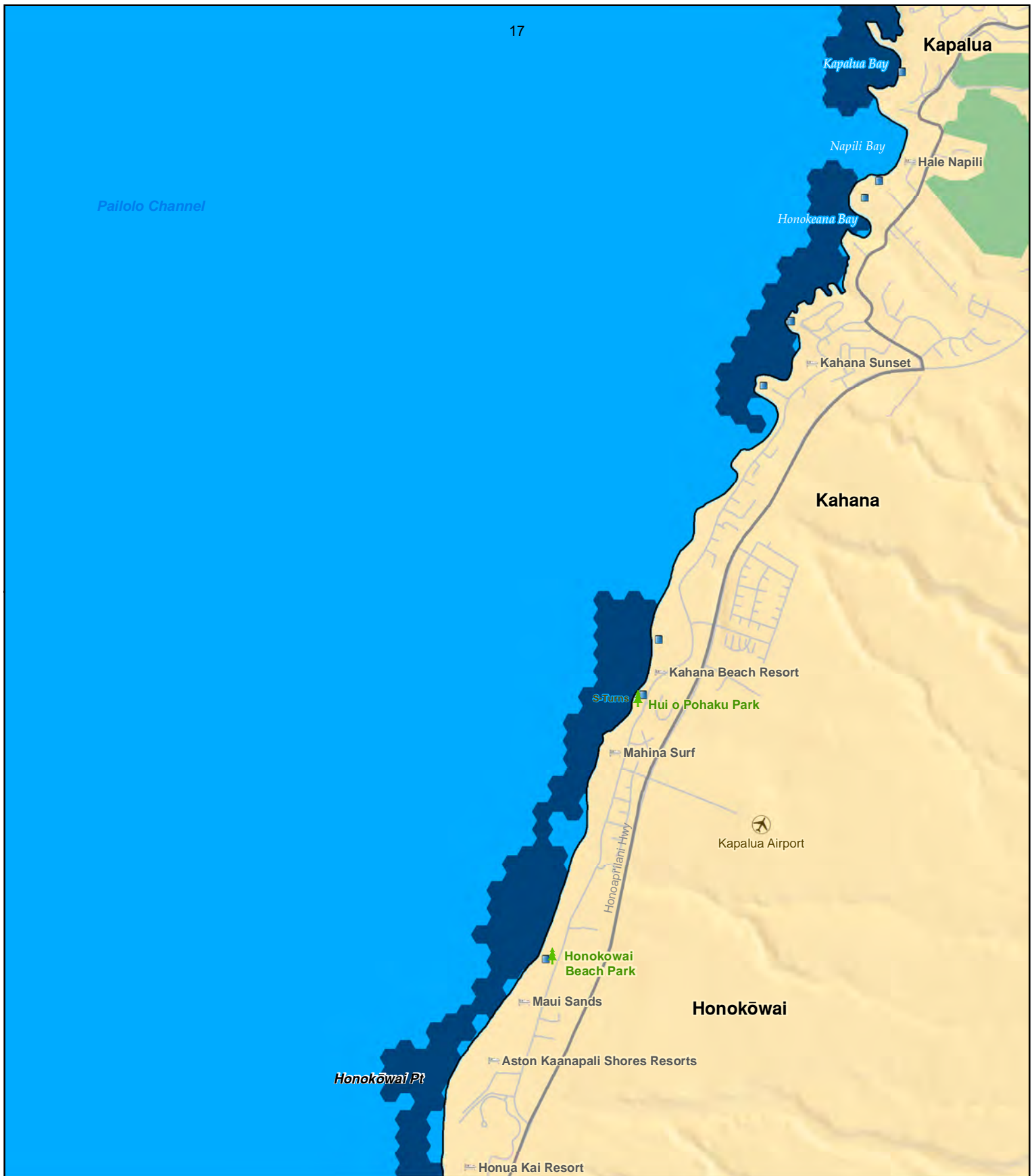
- Dominant Use
- General Use
- Golf Course
- ~ Mapping Boundary
- Hotel
- ▲ Beach Park
- Shoreline Accessway



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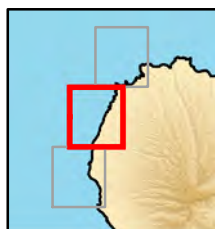
Honolua - Wahikuli Region, August 2011





Free diving and
SCUBA-based harvesting

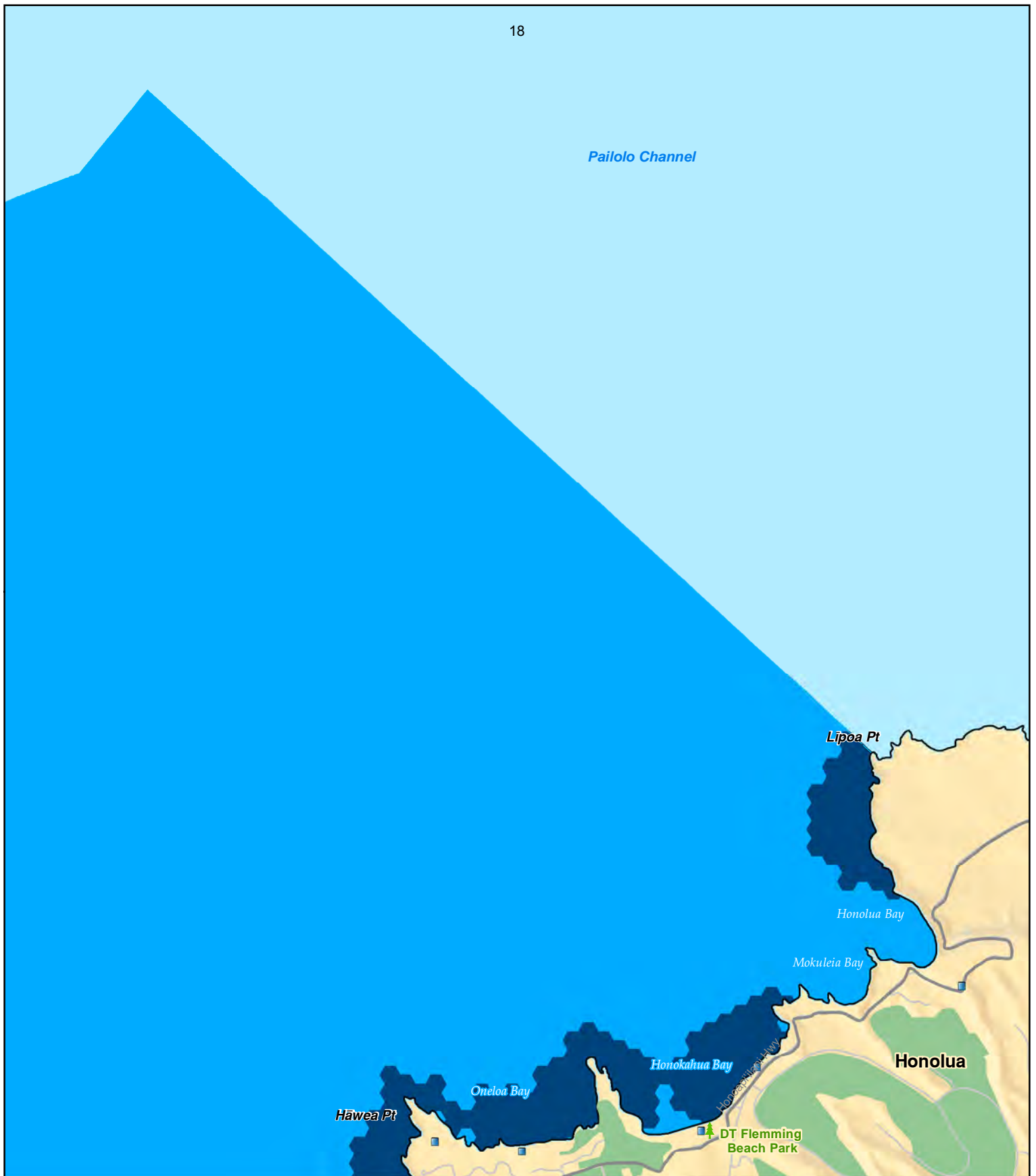
- Dominant Use
- General Use
- Golf Course
- Mapping Boundary
- Hotel
- Beach Park
- Shoreline Accessway



West Maui Coastal Uses Participatory Mapping Project

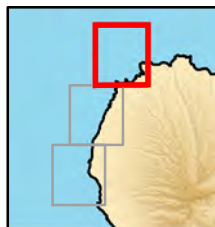
Honolua - Wahikuli Region, August 2011





Free diving and
SCUBA-based harvesting

- Dominant Use
- General Use
- Golf Course
- Mapping Boundary
- Hotel
- ▲ Beach Park
- Shoreline Accessway



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

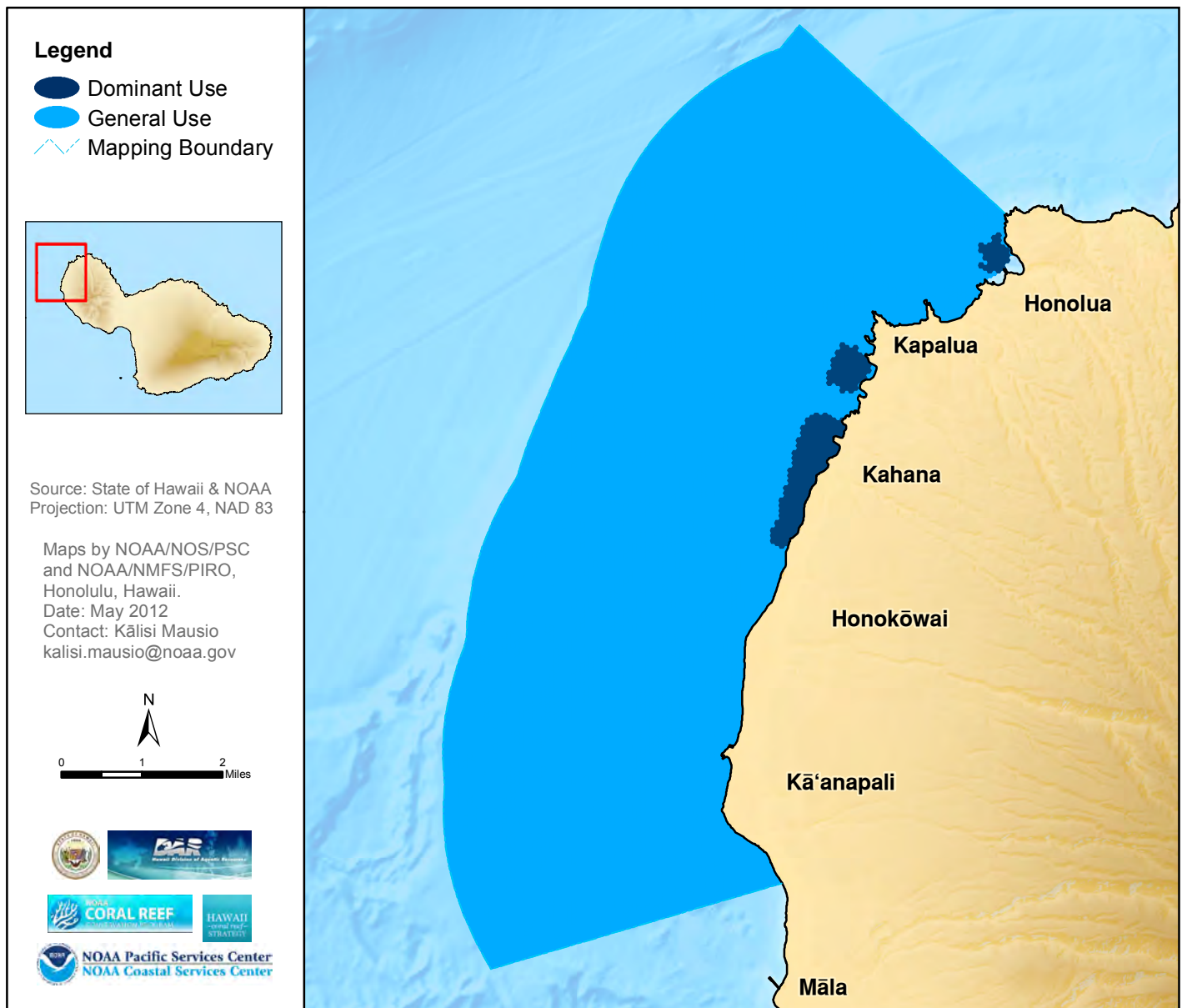


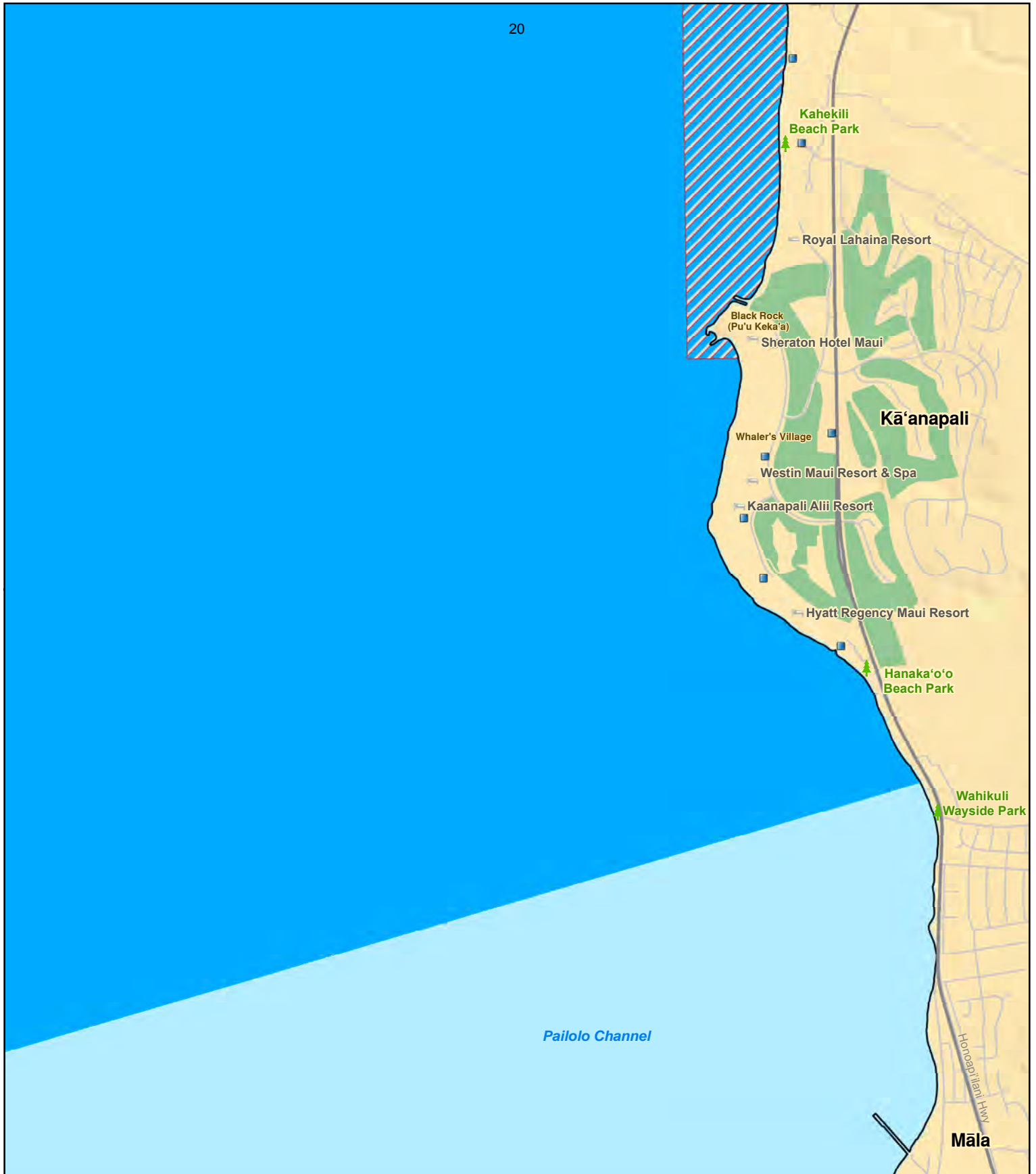
Net fishing from boat

This activity is defined as use of boat for net fishing including: lay net, surround net, 'ōpelu net, akule net, bag net, drift net, hoop lift net, Kona crab net, lobster net. It excludes throw nets, bait netting, aquarium collecting, and shore-based net fishing (less than five feet deep).

Net fishing from boats is a seasonal activity, depending on weather. It is possible to engage in the activity year-round, but participants stated that fish are no longer spawning when they historically are supposed to; the cycles have changed. The activity makes use of flat bottom boats which require calm conditions.

Very few people engage in this activity in the project area. The activity conflicts with other local uses, particularly jet-skis and canoe paddlers. A complaint of the Hawaiian community is that they can no longer easily engage in this activity for fishing purposes. Akule fishing can take place by Honolua, Kapalua to Napili, Honua Kai, and in front of the Hyatt hotel. Historically, akule fishing used to take place in the area near Alaeloa Bay north of Kahana Village. It also took place in the opelu grounds outside the Hyatt near Canoe Beach, but the fish were chased out by jet-skis. Net fishing from boats used to take place in the South part of the study area (out from the Lahaina post office), but participants stated that the fish are no longer there. Workshop participants had not seen nets in the Kahekili Herbivore Fisheries Management Area since it was designated.





Net fishing from boat

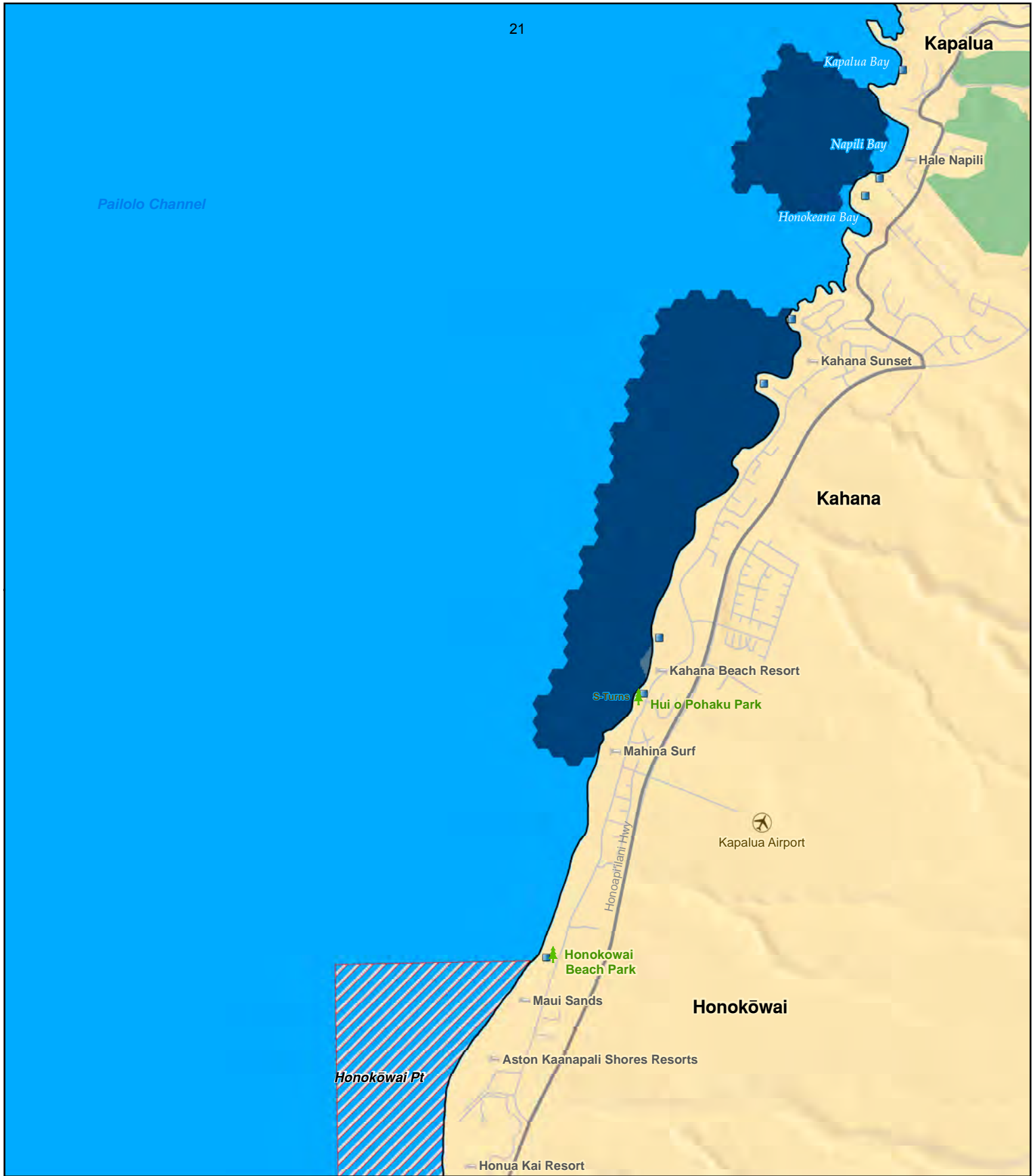
- Dominant Use
- General Use
- ▨ Marine Managed Area
- Golf Course
- Hotel
- Beach Park
- Shoreline Access
- Mapping Boundary



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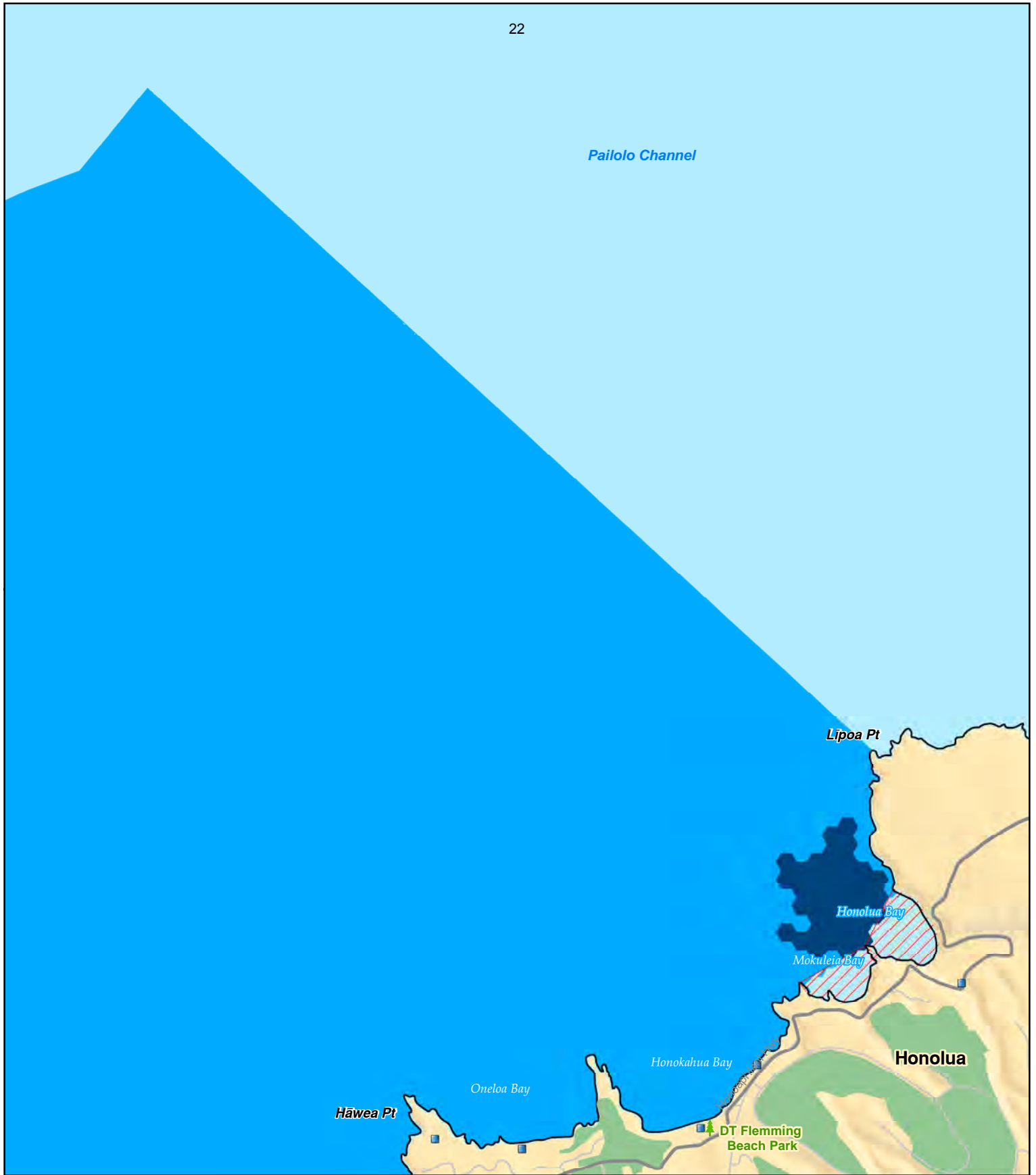


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NOAA Pacific Services Center
NOAA Coastal Services Center



Net fishing from boat

- Dominant Use
- General Use
- Marine Managed Area
- Golf Course
- Hotel
- Beach Park
- Shoreline Access
- Mapping Boundary



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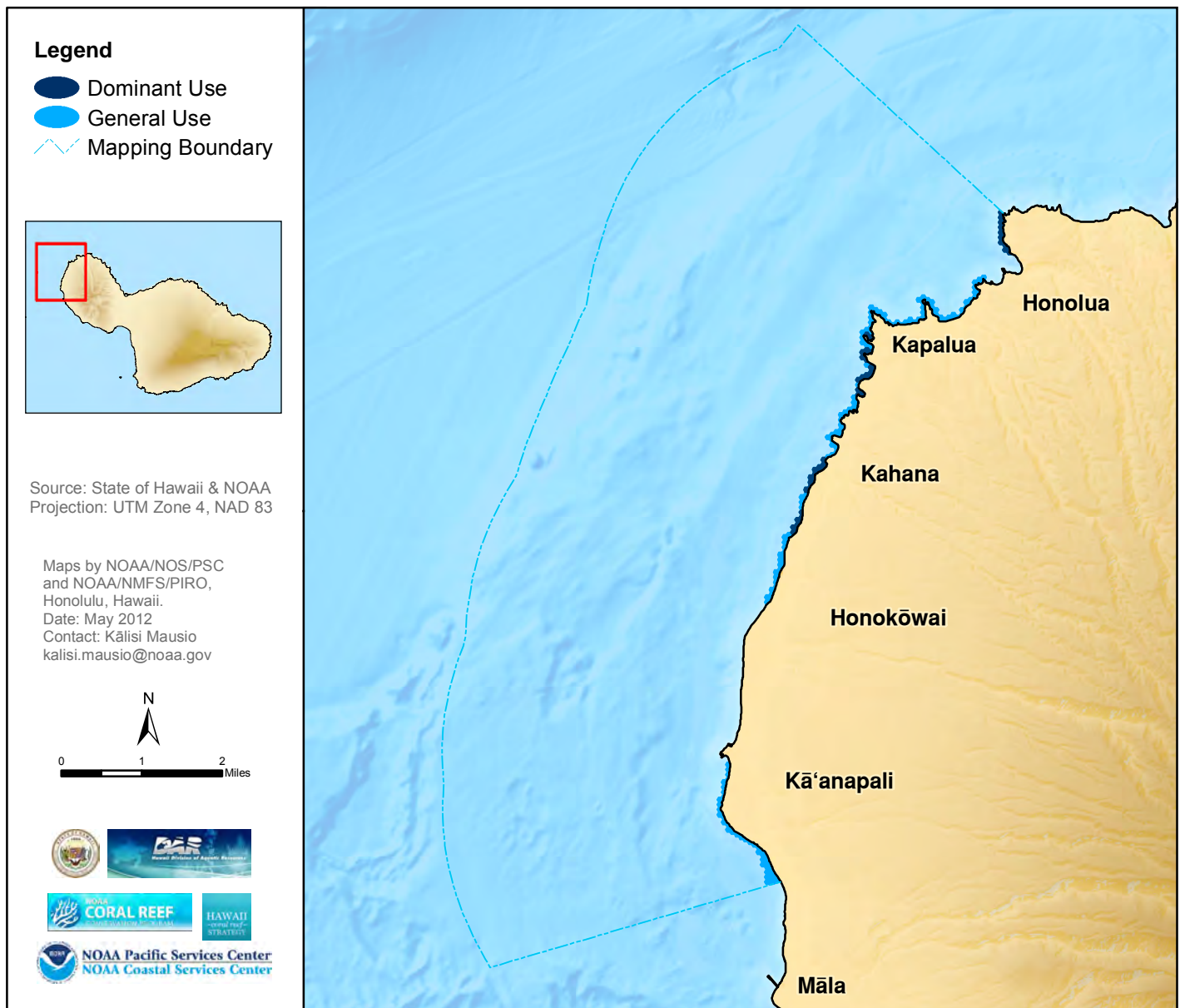


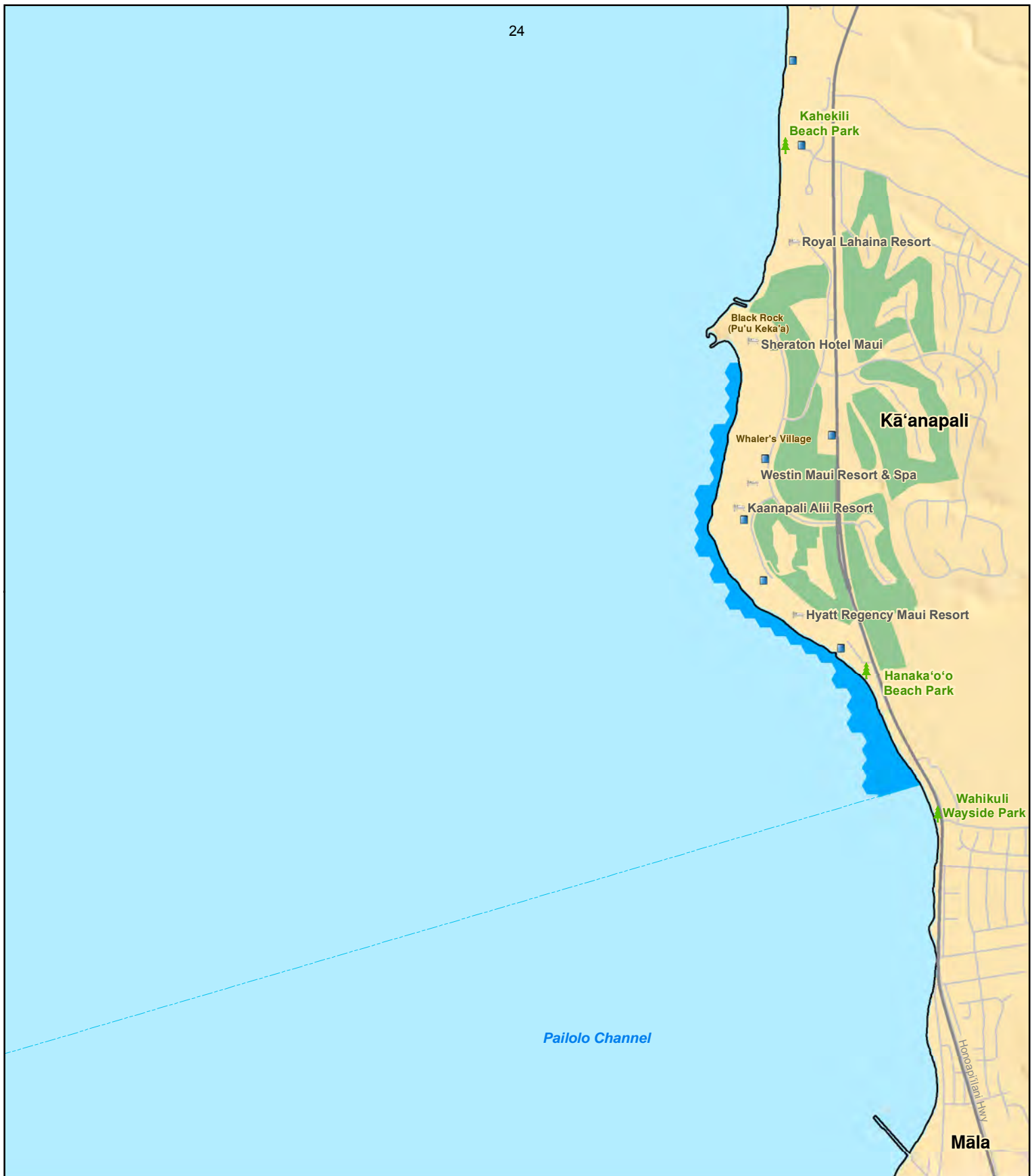
Net fishing from shore or nearshore

This activity includes lay net, cross net, barricade net, and surround net. It excludes aquarium collection, throw net, bait netting, and boat-based net fishing.

This activity can happen out to 100 feet out from shore at depths of five to eighty feet. Dominant use areas are based on access. Over time some areas with lots of fish have been overfished.

This is not a very common activity anymore; there is a time limit and you can't leave nets overnight, so it happens much less frequently now.





Net fishing from shore
or nearshore

- | | | | |
|--|------------------|--|---------------------|
| | Dominant Use | | Hotel |
| | General Use | | Beach Park |
| | Golf Course | | Shoreline Accessway |
| | Mapping Boundary | | Wastewater Facility |



West Maui Coastal Uses Participatory Mapping Project

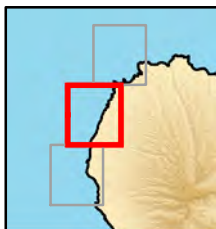
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Net fishing from shore
or nearshore

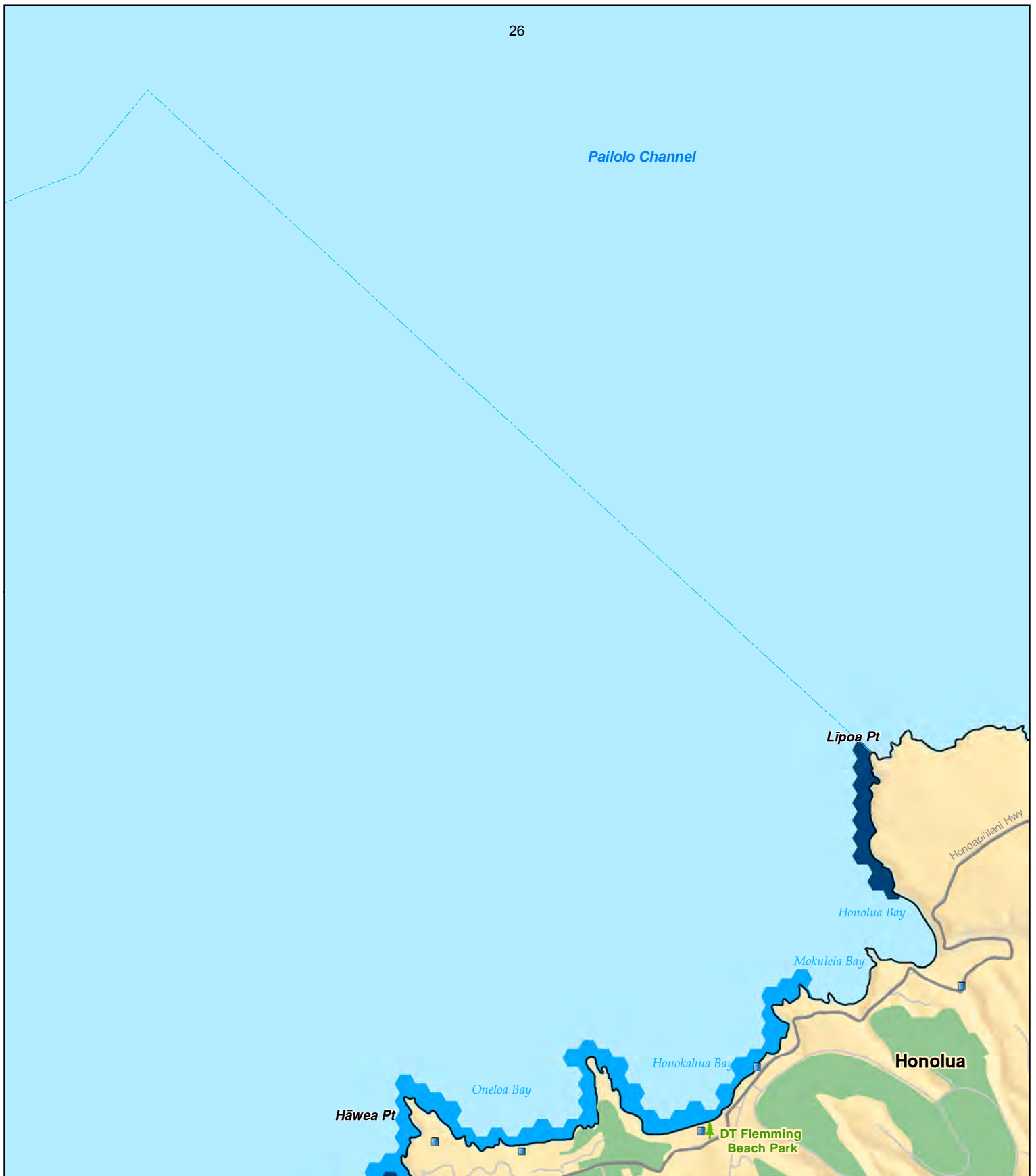
- Dominant Use
- General Use
- Golf Course
- Mapping Boundary
- Hotel
- ▲ Beach Park
- Shoreline Accessway
- Wastewater Facility



West Maui Coastal Uses Participatory Mapping Project

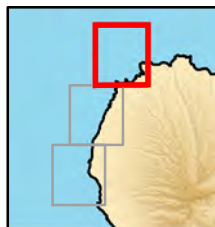
Honolua - Wahikuli Region, August 2011





Net fishing from shore
or nearshore

- | | | | |
|--|------------------|--|---------------------|
| | Dominant Use | | Hotel |
| | General Use | | Beach Park |
| | Golf Course | | Shoreline Accessway |
| | Mapping Boundary | | Wastewater Facility |



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



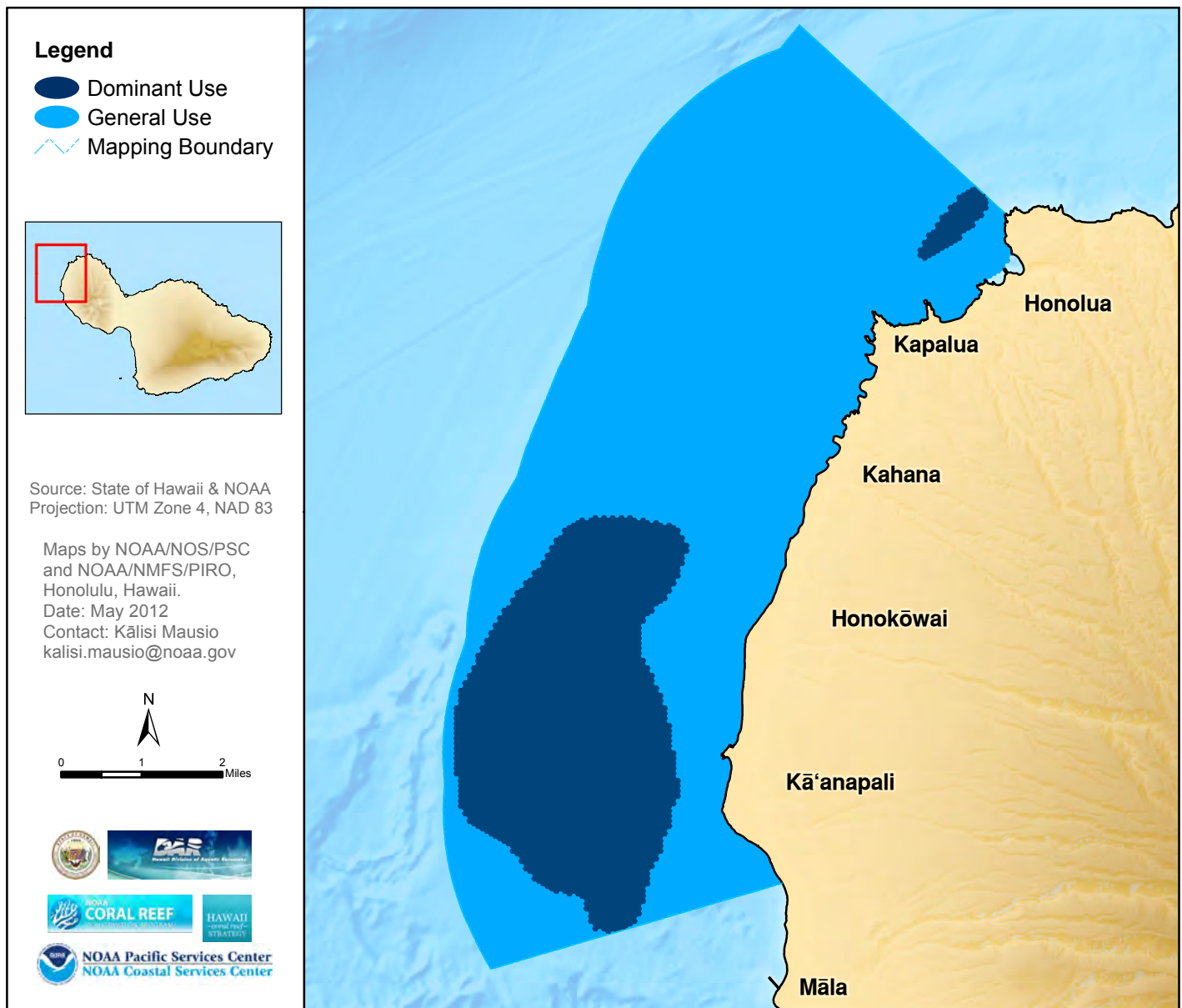
Pole and line fishing from boat

This activity includes bottom fishing, trolling, pole and line, whipping, and handlining. It excludes pole and line fishing from shore.

Pole and line fishing from boats takes place in the entire project area. It happens from kayaks as well as commercial and non-commercial boats. Commercial boats also put lines out to fish on tours.

The use is seasonal, depending on species.

Tournaments include Lahaina Jackpot tournament & Wahine tournament.





Pole and line fishing from boat

- | | | | |
|--|---------------------|--|-----------------------|
| | Dominant Use | | Hotel |
| | General Use | | Beach Park |
| | Marine Managed Area | | Charter Boat Moorings |
| | Golf Course | | Day-use Moorings |
| | Mapping Boundary | | Shoreline Access |



West Maui Coastal Uses Participatory Mapping Project

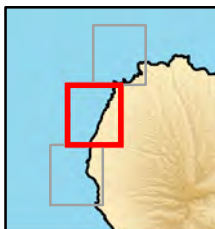
Honolua - Wahikuli Region, August 2011





Pole and line fishing from boat

- | | | | |
|--|---------------------|--|-----------------------|
| | Dominant Use | | Hotel |
| | General Use | | Beach Park |
| | Marine Managed Area | | Charter Boat Moorings |
| | Golf Course | | Day-use Moorings |
| | Mapping Boundary | | Shoreline Access |

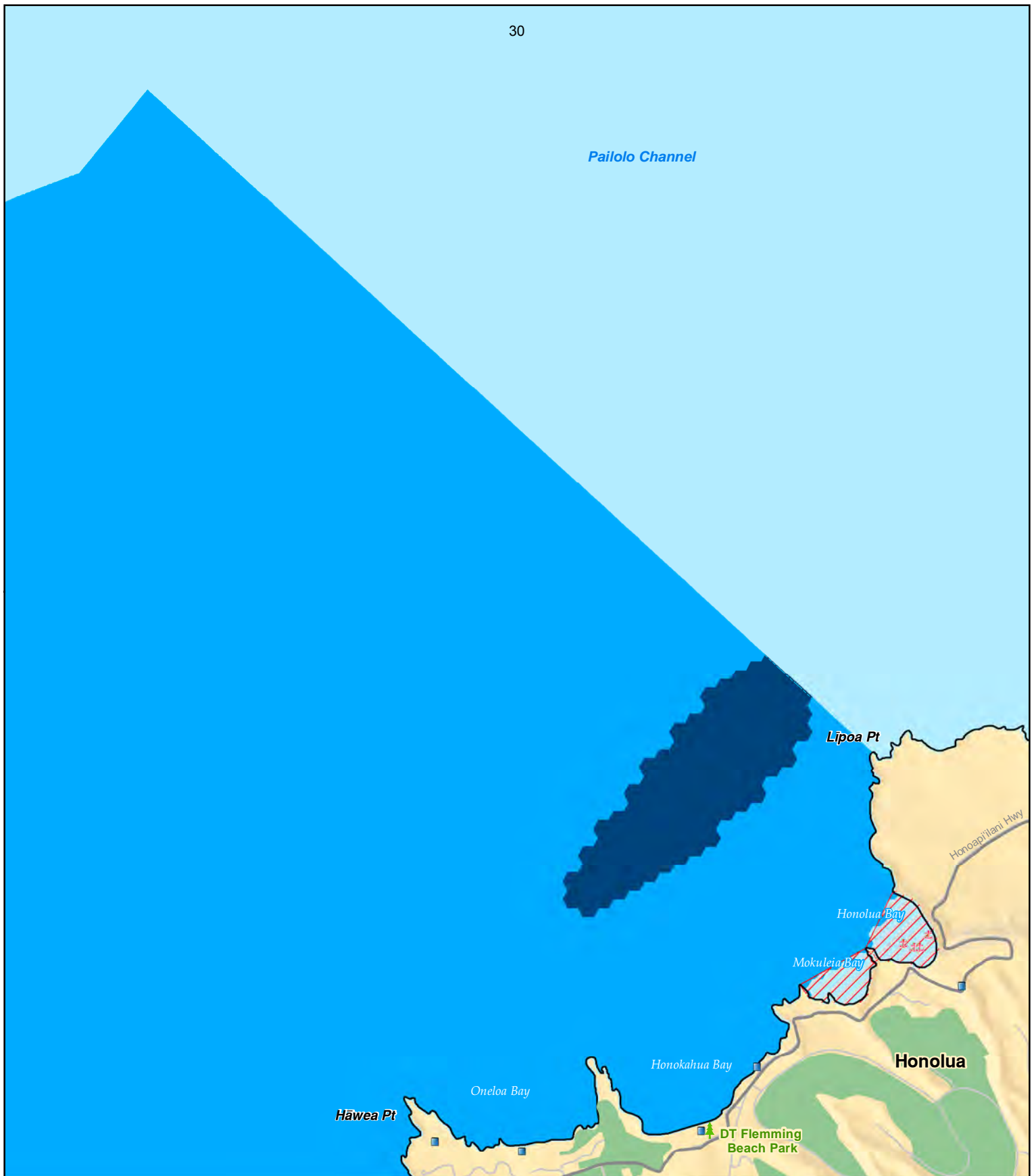


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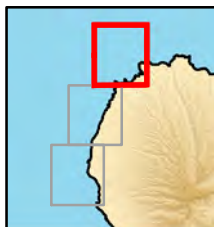


Pailolo Channel



Pole and line fishing from boat

- | | | | |
|--|---------------------|--|-----------------------|
| | Dominant Use | | Hotel |
| | General Use | | Beach Park |
| | Marine Managed Area | | Charter Boat Moorings |
| | Golf Course | | Day-use Moorings |
| | Mapping Boundary | | Shoreline Access |



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



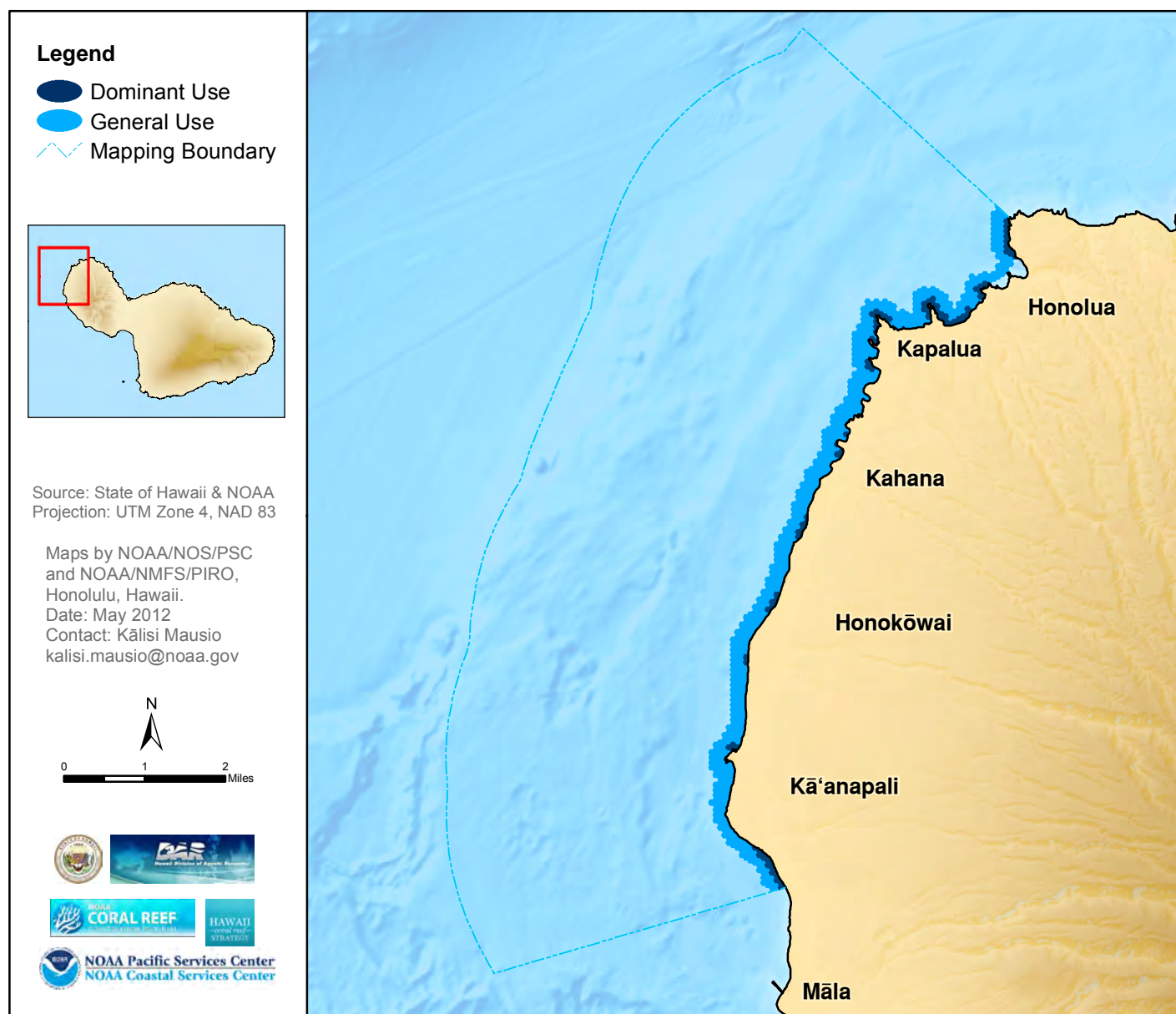
Pole and line fishing from shore

This activity includes shore-based pole and line fishing, including dunking, whipping, bamboo, fly, and slide baiting. It excludes all boat-based activities, but includes kite baiting and shore-based fishing where bait is paddled offshore.

Pole and line fishing can happen along the whole coastline, but certain areas have a greater offshore reach because people will use kite fishing or swim/kayak out their bait. Dominant areas are where pole holes are located, built into the rocks. Pulse events include tako (octopus) tournaments, roi (grouper) roundups, and keiki (children) 'oama (goatfish) tournaments. Ulua (trevally) tournaments dominate the summer months.

Although it is illegal, some pole and line fishing was reported to happen in Honolua Bay (although this is not frequent).

Some areas were more frequently used in the past. Mahinahina Point is now hard to access because of private lands. Black Rock also used to be more heavily used than it is now. Kā'anapali landing is frequently used for this activity; in the past people could drive and camp at Kā'anapali but can't anymore. This activity is heavy by the pump near Wahikuli, and Honokowai Park is heavily used, but seasonal.





Pole and line fishing from shore

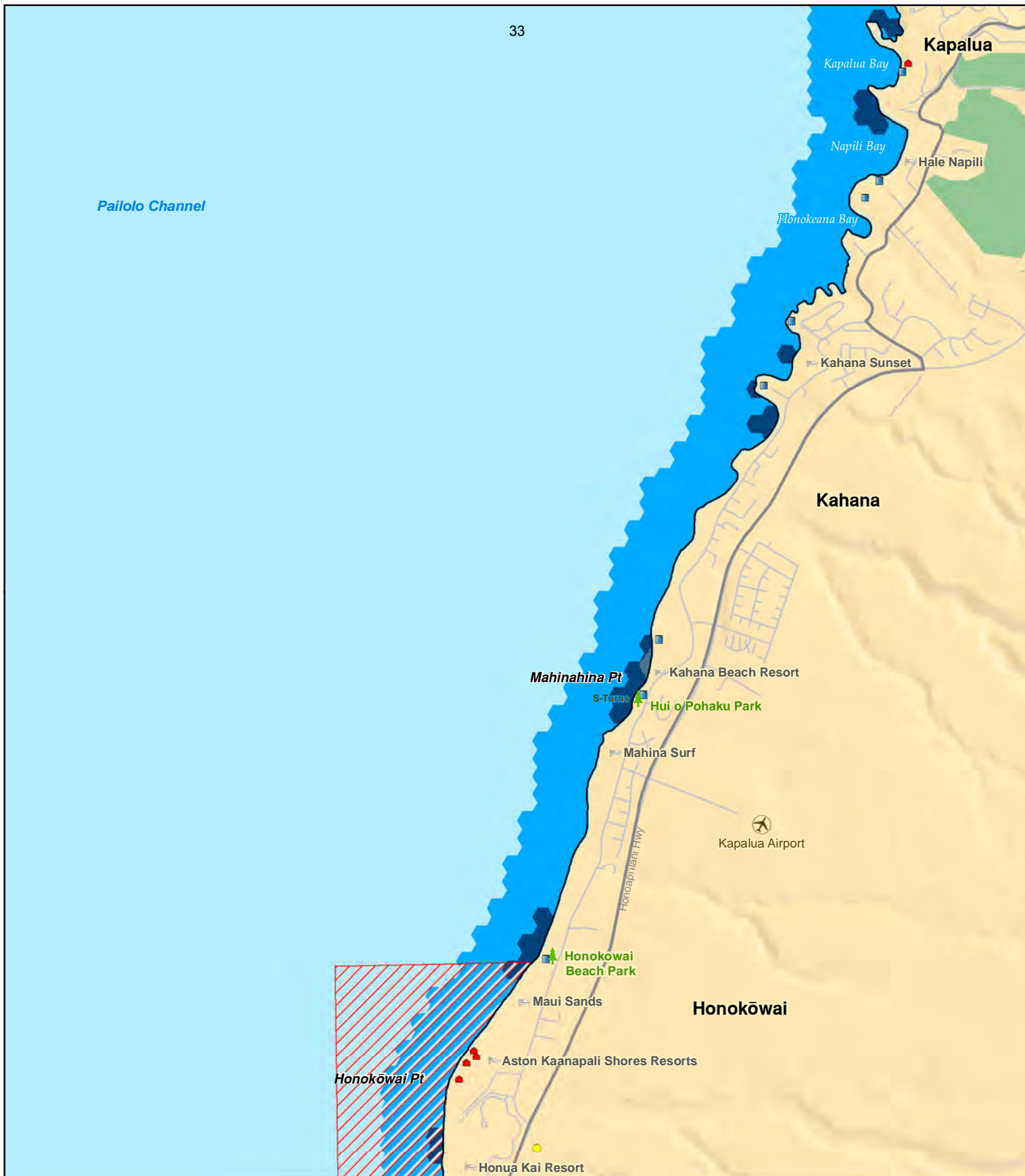
- Dominant Use
- General Use
- ▨ Marine Managed Area
- Golf Course
- Mapping Boundary
- Hotel
- ▲ Beach Park
- Shoreline Access
- ▲ Concession Stand
- Wastewater Facility



West Maui Coastal Uses Participatory Mapping Project

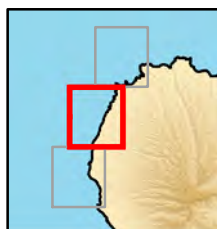
Honolua - Wahikuli Region, August 2011





Pole and line fishing from shore

- Dominant Use
- General Use
- Marine Managed Area
- Golf Course
- Mapping Boundary
- Hotel
- Beach Park
- Shoreline Access
- Concession Stand
- Wastewater Facility

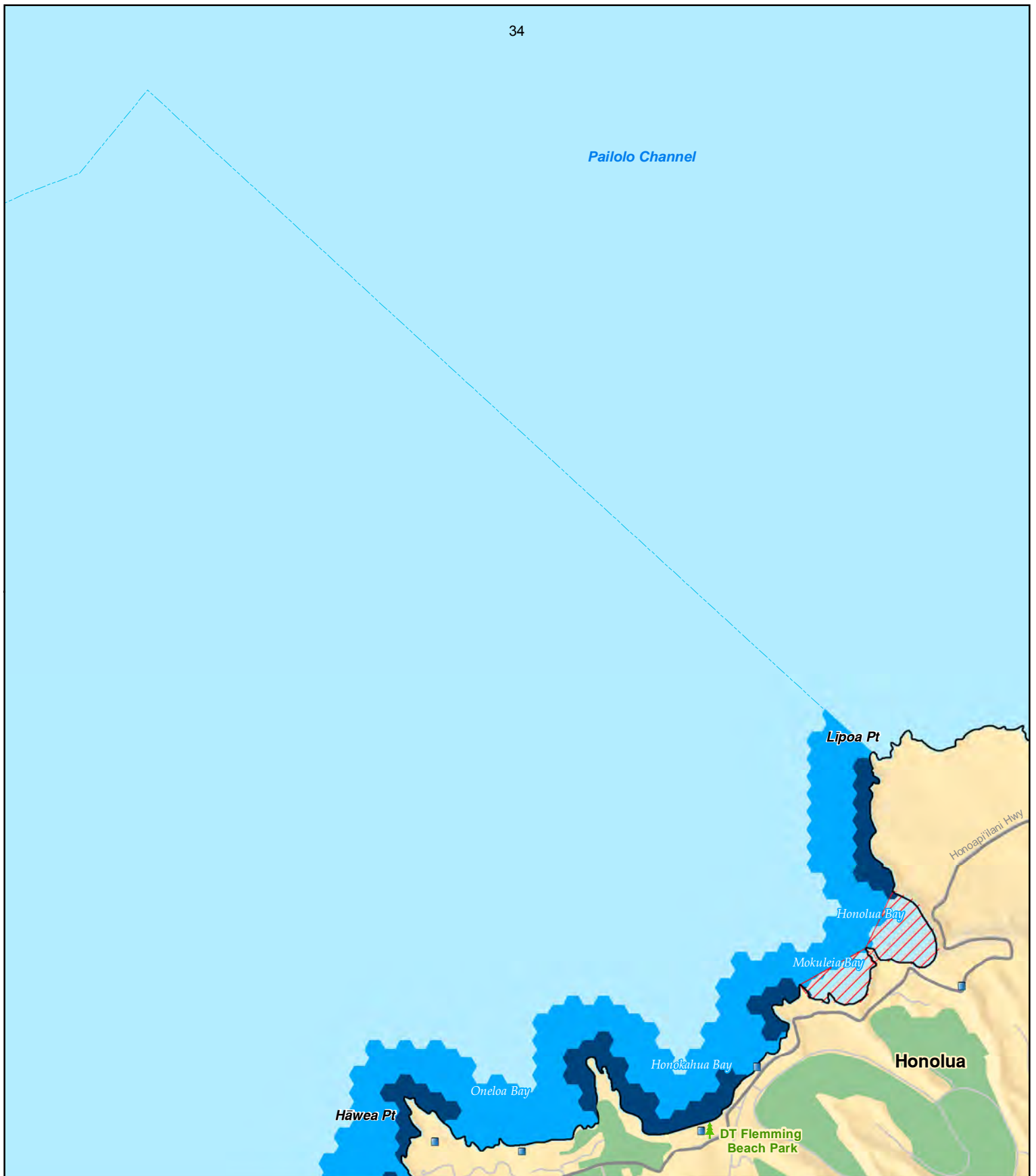


West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

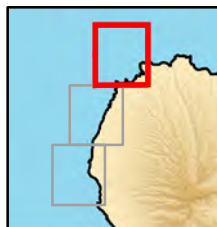


Pailolo Channel



Pole and line fishing from shore

- | | | | |
|--|---------------------|--|---------------------|
| | Dominant Use | | Hotel |
| | General Use | | Beach Park |
| | Marine Managed Area | | Shoreline Access |
| | Golf Course | | Concession Stand |
| | Mapping Boundary | | Wastewater Facility |



West Maui Coastal Uses Participatory Mapping Project

Honolua - Waihi Region, August 2011



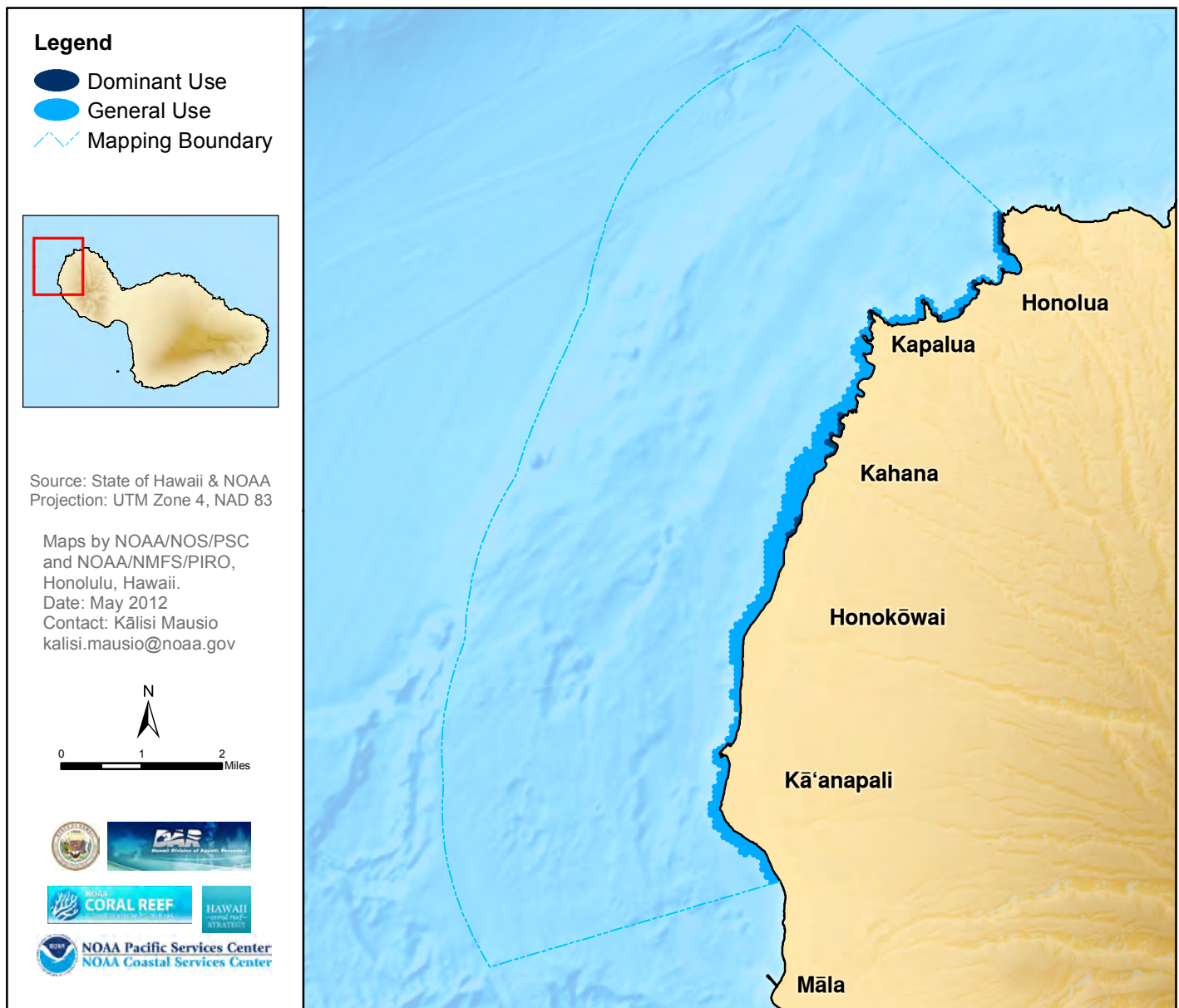
Shoreline and nearshore gleaning and gathering

This activity includes intertidal and shallow water gathering of most invertebrates, including 'opihi, hā'uke'uke, wana (urchin), limu, crab, sea cucumbers, octopus (from shore), and shells. It excludes in-water diving for fish, lobster, octopus, and invertebrates at depths greater than five feet.

This use can take place anywhere that is accessible from shore. Rocks are a required habitat for the species gathered, so the activity does not take place at beaches with a sandy shore and sandy bottom. There are fewer dominant gathering areas now than there used to be because of overharvesting, particularly Napili, S-turns, and Honokowai. Some areas are no longer used because of poor water quality due to runoff, a problem from Honokowai to Honolua.






Opihi picking is common on the hard rocky shoreline from Honokōwai northward, including Kapalua and Honolua. Participants stated that there used to be more opihi in the past. Sea urchin harvesting is restricted in the Kahekili Herbivore Fisheries Management Area. There is occasional seasonal illegal take of lobster in Honolua Bay & Mokuiea Bay. Participants expressed concern regarding illegal gathering in Honolua.

Limu (seaweed) is gathered at Kahana beach and Honokōwai. Limu is not as abundant from Lipoa to Hawea point due to runoff from local development. Historically, Wahikuli used to have an abundance of limu due to nutrient runoff from the plantations. Participants expressed concern about overharvesting of limu, stated rangers are citing some women for over-harvesting, and expressed a need for clarification between sustenance and commercial harvest of limu. Ghost crabs and black crabs used to be very prevalent on sandy beaches, but they are not common now due to people stepping on their burrows. Shells are gathered from the shore from Hanaka'ō'ō Point to Sand Box beach, as well as from Airport beach to the Sheraton (Kā'anapali Beach).





Shoreline and nearshore gleaning and gathering

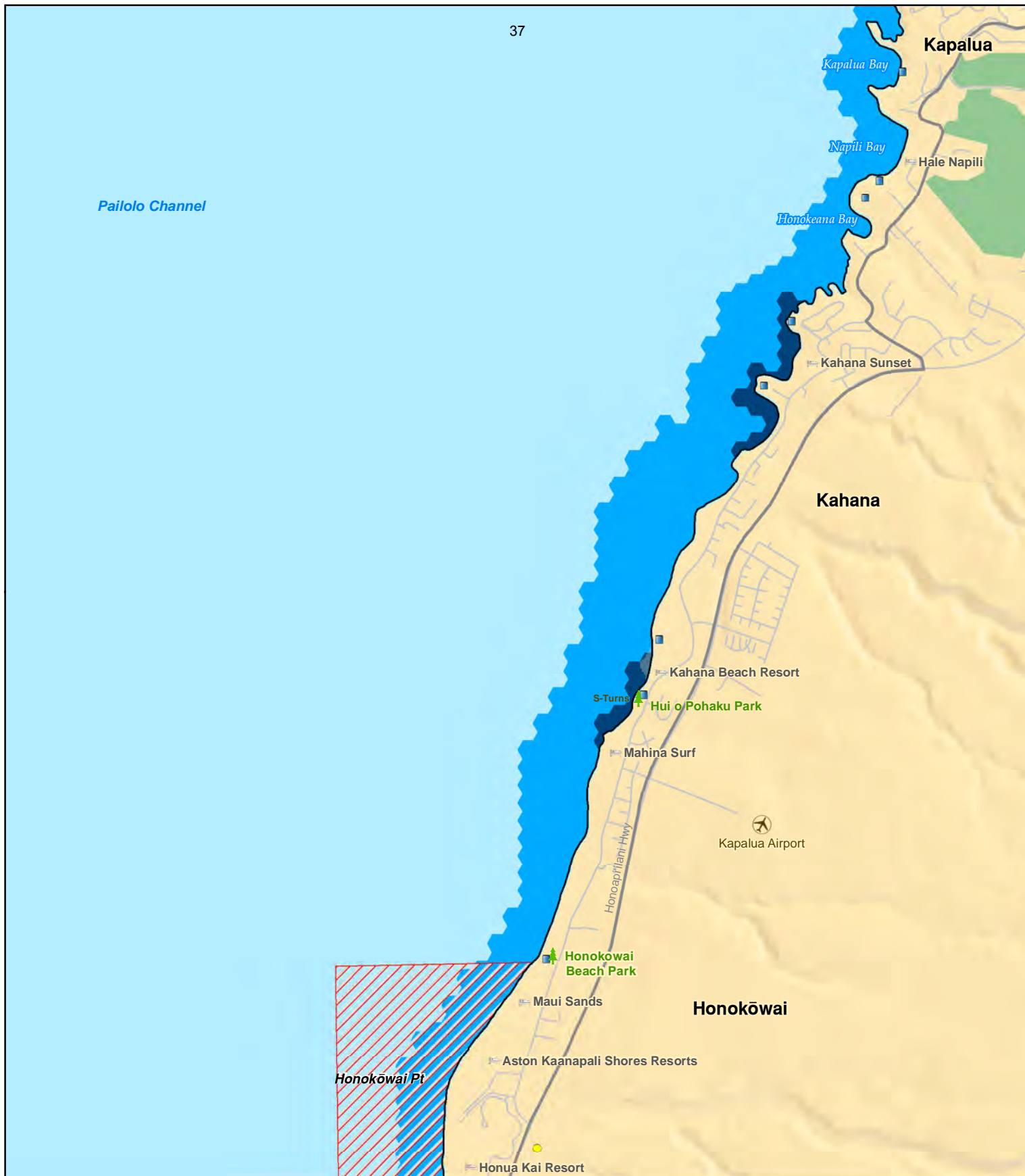
- Dominant Use
- General Use
- / Marine Managed Area
- Golf Course
-  Hotel
-  Beach Park
-  Shoreline Accessway
-  Wastewater Facility
-  Mapping Boundary



West Maui Coastal Uses Participatory Mapping Project

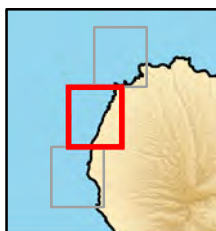
Honolua - Wahikuli Region, August 2011





Shoreline and nearshore gleaning and gathering

- Dominant Use
- General Use
- / Marine Managed Area
- Golf Course
- 🌳 Beach Park
- 🏠 Hotel
- 🚶 Shoreline Accessway
- Wastewater Facility
- ~ Mapping Boundary

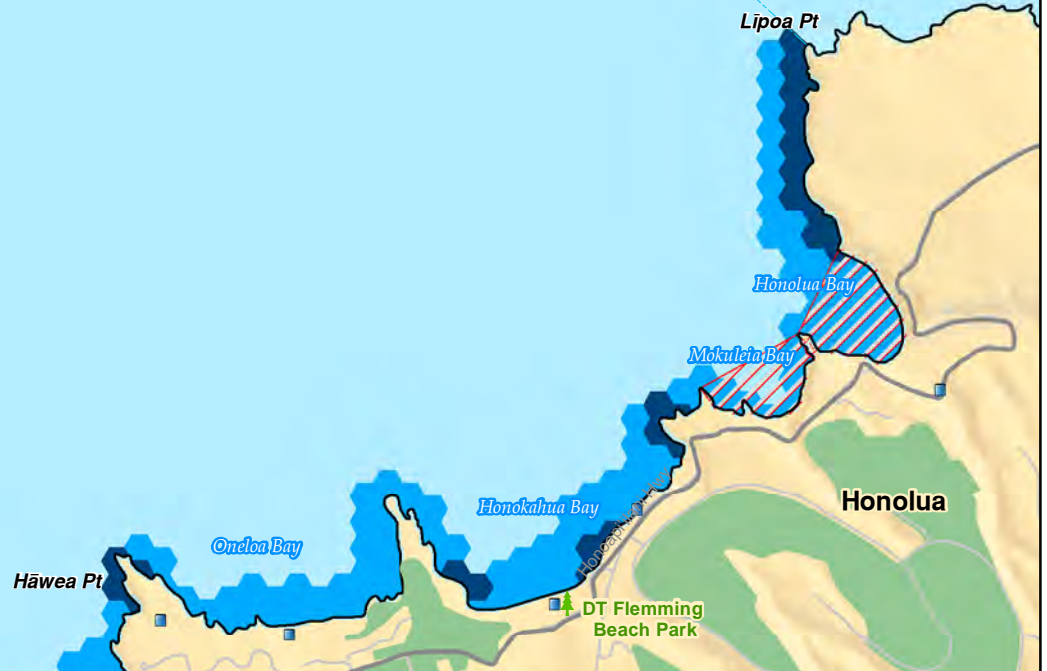


West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

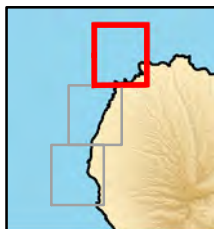


Pailolo Channel



Shoreline and nearshore gleaning and gathering

- Dominant Use
- General Use
- / Marine Managed Area
- Golf Course
- 🏠 Hotel
- 🌴 Beach Park
- Shoreline Accessway
- Wastewater Facility
- ~ Mapping Boundary



West Maui Coastal Uses Participatory Mapping Project

Honolua - Waihi Region, August 2011



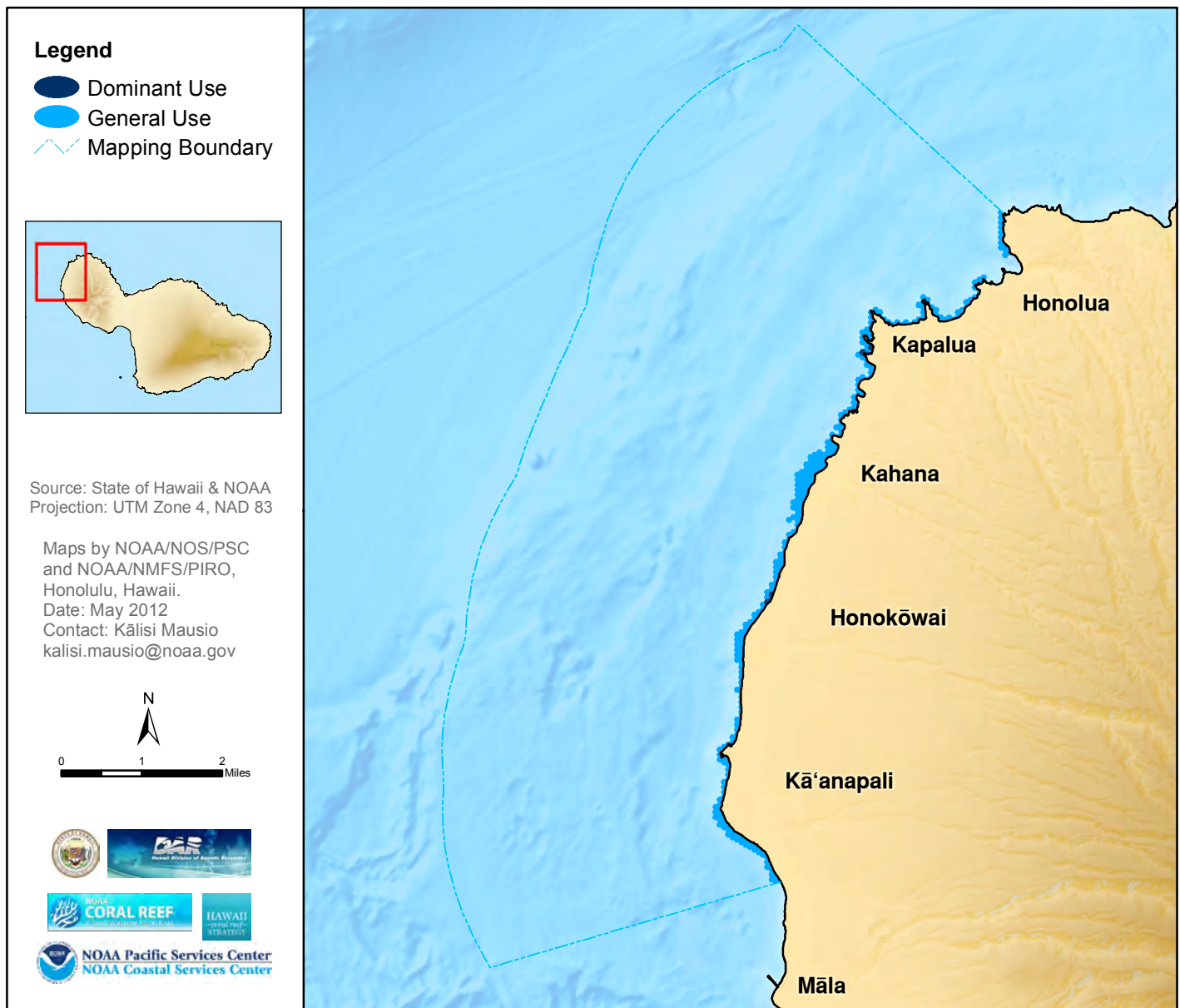
Throw Netting

This activity includes all throw nets, but excludes aquarium collection, bait netting, 'ōpelu /akule netting, other types of net fishing.

Throw netting generally occurs in shallow waters less than five feet deep, and can occur along most of the coastline. It can happen at low tide with low wind, during a new moon or in rocky, intertidal habitat.

Gated communities restrict throw net access to shoreline.

Workshop participants commented that people are using throw nets with small/illegal eye size. This is seen as a problem (especially at night at Mala Wharf) because the Division of Conservation and Resources Enforcement (DOCARE) cannot easily inspect nets.





Throw netting

- Dominant Use
- General Use
- Marine Managed Area
- Golf Course
- Mapping Boundary
- Hotel
- Beach Park
- Shoreline Access
- Wastewater Facility



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

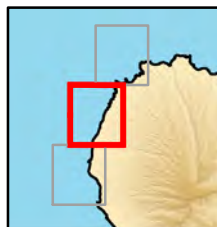


Pailolo Channel



Throw netting






- Dominant Use
- General Use
- / Marine Managed Area
- Golf Course
- ~ Mapping Boundary
- Hotel
- Beach Park
- Shoreline Access
- Wastewater Facility







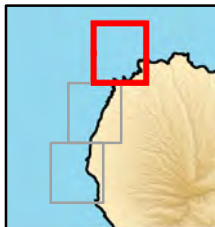
West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



-  Dominant Use
-  General Use
-  Marine Managed Area
-  Golf Course
-  Mapping Boundary

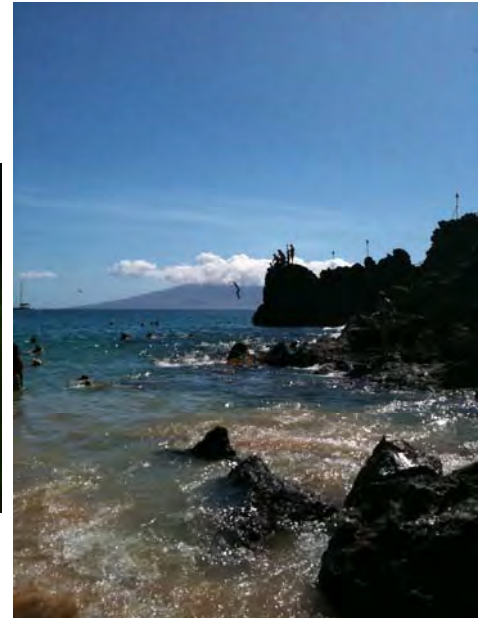
-  Hotel
-  Beach Park
-  Shoreline Access
-  Wastewater Facility



Honolua - Wahikuli Region, August 2011



NON-EXTRACTIVE COASTAL USES



NON-EXTRACTIVE ACTIVITIES FOR PARTICIPATORY MAPPING – WEST MAUI		
Use type	Includes	Excludes
Camping	Overnight camping for fishing or recreational purposes, homeless encampments, permitted and non-permitted	Non-overnight activities
Commercial diving and snorkeling	Diving and snorkeling activities organized through a charter/commercial operator, including vessel and shore-based SCUBA, SNUBA, snorkel, freediving, kayak snorkel tours, including rentals	Swimming, speardiving/extractive activities, recreational diving and snorkeling, research activities
Commercial, motorized boating and marine mammal watching	Dolphin tours, whale watching tours, scenic tours, bare boat rentals	Any non-commercial boating and mammal watching
Non-commercial, non-motorized boating	Outrigger canoe paddling (individual and team), racing, paddle driven kayaking, kayak-based snorkeling or free diving, flatwater SUP, inflatable floatation devices	Charter/commercial boating; use of motorized vessels; surf-style SUP
Recreational diving and snorkeling	SCUBA, snorkel, free-diving (not for the purpose of fishing or gathering), shore-based and vessel-based	Research, spearfishing, extractive activities, , charter/commercial activities
Surfing	Surfing, Surf-style SUP (stand up paddle), windsurfing, kite surfing, boogie-boarding, body surfing, skim boarding	Flat water SUP
Swimming	Racing, general exercise, group or individual, triathlon	Free diving, snorkeling, wading
Thrill craft and high speed activities	Parasailing tours, jet boats, jet skis, motorized kayaks, coastal off-roading, includes thrill craft rental	Non-motorized vessels

Camping

This includes overnight camping for fishing or recreational purposes (both permitted and non-permitted), as well as homeless encampments. It does not include non-overnight activities.

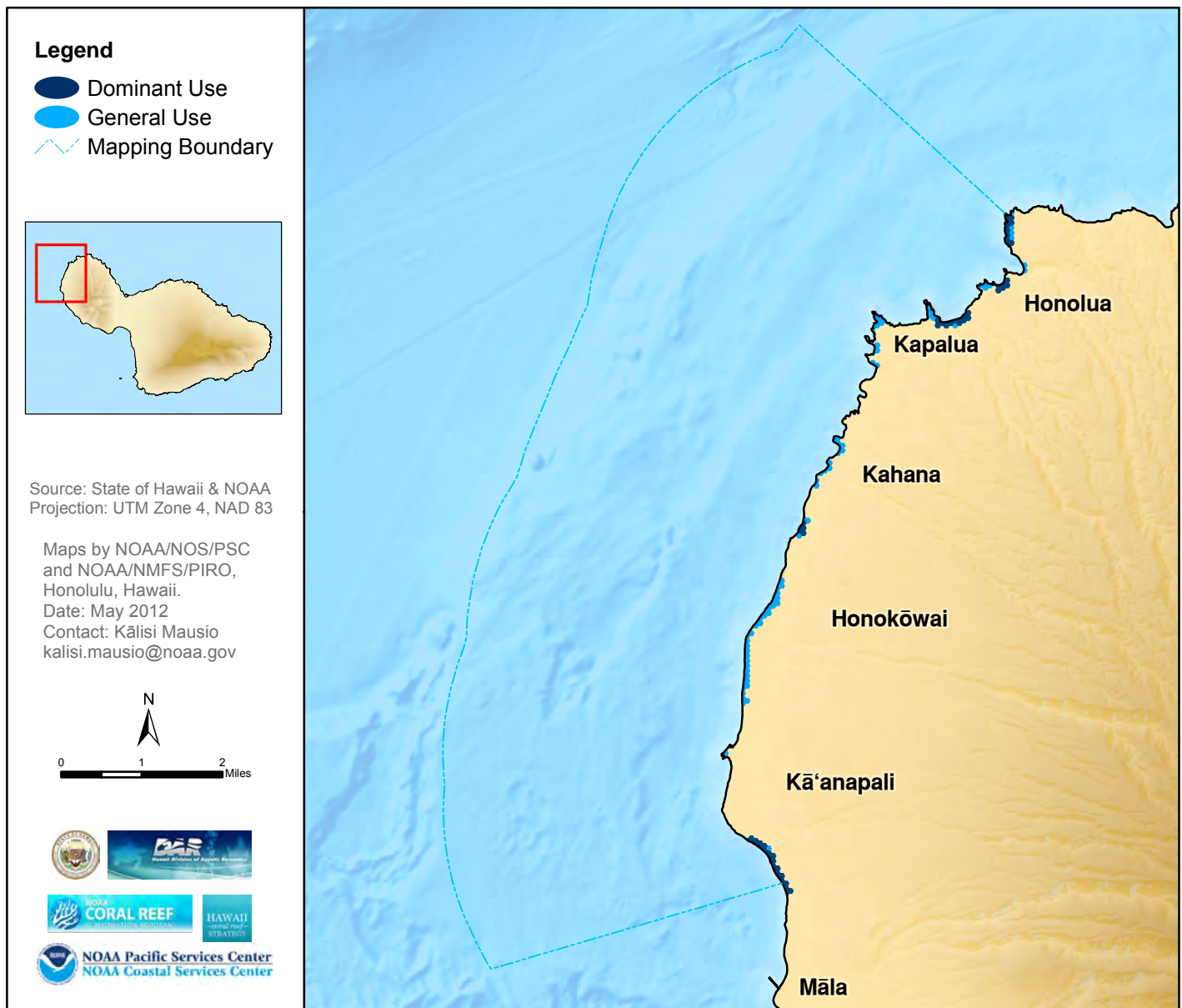
Camping is not permitted in most areas. However, people are allowed to camp as long as they have a fishing pole in the water and are fishing. No permit is necessary for camping while fishing (a loop-hole in camping laws). Camping while fishing occurs along Honolua and Windmills (north of Līpoa Point and outside of mapping area) shoreline, as well as S-turns. Līpoa Point is private property but is used year-round for camping during overnight fishing. Parking availability is the primary limiting factor for camping.

There is a conflict over people trespassing on private property to get to fishing camping areas. Illegal "rave" parties take place on open land at Honolua & Windmills. Mokuleia is also considered a party area, especially at graduation time.

People used to camp at Airport beach but the area now has security that kicks people out. People do not want to camp by resorts now (and resorts don't want people camping near them).

There are Kuleana land/ownership issues at Honolua Bay where camping does occur (by the Kuleana land owner, family and friends). Participants expressed concern about this location because of the lack of sanitation and presence of vehicles at the shoreline.

There are homeless camps to the south at DT Flemings, as well as at Makalua-puna Point.





Camping

- Dominant Use
- General Use
- Golf Course
- Mapping Boundary

- Hotel
- Beach Park
- Shoreline Access



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

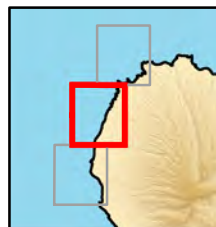




Camping

- Dominant Use
- General Use
- Golf Course
- ~ Mapping Boundary

- Hotel
- Beach Park
- Shoreline Access



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



NOAA Pacific Services Center
NOAA Coastal Services Center

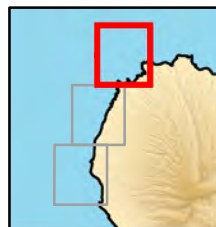
Pailolo Channel



Camping

- Dominant Use
- General Use
- Golf Course
- Mapping Boundary

- Hotel
- Beach Park
- Shoreline Access



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



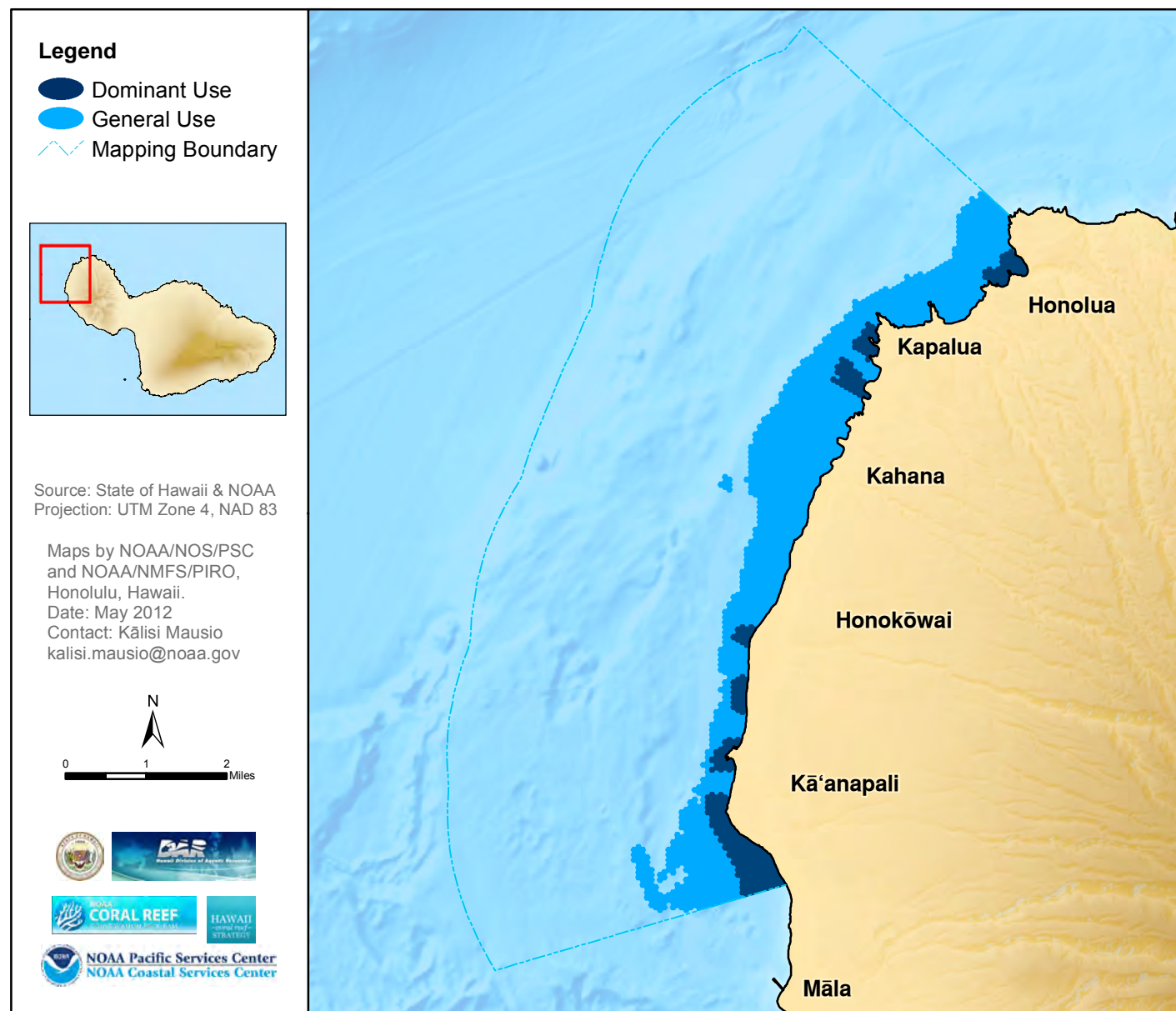
Commercial diving and snorkeling

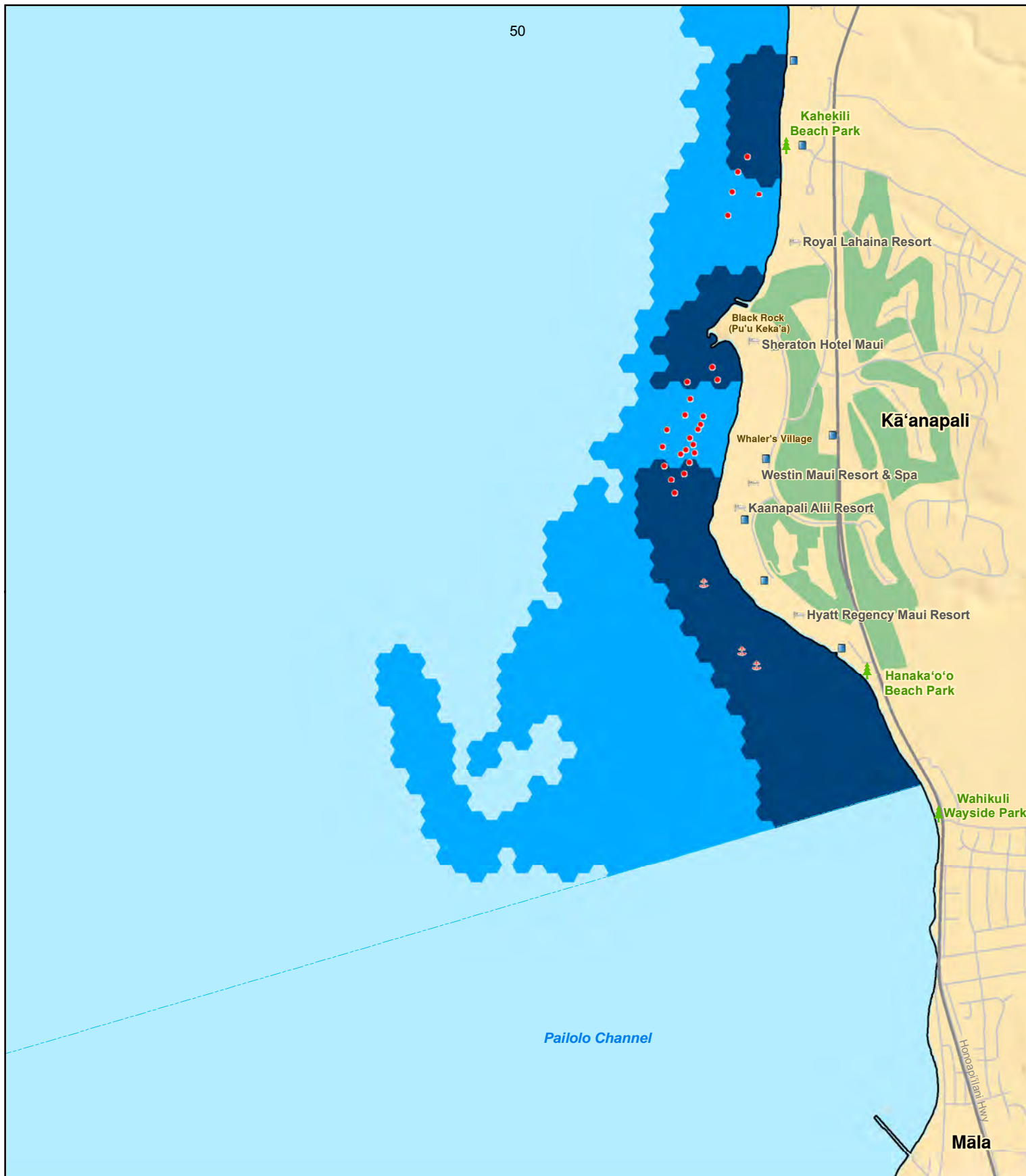
This activity includes all diving and snorkeling activities organized through a charter/commercial operator, including vessel and shore-based SCUBA, SNUBA, snorkel, free diving, kayak snorkel tours, including rentals. It excludes swimming, speardiving/extractive activities, recreational diving and snorkeling, and research activities.

This activity is seasonal depending on wind, waves, and weather. It takes place daily from April through November, and there is occasional activity from December through March. Snorkel kayak tours are dominant in summer months, from Fleming's to Honolua. SCUBA diving is dominant in Wahikuli and shore dive operations are at almost every resort. Many hotels have the capacity to conduct diving/snorkeling right off their property due to in-house watersports companies and rentals. There are not many deep dives in the area (there are a few deep wrecks just off of the Hyatt, but people do not dive these frequently). Almost every hotel rents kayaks and snorkels. Snorkeling intensity was estimated by participants to be approximately 70% higher in the summer.

There are five major operators: Trilogy, Gemini, Teralani 2&3, Hula Girl, Shangri-La and 7 Sailing catamarans. These companies use Honolua and Mokuleia Bay. Teralani pulls in to Honoheana for turtles, which brings in approximately 50-60 persons at a time. Hula Girl and Dive Shack use Kapalua Bay.

Kayak tours take place from DT Fleming to Honolua every day during the summer. There are also kayak tours from Mala Warf to Wahikuli, and off of Hawea. Heavy use takes place at Mokuleia / Slaughter House and Honolua. The beach in front of Whalers Village is dominated by commercial catamaran tours picking people up for snorkel tours. There are many turtles off of Embassy hotel, which brings snorkelers. Heavy boat use for this activity takes place in Honolua Bay, Cliff House, and Honoheana.





Commercial diving and snorkeling

- Dominant Use
- General Use
- Golf Course
- Mapping Boundary
- Hotel
- Beach Park
- Shoreline Access
- Charter Boat Moorings
- ⚓ Day-use moorings



West Maui Coastal Uses Participatory Mapping Project

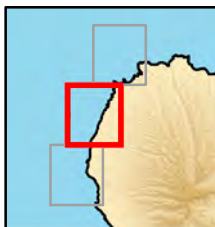
Honolua - Wahikuli Region, August 2011





Commercial diving and snorkeling

- Dominant Use
- General Use
- Golf Course
- Mapping Boundary
- Hotel
- Beach Park
- Shoreline Access
- Charter Boat Moorings
- Day-use moorings

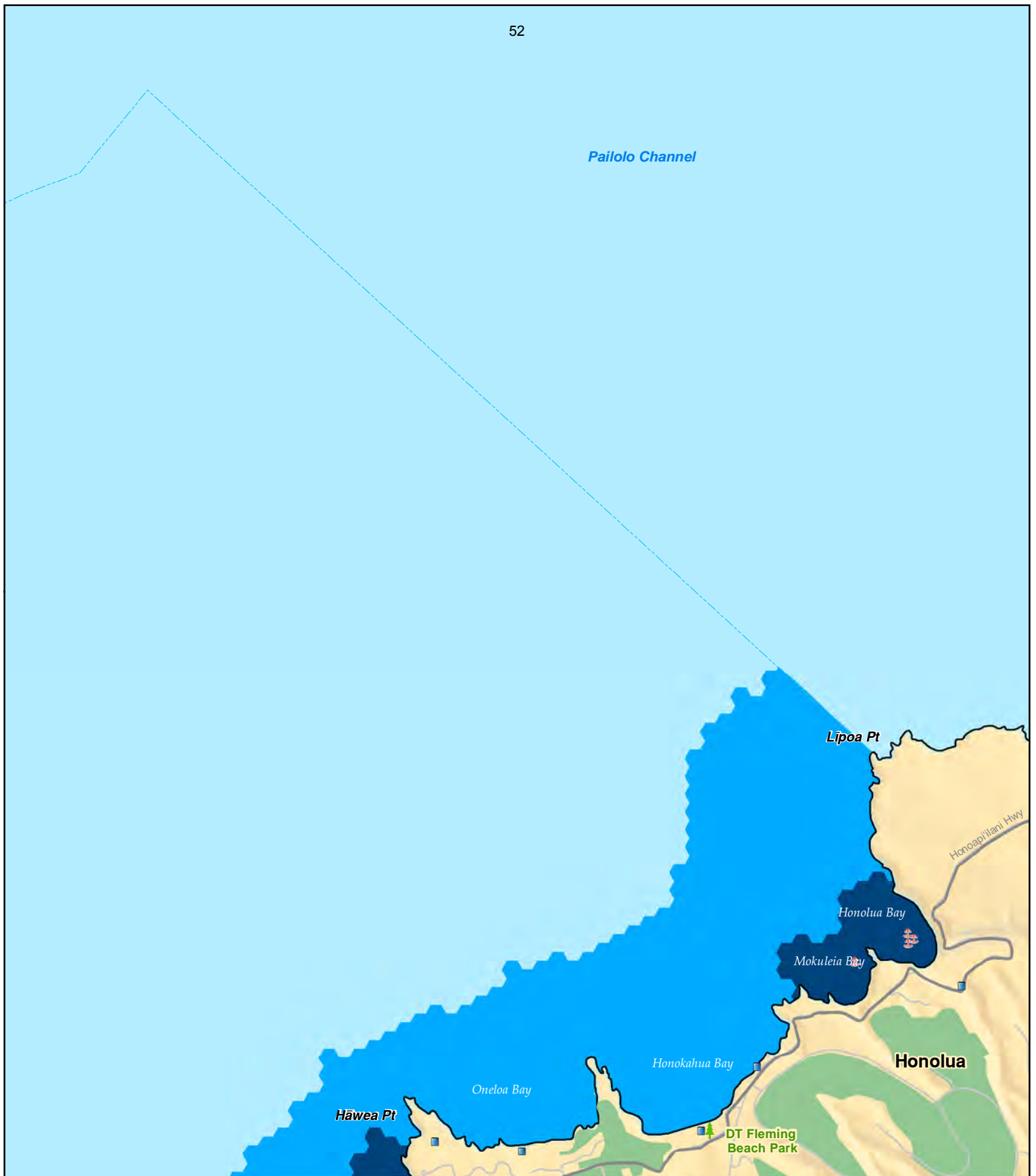


West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

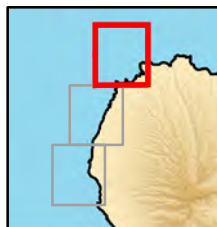


Pailolo Channel



Commercial diving and snorkeling

- Dominant Use
- General Use
- Golf Course
- Mapping Boundary
- Hotel
- Beach Park
- Shoreline Access
- Charter Boat Moorings
- Day-use moorings



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



Commercial motorized boating and marine mammal watching

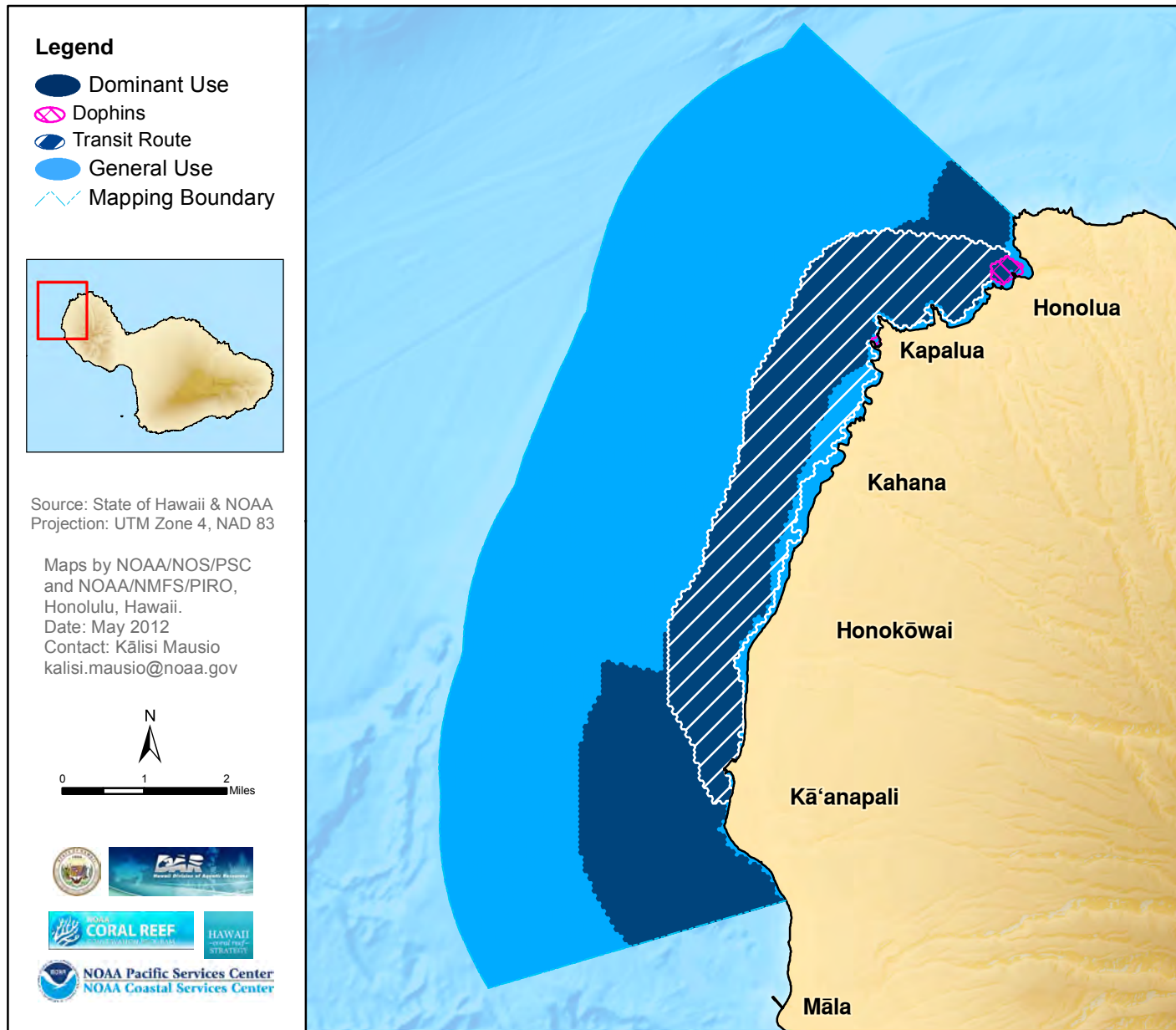
This activity includes dolphin tours, whale watching tours, scenic tours, bare boat rentals. It excludes non-commercial boating and mammal watching.

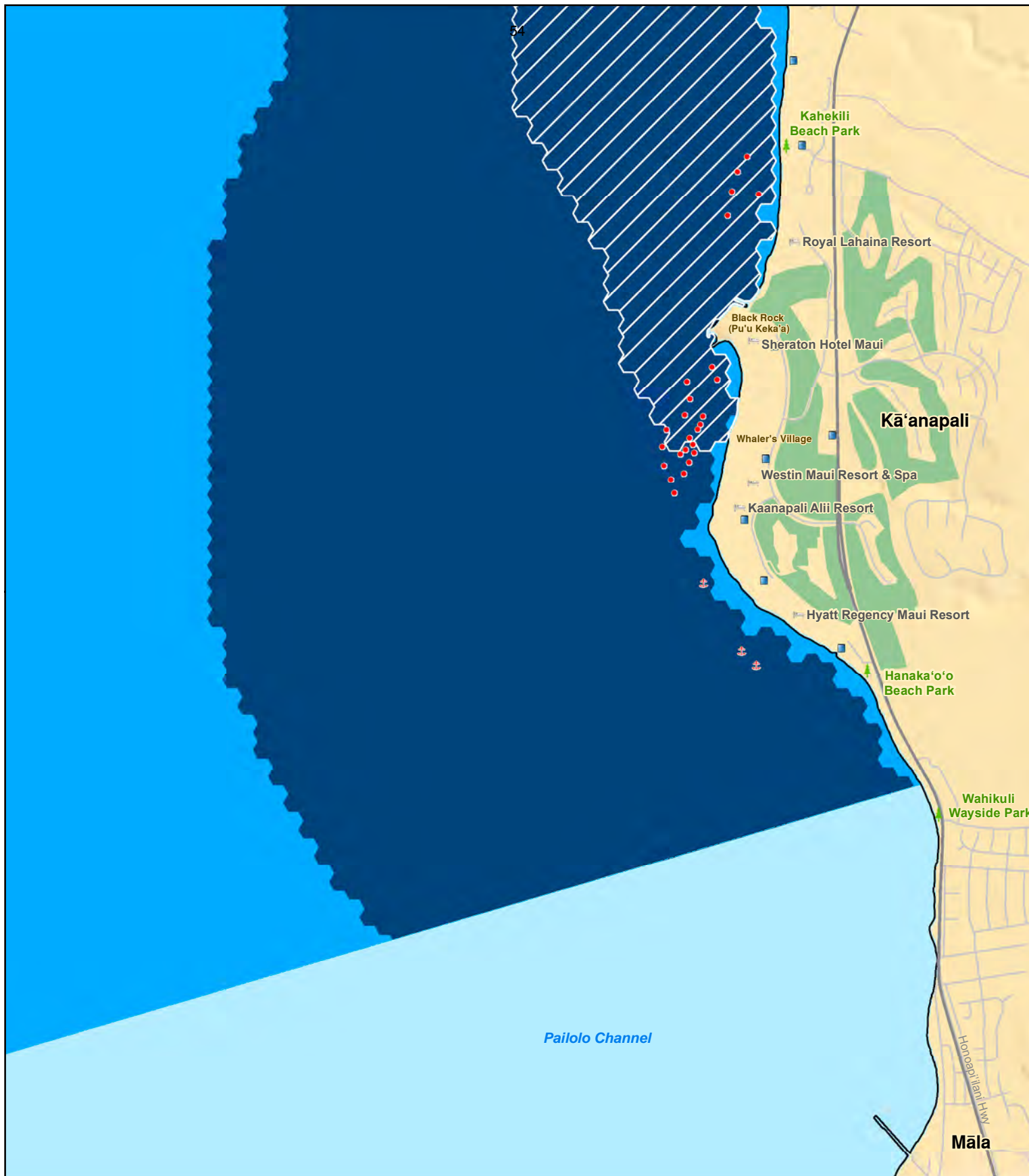
Use of the project area is seasonal depending on what mammals are present. Winter months (December 15 – May 15) are most active for whale watching. Dolphins are present year-round.

Winter tours are focused on whales, but most charters will also see dolphins. Commercial operators prefer to go offshore where there is no harassment from land-based viewers (who participants say go too close to mammals).

Dolphin tours take place in the summer. The most frequent dolphin tour region is from Mala to Black Rock (Pu'u Keka'a) from the shoreline to 1 mile out. Boats usually do not go North of Black Rock because of the wind line (this is a transit-only zone). Dolphins are rarely seen in Lahaina, but travel from Honokohau Bay to just before Lahaina, starting from 6am to 8am. Spinner dolphins can be seen swimming about 300 yards off shore in that area, and also from Honolua Bay to Hawea Bay. Dolphins reproduce year round but more juvenile dolphins are seen August through September.

Boats load on the beach at Kā'anapali where there is a steep drop-off from the shoreline. Vessel interactions can be an issue from Ka'anapali, and there is some conflict with diving $\frac{3}{4}$ -1 mile offshore. Some boats will travel to Honolua Bay whale watching and then snorkel at Honolua. Offshore boating distance is limited by weather. Operators used to go closer to shore, but overlap with recreational swimmers and free divers makes it dangerous to transit shallower than 100 feet deep. Some inflatables can get pretty close to shore and do so around the points.





Commercial motorized boating and marine mammal watching

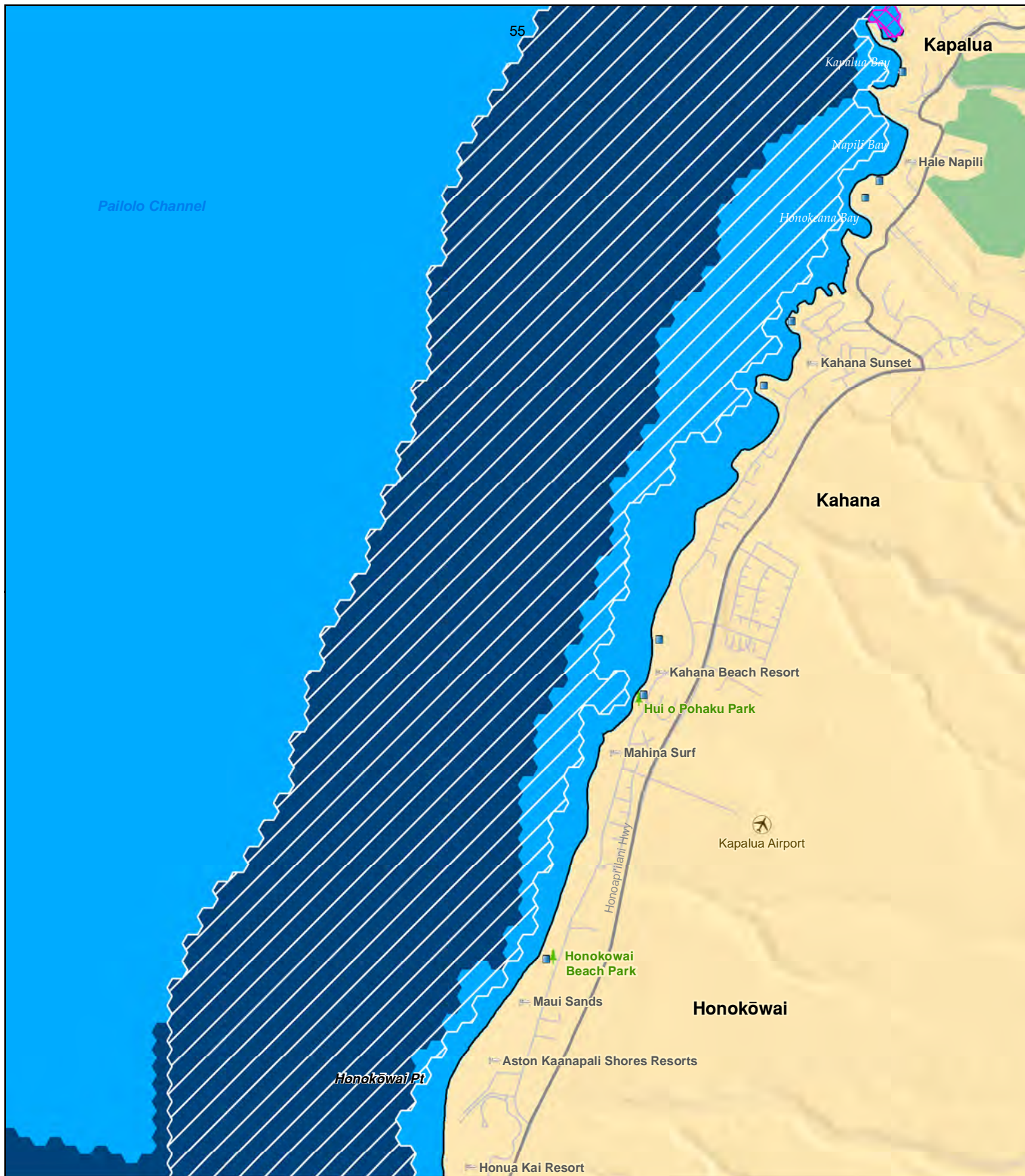
- Dominant Use
- Dolphins
- Transit Route
- General Use
- Golf Course
- Hotel
- Beach Park
- Boat moorings
- Shoreline Accessway
- Mapping Boundary



West Maui Coastal Uses Participatory Mapping Project

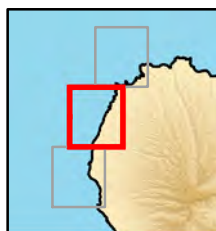
Honolua - Wahikuli Region, August 2011





Commercial motorized boating and marine mammal watching

- Dominant Use
- Dolphins
- Transit Route
- General Use
- Golf Course
- Hotel
- Beach Park
- Boat moorings
- Shoreline Accessway
- Mapping Boundary

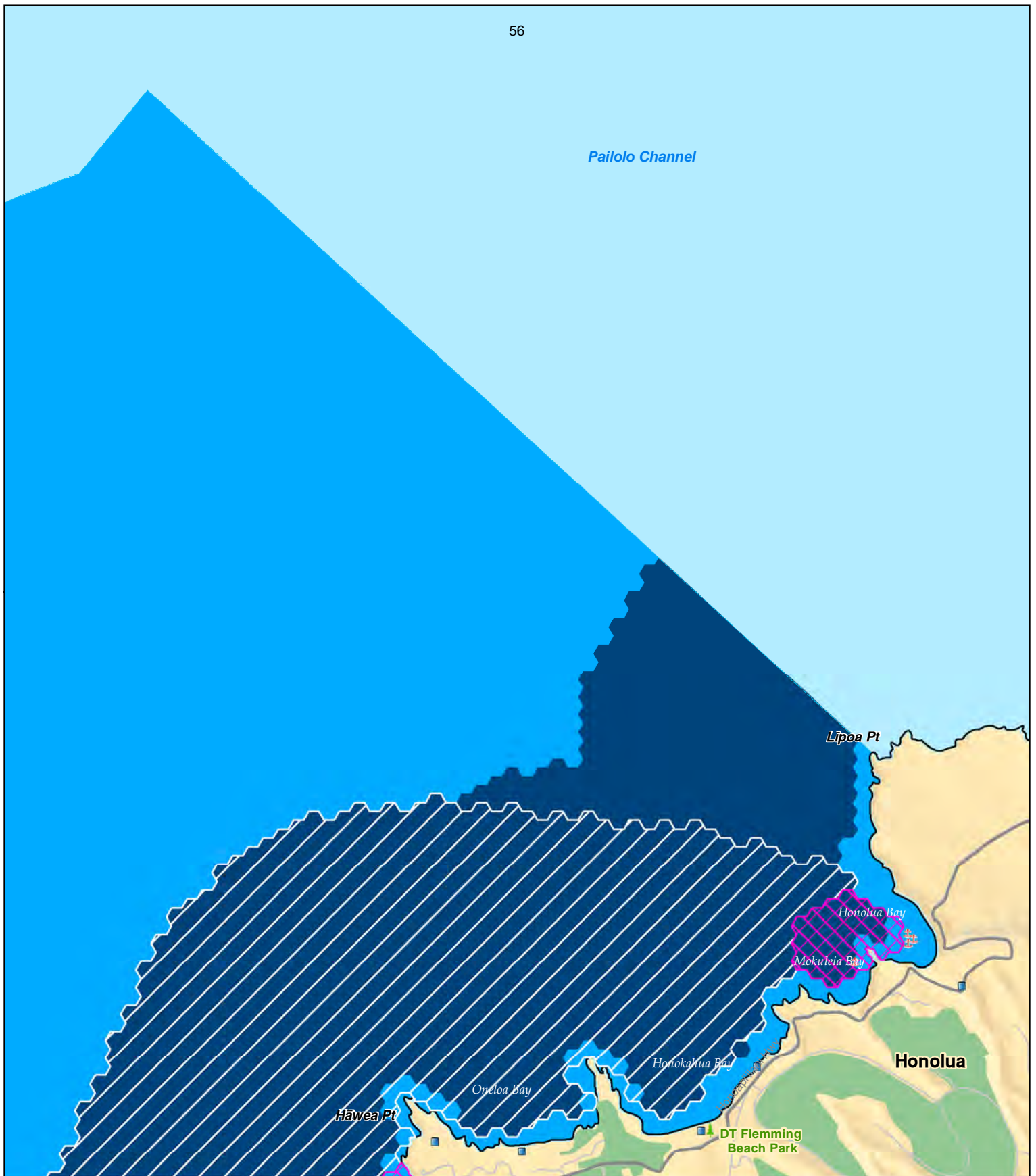


West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

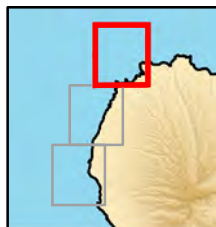


Pailolo Channel



Commercial motorized boating and marine mammal watching

- | | |
|-----------------|-----------------------|
| ● Dominant Use | 🏨 Hotel |
| 🐬 Dolphins | 🌳 Beach Park |
| 🚤 Transit Route | ⚓ Boat moorings |
| 🌊 General Use | 🚶 Shoreline Accessway |
| 🌳 Golf Course | 📏 Mapping Boundary |



West Maui Coastal Uses Participatory Mapping Project

Honolua - Waihi Region, August 2011



Non-commercial, non-motorized boating

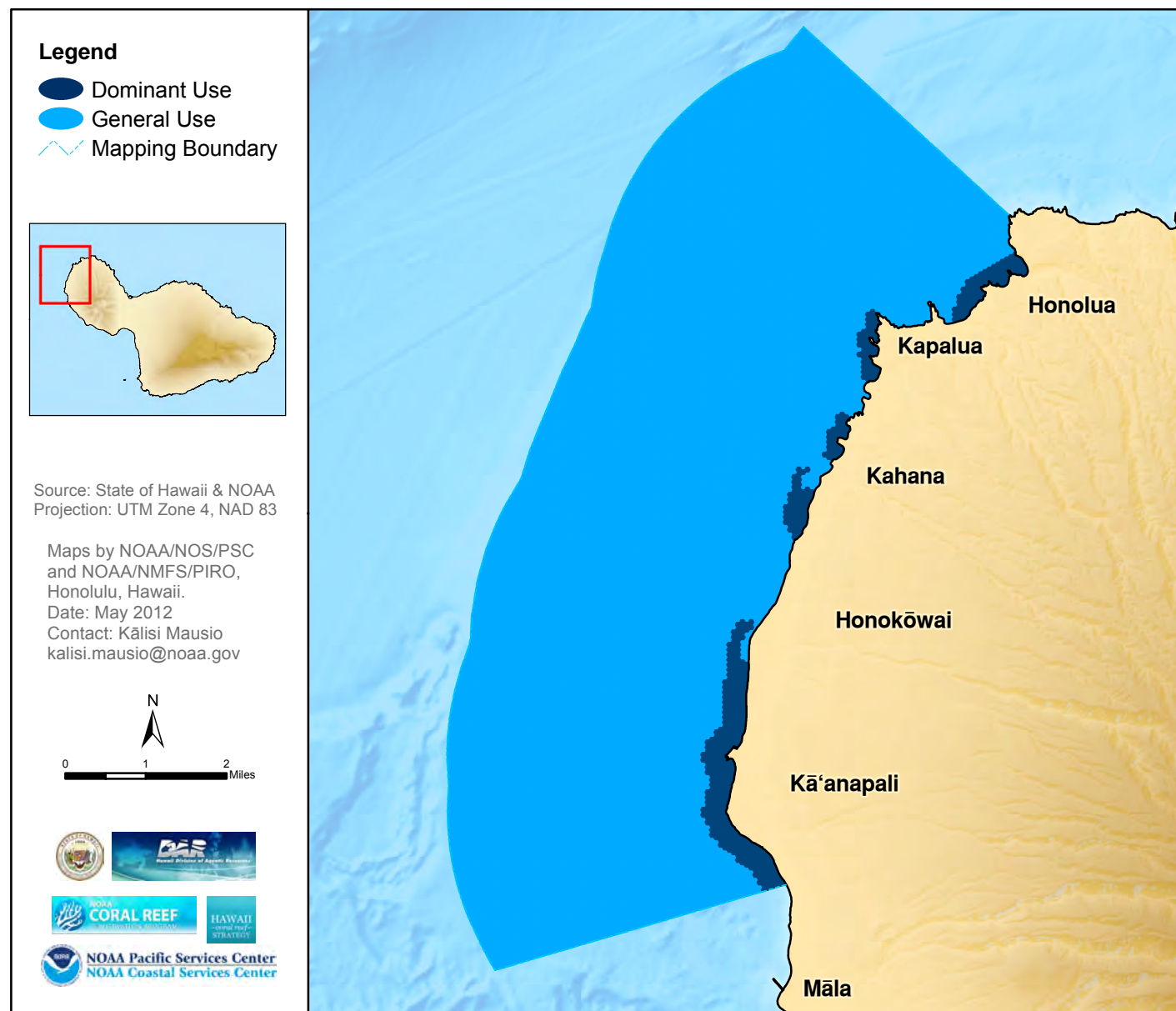
This activity includes outrigger canoe paddling (individual and team), racing, paddle driven kayaking, kayak-based snorkeling or free diving, flat water stand-up-paddling (SUP), wind (non-wave) oriented kite surfing, and inflatable floatation devices. It excludes charter/commercial boating, use of motorized vessels, and surf-oriented SUP.

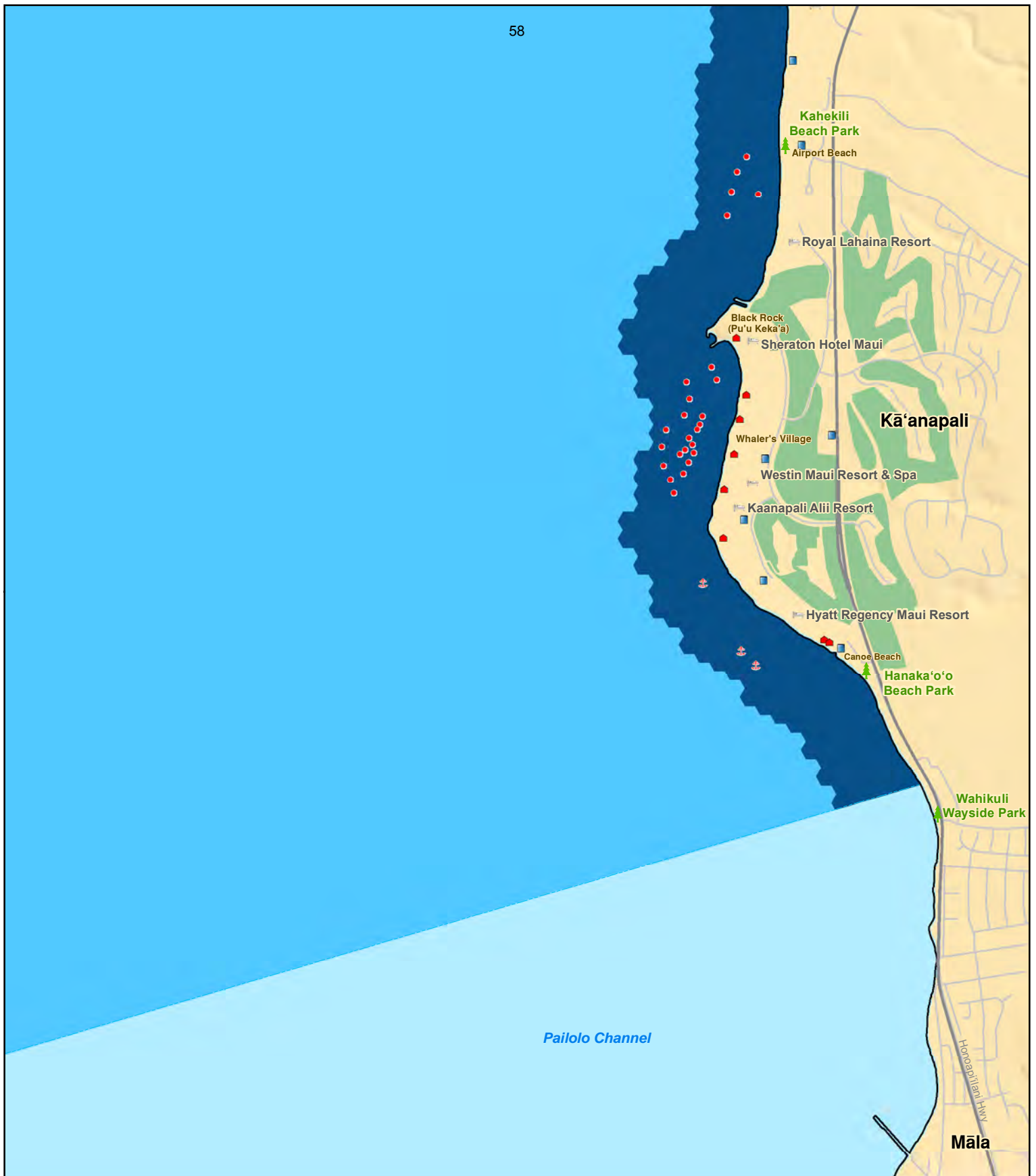
This activity can take place off the entire shoreline, especially during whale season. Any beach with easy access is used. Flemings to Honolua has guided tours. Public access at Kahana Village is used to walk out boards.

The long distance canoe club operates seasonally. Canoe racing season is from February to September. Outrigger canoes use the area from Flemings to Black Rock to Canoe Beach. Team canoe races occur from Hanaka'ō'ō to Three Islands. The Hawaii Outrigger State Championship uses Canoe beach.

Kite surfing is not very common, but can take place up to 1 mile offshore, usually Kā'anapali to Kapalua. Kite surfing is not permitted off of Kā'anapali, but use still occurs mostly on Kona wind days.

Honolua Bay is used only in summer, as it is too rough in winter.





Non-commercial,
non-motorized boating

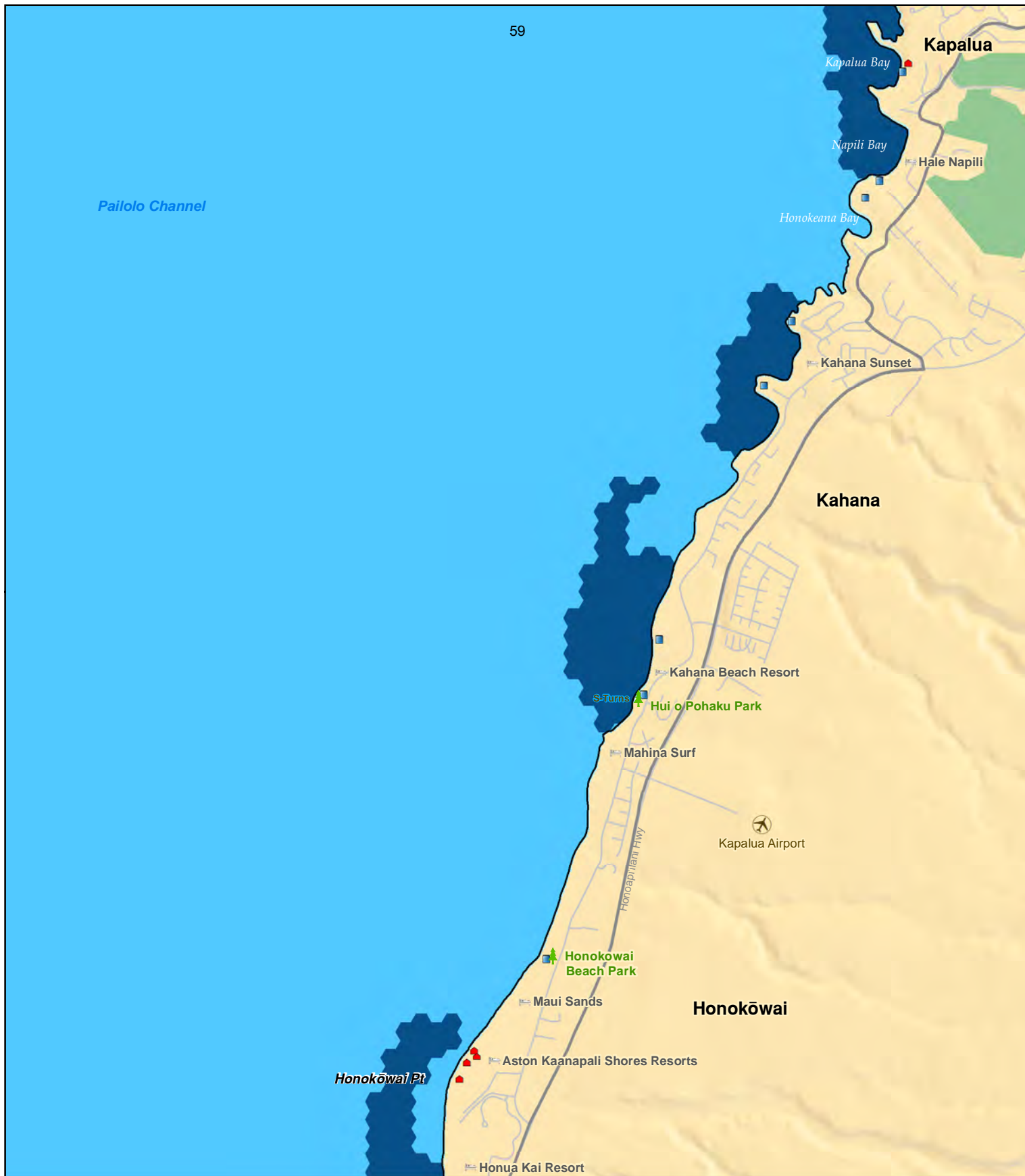
- | | | | |
|--|------------------|--|-----------------------|
| | Dominant Use | | Hotel |
| | General Use | | Charter Boat Moorings |
| | Golf Course | | Shoreline Access |
| | Mapping Boundary | | Concession Stand |
| | Beach Park | | Day-use Moorings |



West Maui Coastal Uses Participatory Mapping Project

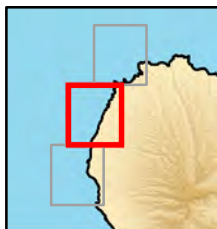
Honolua - Wahikuli Region, August 2011





Non-commercial, non-motorized boating

- | | | | |
|--|------------------|--|-----------------------|
| | Dominant Use | | Hotel |
| | General Use | | Charter Boat Moorings |
| | Golf Course | | Shoreline Access |
| | Mapping Boundary | | Concession Stand |
| | Beach Park | | Day-use Moorings |

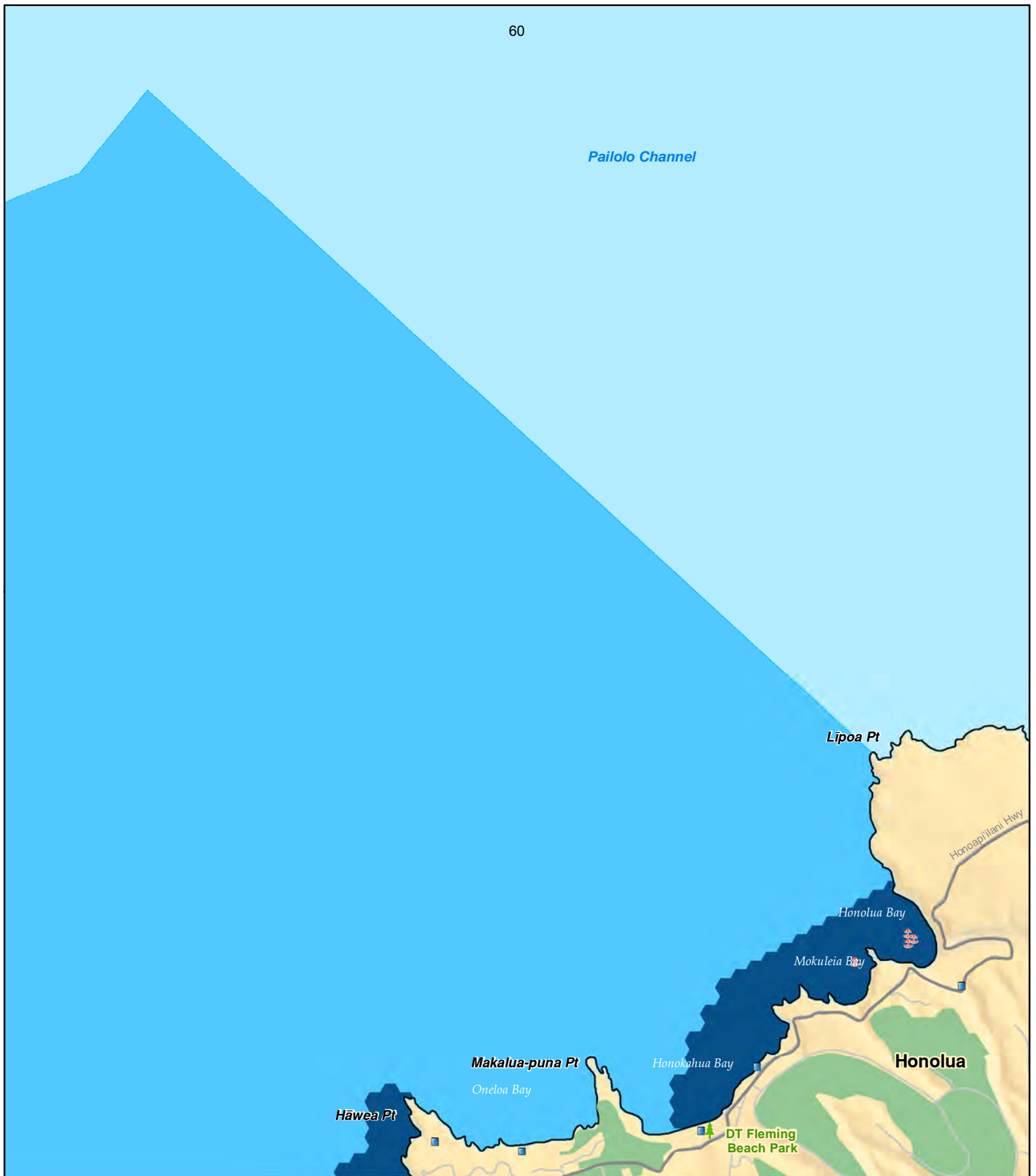


West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011

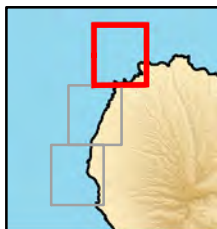


Pailolo Channel



Non-commercial,
non-motorized boating

- | | | | |
|--|------------------|--|-----------------------|
| | Dominant Use | | Hotel |
| | General Use | | Charter Boat Moorings |
| | Golf Course | | Shoreline Access |
| | Mapping Boundary | | Concession Stand |
| | Beach Park | | Day-use Moorings |



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



Recreational diving and snorkeling

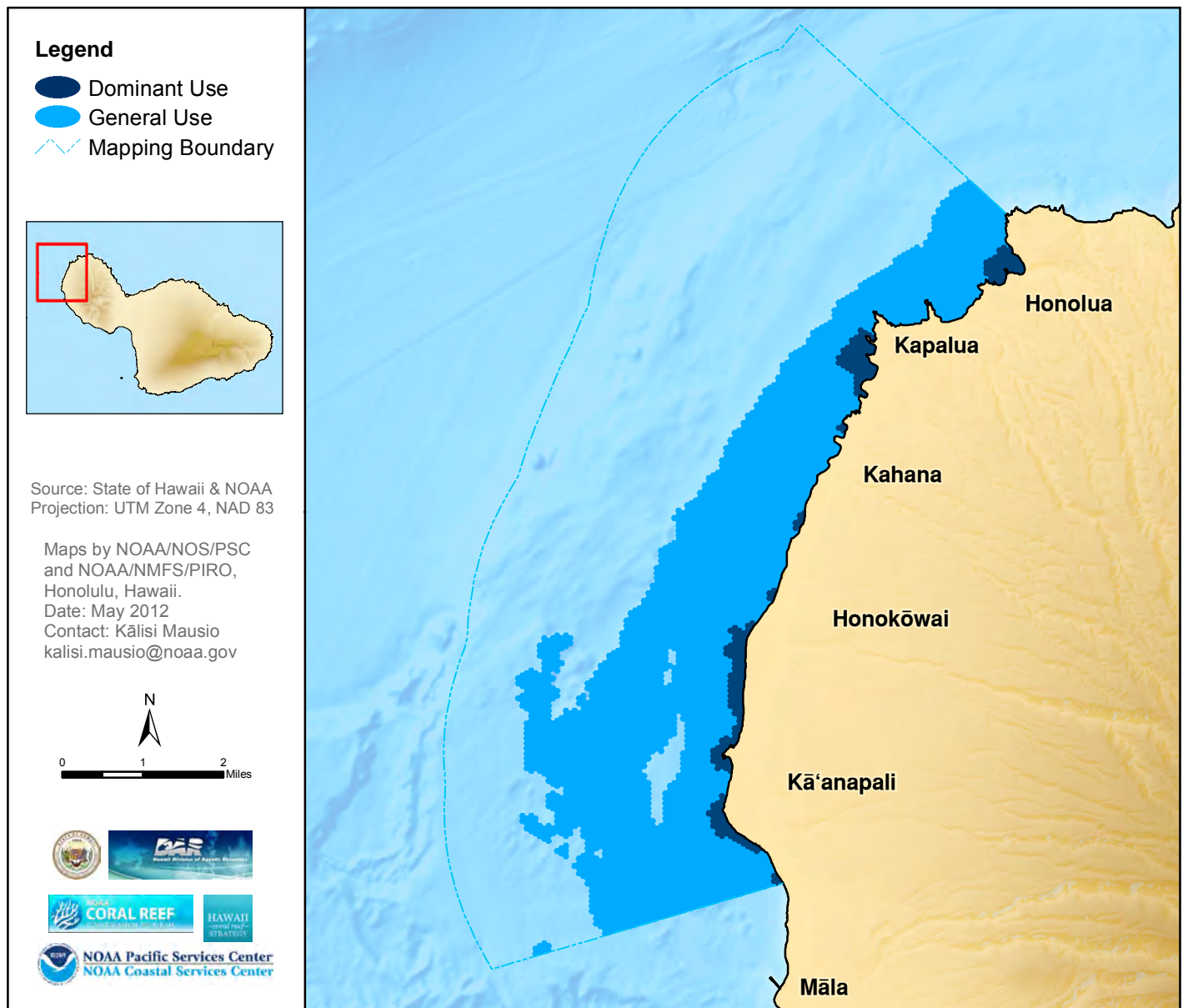
This activity includes SCUBA diving, snorkeling, and free diving (not for the purpose of fishing or gathering), both shore-based and vessel-based activities. It excludes diving for the purpose of research, spearfishing, extractive activities, and charter/commercial activities.

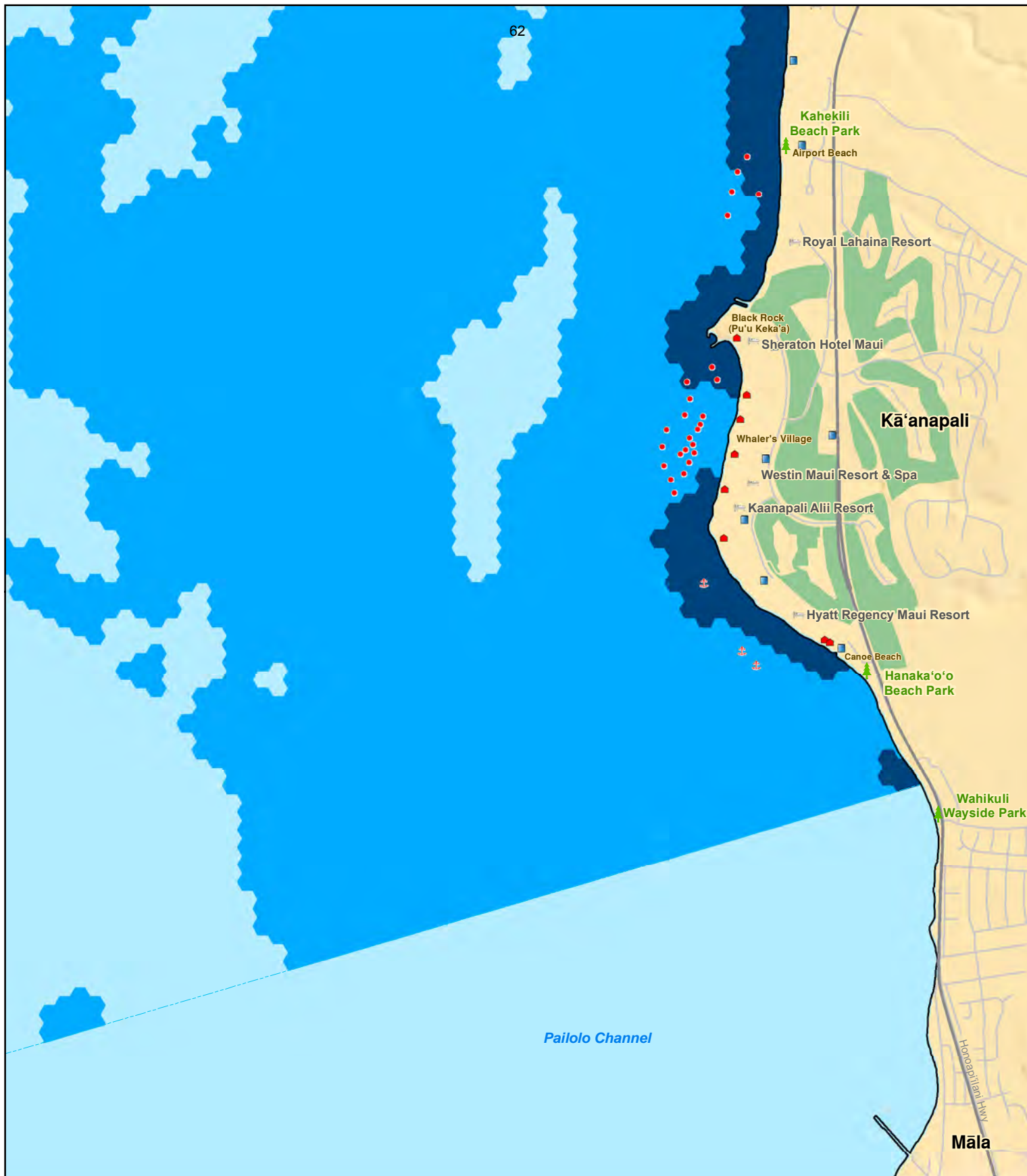
This activity takes place in areas that are easily accessible, predominantly during the summer months (the mapped area is for the summer, not the winter high-surf season). It can take place on every shoreline, and is most common in front of hotels and condos. The activity occurs more frequently off of points (rocky areas) vs. sandy bays, and people are generally directed to sites via tourism publications.

Honolua Bay has perhaps the highest density of users at any given time during the summer due to proliferation of boats and shoreline access. Summer sees heavy usage at Napili Bay and Kā'anapali, and Black Rock/Pu'u Keka'a has both recreational and commercial diving and snorkeling. SCUBA and snorkeling is taught at Wahikuli. Alaeloa/Honokeana Cove has a high density of turtles, bringing many users to the area.

During the winter it is difficult to dive anywhere north of Kā'anapali. Offshore dive spots are not accessible without a boat, and north of Mala Warf there aren't many offshore dive spots.

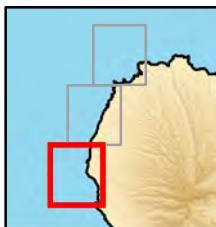
Participants mentioned concern regarding the environmental impact of snorkeling and diving at Hawea Point where shearwater birds make nests. Mahinahina used to have more activity, but now the reef is overgrown with algae. The footprint of use has changed since the 1990s because of sediment and algae growth.





Recreational diving and snorkeling

- | | | | |
|--|------------------|--|-----------------------|
| | Dominant Use | | Hotel |
| | General Use | | Day-use Moorings |
| | Golf Course | | Charter boat moorings |
| | Mapping Boundary | | Concession Stand |
| | Beach Park | | Shoreline Access |



West Maui Coastal Uses Participatory Mapping Project

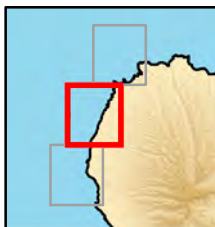
Honolua - Wahikuli Region, August 2011





Recreational diving and snorkeling

- Dominant Use
- General Use
- Golf Course
- ~ Mapping Boundary
- 🌳 Beach Park
- 🏠 Hotel
- ⚓ Day-use Moorings
- Charter boat moorings
- ▲ Concession Stand
- Shoreline Access

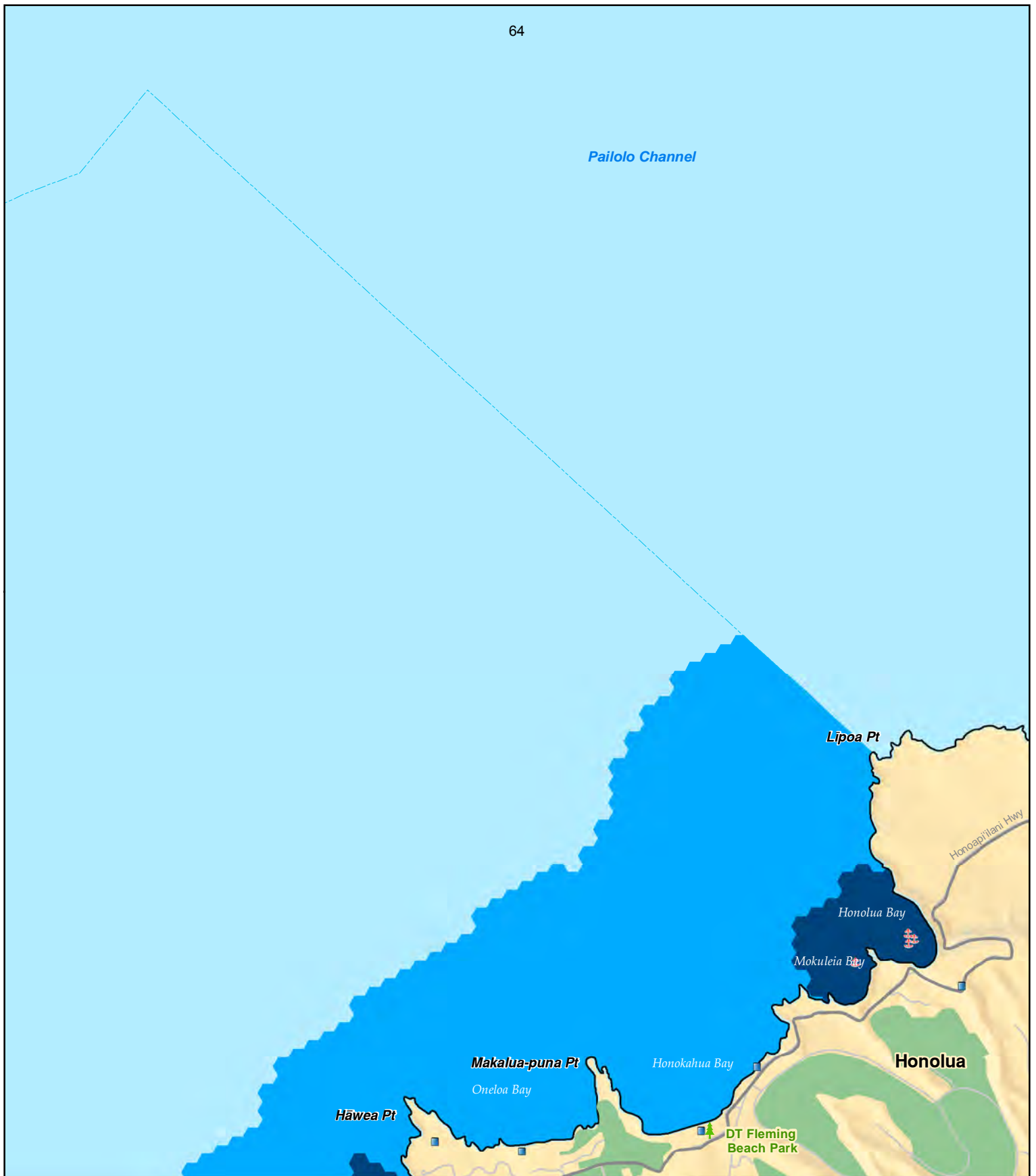


West Maui Coastal Uses Participatory Mapping Project








Honolua - Wahikuli Region, August 2011

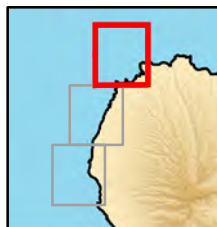


Pailolo Channel



Recreational diving and snorkeling

- | | | | |
|--|------------------|---|-----------------------|
|  | Dominant Use |  | Hotel |
|  | General Use |  | Day-use Moorings |
|  | Golf Course |  | Charter boat moorings |
|  | Mapping Boundary |  | Concession Stand |
|  | Beach Park |  | Shoreline Access |



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



Surfing

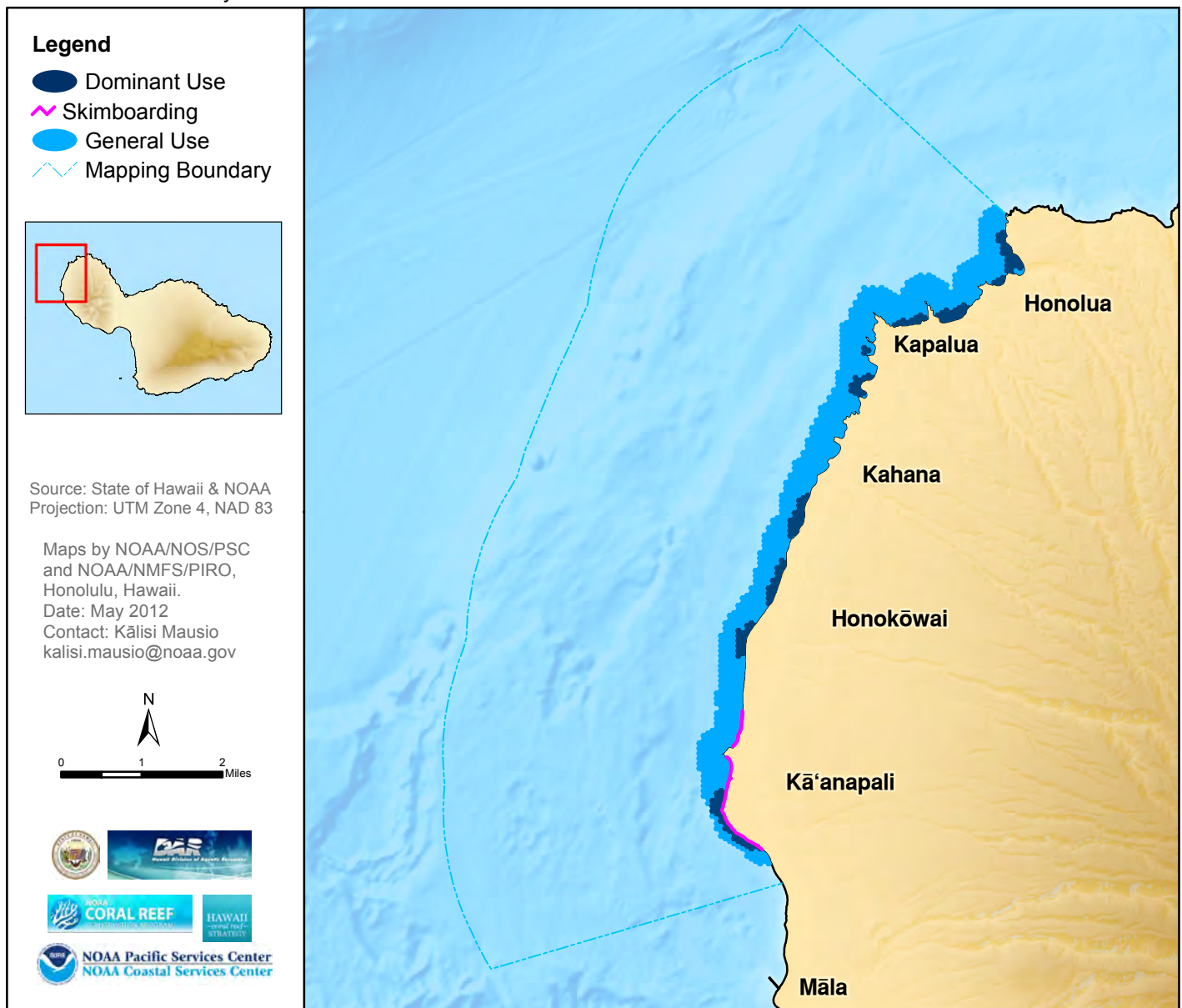
This “wave oriented” activity includes surfing, surf-style SUP (stand up paddle), windsurfing, wave-oriented kite surfing, boogie-boarding, body surfing, skim boarding. It does not include flat water SUP, or board activities that do not involve waves.

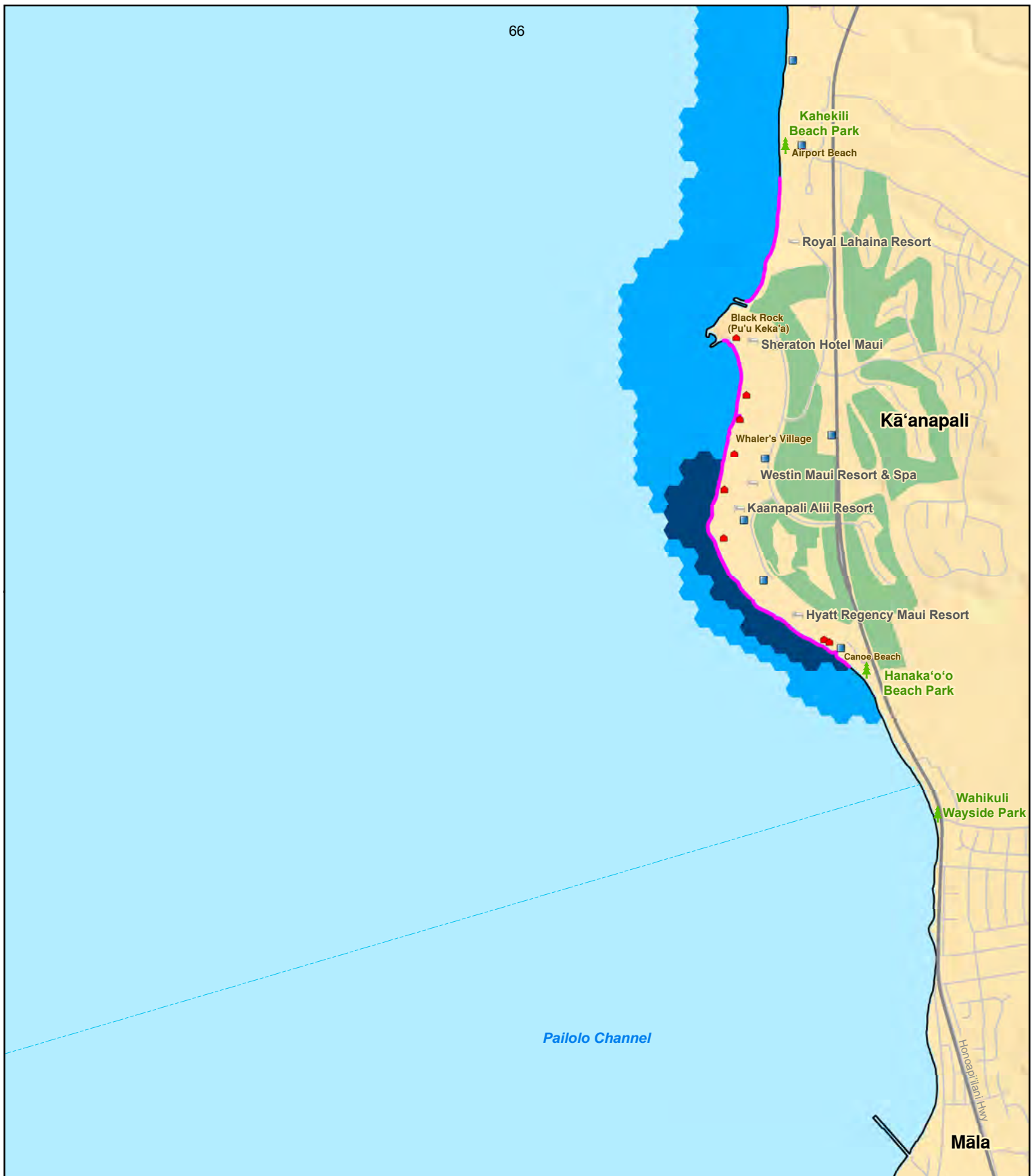
Surfing is a highly seasonal activity, and most activity occurs fairly close to shore. The winter months (October through March) bring north swells and waves to north facing shores (Napili to Honolua). Summer months (March – October) see more waves on south facing shores (Kā'anapali to Napili), although south facing surf can be present year-round. Stand-up paddle (SUP) is less seasonal. Boogie boarding can take place year-round. Skimboarding is seasonal from September through March where there is a shorebreak, and takes place with moderate intensity from 10am to 3pm on Ka'anapali Beach.

There are increasing conflict and safety issues due to hotel surfboard rentals. Surfing is now occurring in locations or at times of day that aren't optimal. Surf schools are at Ka'anapali point.

Winter use is heavier in locations such as Honolua Bay, Honokeana Cove (aka Little Makaha), Napili Bay, S-Turns, and Kā'anapali. Summer use is heavier at Sandbox, Kā'anapali Point, Mala Wharf. Summer swell can push up to DT Flemings and wrap around east.

There is an informal SUP ban at Honolua Bay up to half a mile offshore. This is due to concern that a loose board could hurt kids in the bay. The ban is enforced by locals. Kite surfing is not permitted off Kā'anapali, but it still occurs on Kona wind days. Kite surfing is common at S-turns and in front of the Embassy Resort.





Surfing

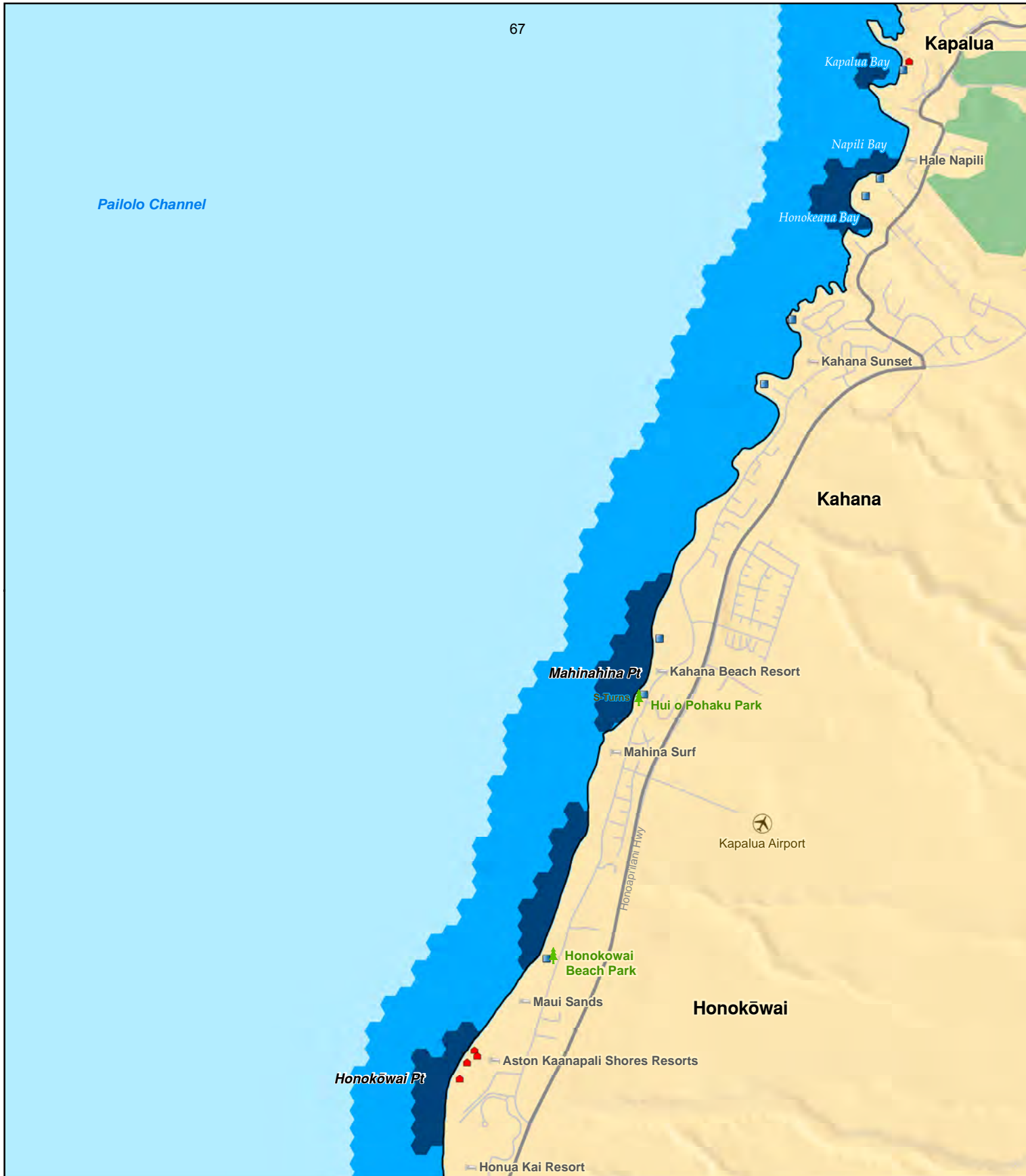
- Skimboarding
- Dominant Use
- General Use
- Golf Course
- Hotel
- Beach Park
- Shoreline Access
- Concession Stand
- Mapping Boundary



West Maui Coastal Uses Participatory Mapping Project

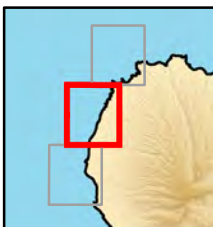
Honolua - Wahikuli Region, August 2011





Surfing

- Skimboarding
- Dominant Use
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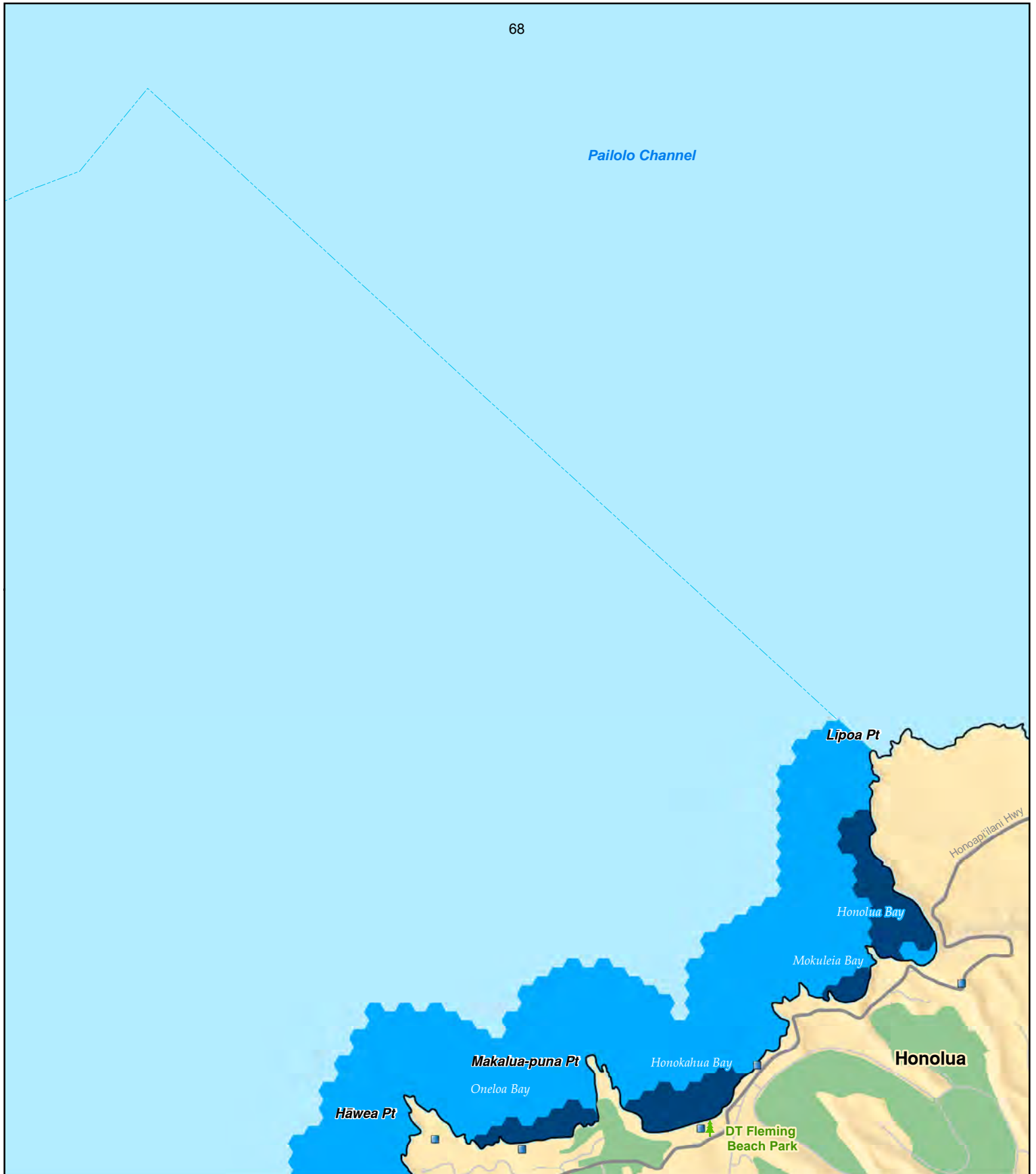


West Maui Coastal Uses Participatory Mapping Project


Honolua - Wahikuli Region, August 2011

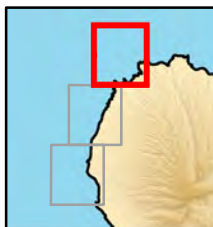


Pailolo Channel



Surfing

-  Skimboarding
-  Dominant Use
-  General Use
-  Golf Course
-  Hotel
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West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



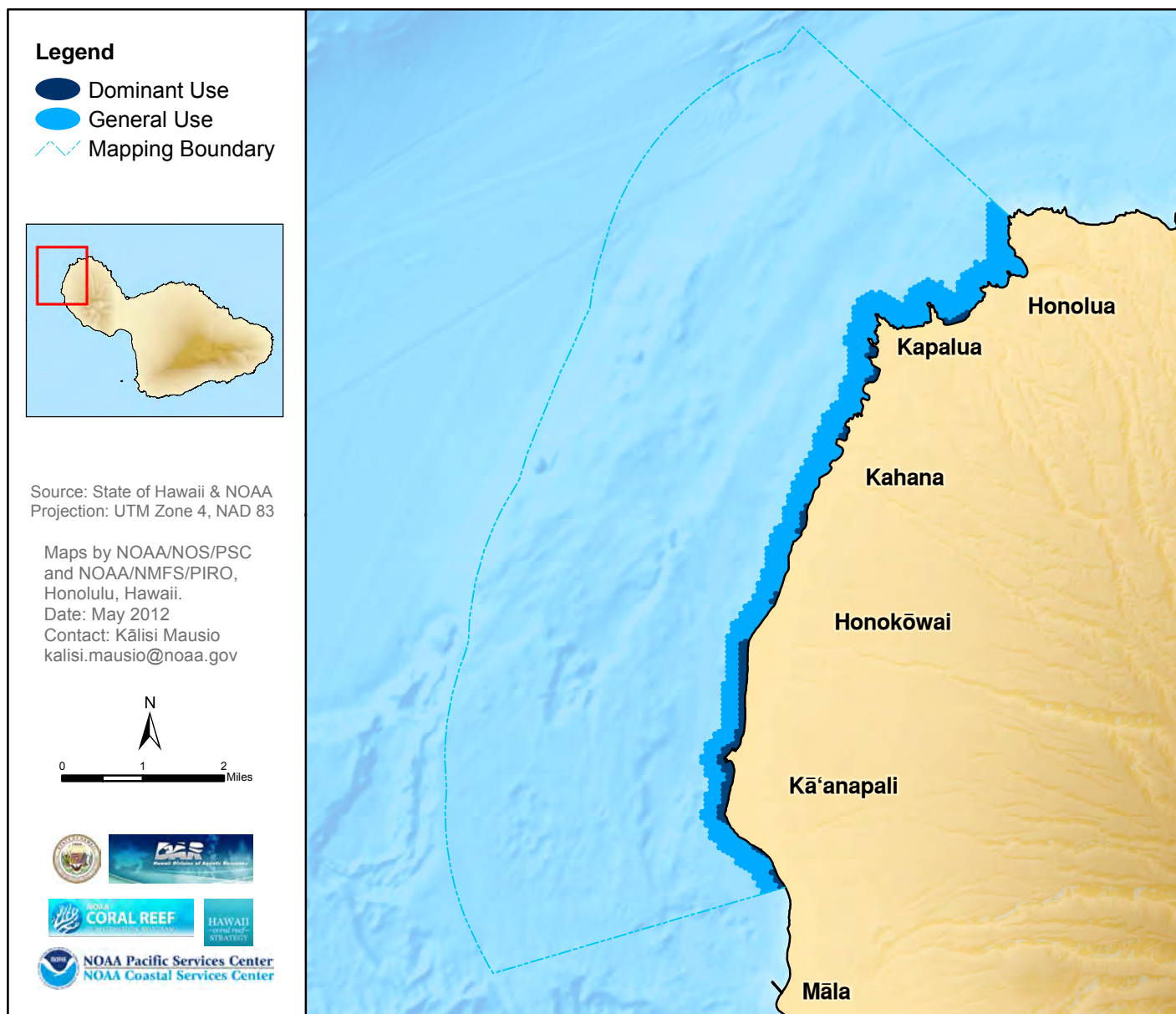
Swimming

The swimming category includes racing, general exercise, group or individual activities, and triathlon events. It does not include swimming while engaging in free diving or snorkeling, or wading in shallow water.

Swimming takes place in the project area year round, although more frequently in the summer. Use is more intense in locations with easy access and where there are parking lots, beach parks, and hotels.

The Maui Channel swim (Lanai to Kā'anapali) takes place in early September. Several hundred swimmers end at beach near Sheraton – Kā'anapali Beach Hotel. There is a race from Kahekili to Black Rock in July. The Xterra triathlon takes place in October, and the Tin Man Triathlon also takes place in the area. Most races take place in the summer, and a schedule of events can be found on the Maui Masters website.

Participants mentioned that there used to be swimming buoys about 300 yards out, and it would be good to have these back. Intense use takes place in front of hotels in Kā'anapali and now Westin Kā'anapali Ocean Resort Villas. Baby Beach south of Mala Wharf is heavily used in shallow areas. Napili. Kapalua, Airport Beach, Kapalua, many other are also intense swim spots. Less swimming takes place from S-turns to Honokowai because there are no beaches.





Swimming

- Dominant Use
- General Use

■ Golf Course

--- Mapping Boundary

🌴 Beach Park

🏨 Hotel

⚓ Day-use Moorings

● Charter boat moorings

■ Shoreline Access

▲ Concession Stand

● Wastewater Facility



West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011





Swimming

● Dominant Use

● General Use

■ Golf Course

~ Mapping Boundary

🌴 Beach Park

🏨 Hotel

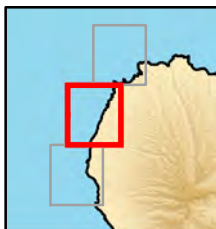
⚓ Day-use Moorings

● Charter boat moorings

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🚚 Concession Stand

● Wastewater Facility



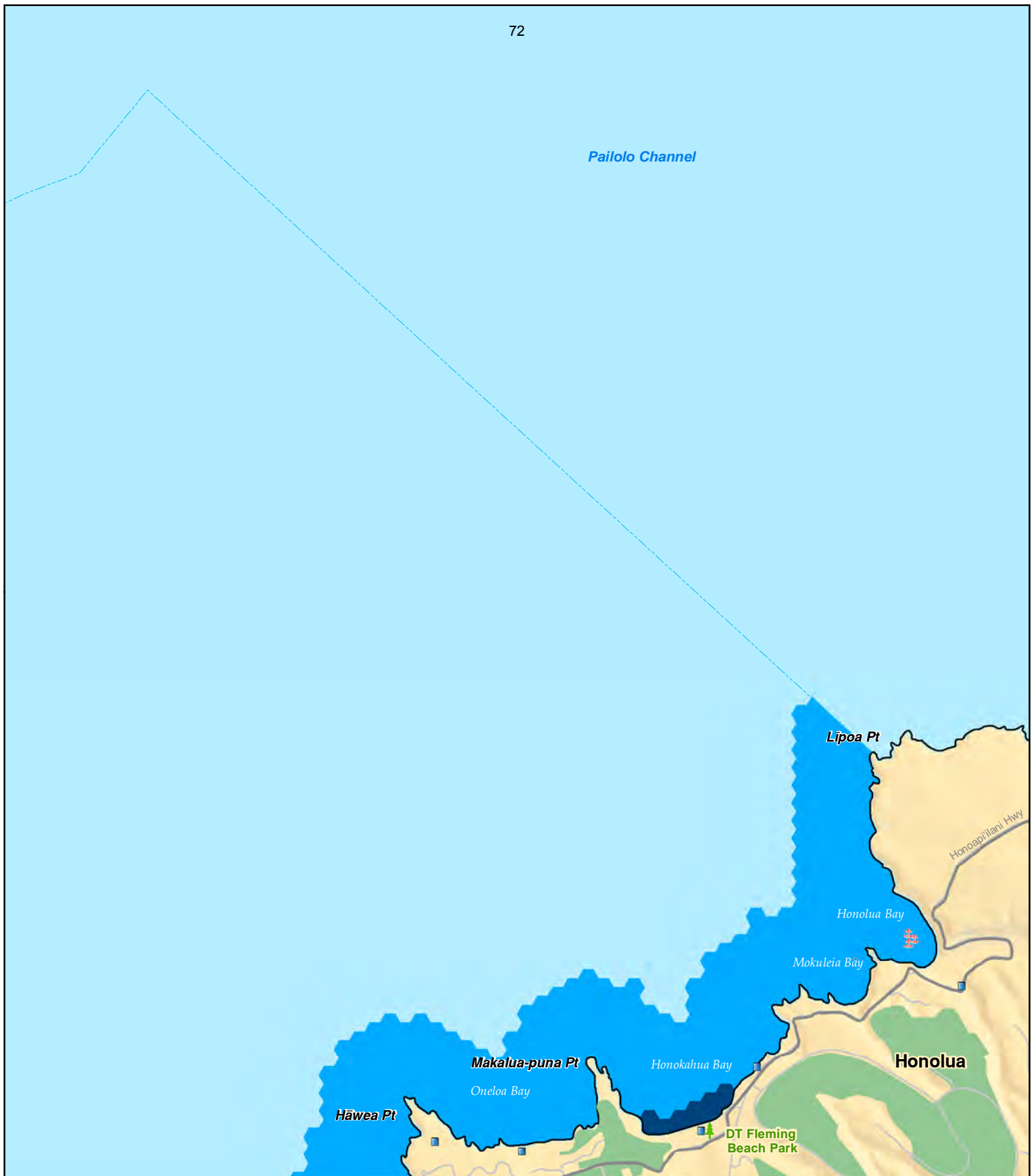
West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



NOAA Pacific Services Center
NOAA Coastal Services Center

Pailolo Channel



Swimming

- Dominant Use
- General Use

■ Golf Course

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▲ Beach Park

■ Hotel

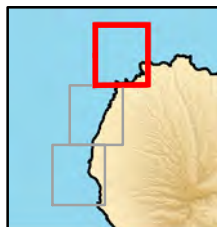
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West Maui Coastal Uses Participatory Mapping Project

Honolua - Wahikuli Region, August 2011



Thrill craft and high speed activities

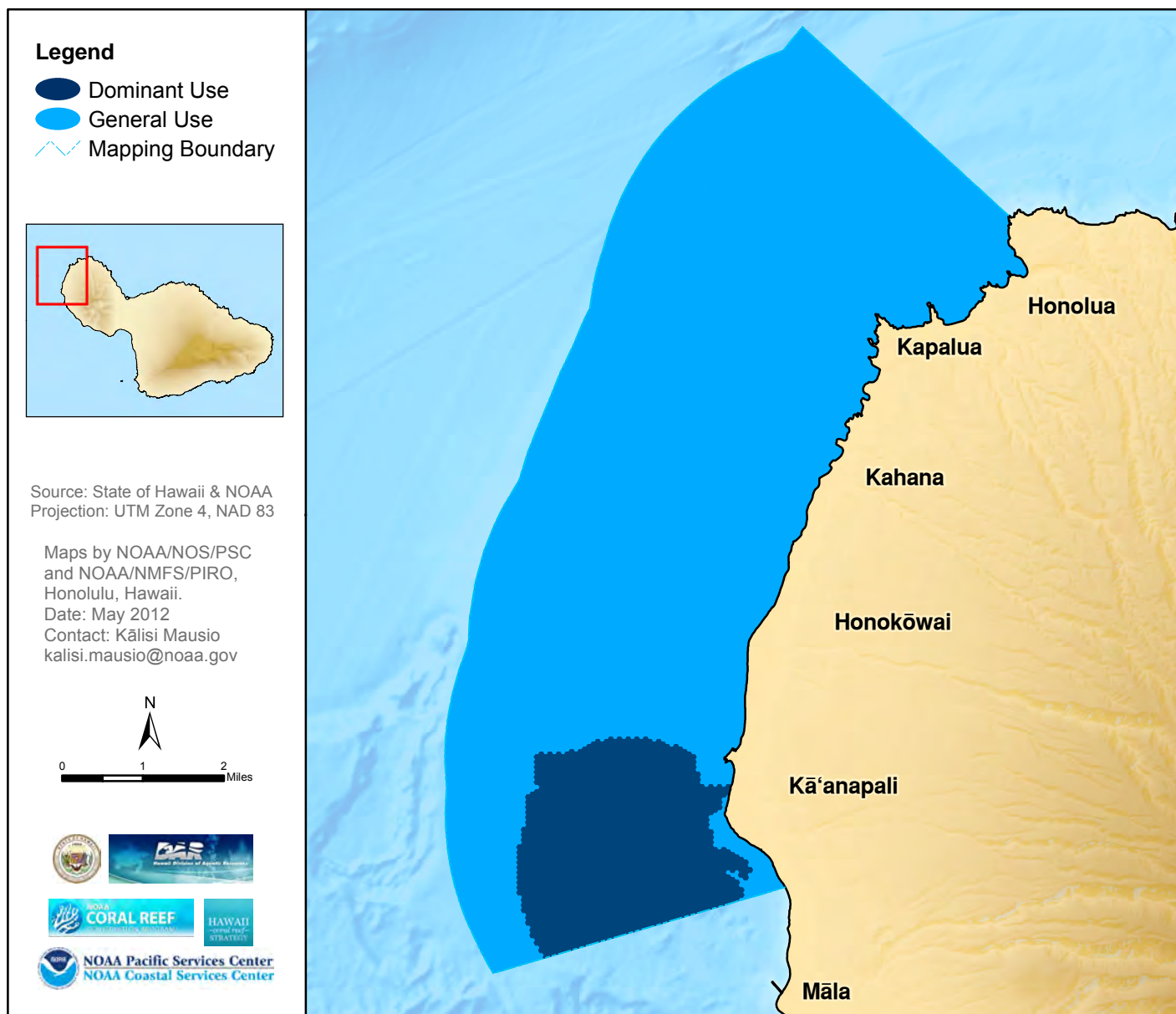
This category includes parasailing tours, jet boats, jet-skis, motorized kayaks, coastal off-roading, and thrill craft rental. It excludes all non-motorized vessels.

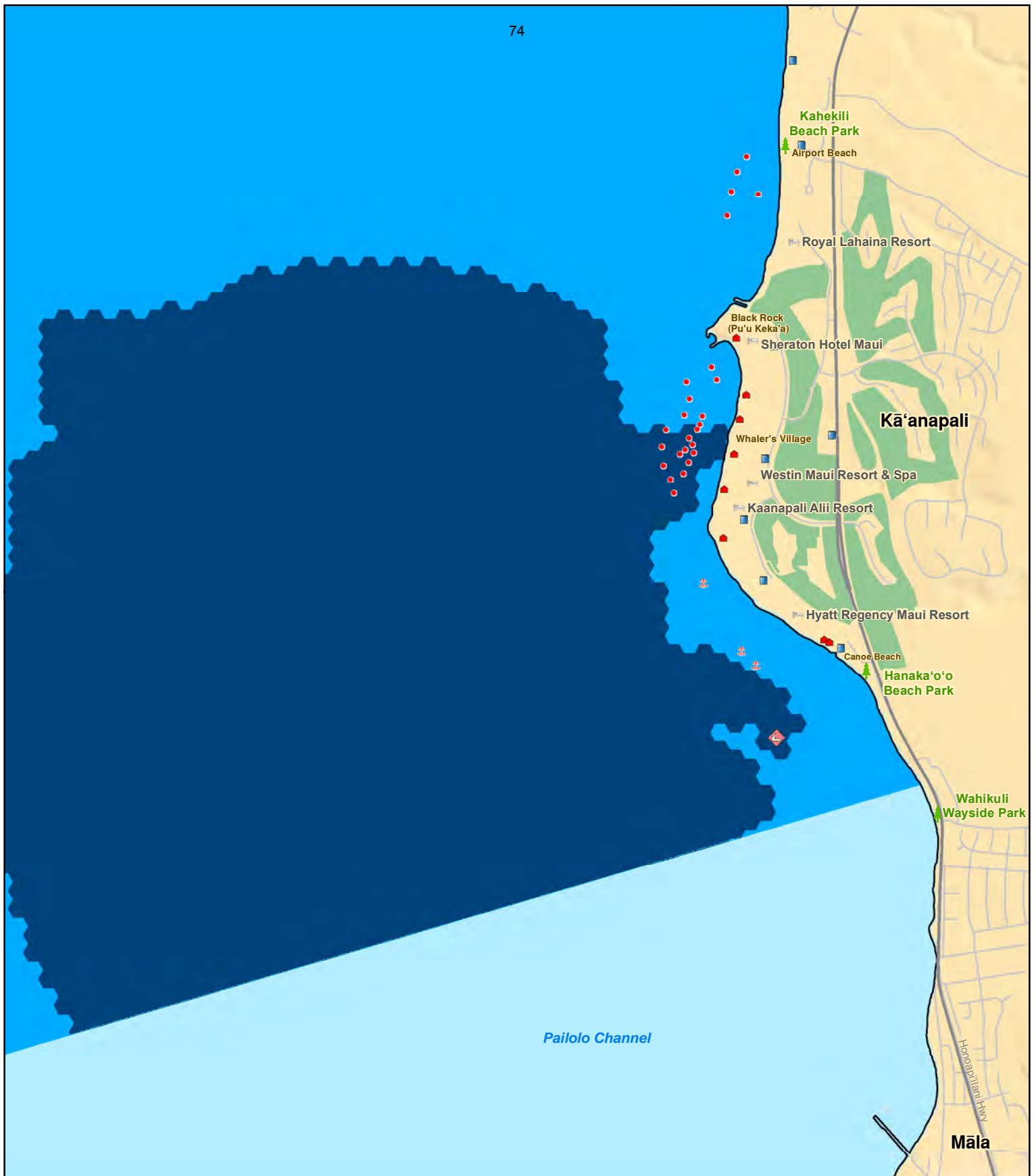
Parasail and jet-ski activities are dominant during summer months. Jet-ski use is heavy from Mala Warf to Kā'anapali. Parasailing usually stops south of Airport Beach due to wind line, and is limited by wind generally.

This activity is subject to local laws which are not clearly understood by the community. Jet skis are allowed from May 16 – December 14, from the shoreline to 2 miles off-shore. Jet skis are banned during the rest of the year, with the exception of lifeguards and surfboard tow-in (Honolua) which can take place all year with special permits. Jet-ski buoys are 500 yards offshore with ingress/egress at the south end of the Hyatt. Lifeguards use jet-skis from Canoe Beach to Līpoa Point. Parasailing ingress/egress includes Whalers Village, Mala Warf, and Kahana at Smith's place near Kahana Village.

Participants mentioned some conflict at Kā'anapali beach which is very heavily used for this activity and has seen some environmental quality impacts. Gas and fumes in the water affect swimming when jet skis go to shore to pick up and drop off customers. Jet-skis can also come close to canoe paddlers, creating conflict in the Wahikuli/Canoe Beach area. Participants suggested possibly having set times for different uses so these activities would not conflict. Opelu fishing grounds have also been disrupted by jet-skis (Keahis / Neizmans). Leaking oil creates a problem for limu picking.

Terrestrial off-roading occurs at Lipoa point on old dirt roads, causes damage in the area. A very loud boat known as "Thriller" used to go from Kā'anapali to Honolua Bay, but is no longer in business.





Thrill craft and high speed activities

- Dominant Use
- General Use
- Golf Course
- Mapping Boundary
- 🌳 Beach Park
- 🏠 Hotel
- ◆ Jetski Platform
- ⚓ Day-use Moorings
- Charter boat moorings
- Shoreline Access
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West Maui Coastal Uses Participatory Mapping Project

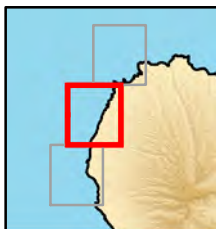
Honolua - Wahikuli Region, August 2011





Thrill craft and high speed activities

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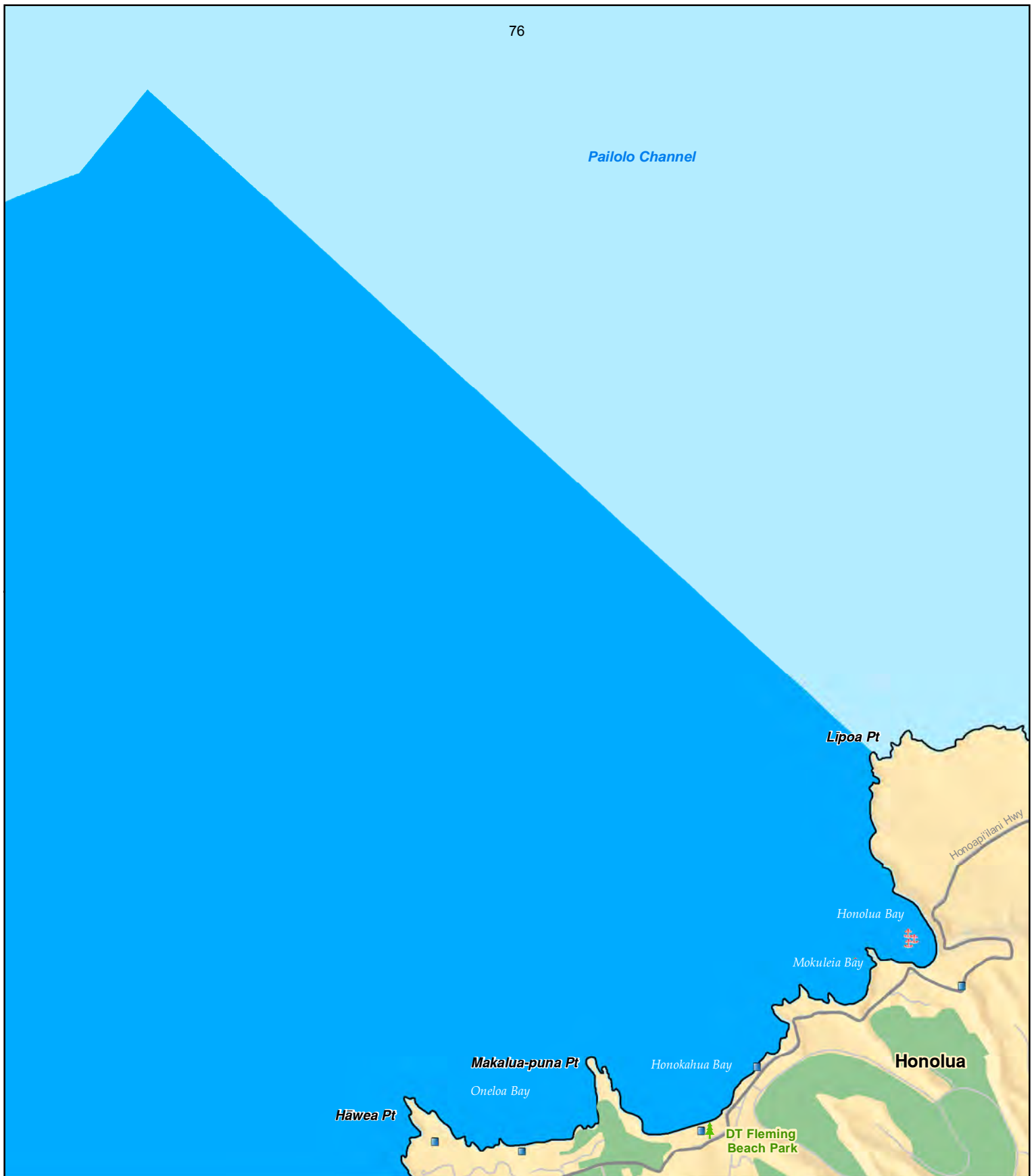


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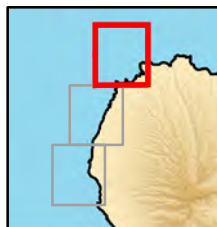


Pailolo Channel



Thrill craft and high speed activities

- | | |
|------------------|-----------------------|
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