State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Boating and Ocean Recreation
Honolulu, Hawaii 96819

May 28, 2021

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawai‘i

Land Board Members:

SUBJECT: Request approval to install a total of twenty-three new day-use mooring buoys at the Makako Bay and Kaukalaelae Point manta ray viewing sites in West Hawai‘i; approval of an Anticipated Finding of No Significant Impact for the Draft Environmental Assessment applicable to the installation of the twenty-three mooring buoys; and delegation of authority to the Chairperson to make a final determination on the Draft Environmental Assessment.

REMARKS:

In the 2014 Legislative Session, the Hawai‘i House of Representatives passed House Concurrent Resolution 170 urging the Department to manage the Kona manta ray viewing sites and address overcrowding, safety, and liability under existing statutes. DOBOR consulted with stakeholders, such as ocean tour providers and recreational ocean users, and devised a list of proposed rules and management measures for the sites, including the installation of additional moorings to increase safety. The arrangement of DMBs at the two sites will offset negative impacts of anchoring on coral reef habitat, minimize unsafe boating practices near participants in-water, and control crowding at the site by requiring use of a mooring to conduct tours.

Thus, the Division of Boating and Ocean Recreation (DOBOR) is requesting that the Board of Land and Natural Resources (Board) approve the installation of twenty-three (23) new day-use mooring buoys (DMBs) in Makako Bay and Kaukalaelae Point of North Kona in West Hawai‘i. Both installation sites lie within designated mooring zones: Makako Bay, within the zone established by Hawaii Administrative Rule (HAR) Section 13-257-20, and Kaukalaelae Point, within the zone established by HAR Section 13-257-23. DOBOR intends to install twelve (12) new moorings in Makako Bay and eleven (11) new moorings at Kaukalaelae Point.

PERMITTING AND COMPLIANCE WITH STATE AND FEDERAL LAW:

In order to comply with Federal Law, DOBOR has procured the appropriate permits from the U.S. Army Corps of Engineers (USACE), Hawai'i Department of Health Clean Water Branch (CWB), and the Hawai'i Office of Planning Coastal Zone Monitoring Program. Permits are detailed in the table below, and full permit documents are attached as Exhibits to this submittal.

Agency	Permit	Permit Number	Date Received	Exhibit
USACE	Sec. 10 Nationwide Permit	POH-2019-00099	12/13/2019	A
CWB	Sec. 401 Water Quality Certification	WQC1012	1/10/2019	B
CZM	Federal Consistency Review	DTS201910180815NA	12/4/2019	C

In addition, to ensure that each mooring system is structurally sound, DOBOR has developed Best Management Practices for the installation of the DMBs at Makako Bay and Kaukalaelae Point, which were included with the permit applications listed above and approved under the received permits. Common guidance, stipulations, and conditions were incorporated into this project, such as engineering standards, best practices around protected species, and monitoring and maintenance following installation.

Pursuant to HAR Section 13-235-6, the National Marine Fisheries Service (NMFS) and DLNR Division of Aquatic Resources (DAR) must determine whether a DMB is detrimental to the habitat or spawning ground of marine life. Through the USACE permitting process, NMFS has been consulted and determined the DMB installations have no detrimental effect to the habitat or spawning ground of marine life. DAR has also been consulted and concurred that the DMBs have no detrimental effect to the habitat or spawning ground of marine life.

ENVIRONMENTAL ASSESSMENT:

DOBOR has prepared a Draft Environmental Assessment (DEA) and recommends the Board approve an Anticipated Finding of No Significant Impact (AFONSI) in accordance with Hawaii Revised Statutes Chapter 343 and HAR Chapter 11-200. The DEA is attached as **EXHIBIT D**. DOBOR is additionally requesting that the Board delegate authority to the Chairperson to make a final determination on the EA.

RECOMMENDATIONS:

DOBOR requests that:

1. The Board approve the installation of the twenty-three (23) proposed DMBs referenced herein, located in Makako Bay and at Kaukalaelae Point, within established mooring zones off the Kona coast of West Hawai'i;
2. The Board approve an AFONSI for the DEA referenced herein; and
3. The Board delegate authority to the Chairperson to make a final determination on the DEA referenced herein.

Respectfully Submitted,

EDWARD R. UNDERWOOD, Administrator
Division of Boating & Ocean Recreation

APPROVED FOR SUBMITTAL:

SUZANNE D. CASE, Chairperson
Board of Land and Natural Resources

Attachments:

A. USACE POH-2019-00099
B. Department of Health CWB WQC1012
C. Office of Planning CZM DTS201910180815NA
D. Draft Environmental Assessment for DMB Installation at the Kona Manta Sites with Best Management Practices

US Army Corps of Engineers, Honolulu District

DEPARTMENT OF THE ARMY PERMIT
LETTER OF PERMISSION

File Number: **POH-2019-00099**
Project Title: **Day Use Mooring Buoys, Kona, Hilo, HI**
Subject: **Department of the Army Letter of Permission**

PERMITTEE: **Edward Underwood (DLNR-DOBOR)**
PERMIT NO.: **POH-2019-00099**
ISSUING OFFICE: **U.S. Army Corps of Engineers Honolulu District**
Regulatory Office (CEPOH-RO)

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT DESCRIPTION: To install 26 day use single point mooring buoys around the Island of Hawaii, including eleven moorings at Kaukalaelae Point in Keahou Bay, ten moorings at Garden Eel Cove in Makako Bay (Garden Eel Cove), and five moorings in Hilo Bay. Two of the proposed ten moorings at Garden Eel Cove are proposed to be anchored in sand substrate with manta ray/earth anchors. The remaining eight proposed moorings at Garden Eel Cove and all proposed moorings at the Kaukalaelae Point and Hilo Bay would be installed on boulders, rubble, or coral reef hard substrate with two-point pin anchors consisting of drilling stainless steel bolts drilled and securing with epoxy. The epoxy anchoring for all pin anchors would not exceed a total of one cubic yard. For each of the two proposed manta anchoring systems, the manta anchoring system would be connected to the buoy with an eye splice hose and shackle, a poly rope, and a mid-line weight. For each of the proposed pin anchoring systems, the two pins would typically be placed approximately three to four feet apart and each connected with a ½-inch shackle, a $^{3}/_{8}$-inch thimble and a $2^{3}/_{8}$-inch wire clamp to $^{3}/_{8}$-inch wire rope. The two wire ropes are connected to a 2.5-inch by $^{3}/_{8}$-inch mooring ring, which is connected to the buoy with a $^{7}/_{8}$-inch nylon three-strand line. The mooring buoys would be installed over a period of approximately one month. Water depths in the day-use mooring areas range from 15 to 44 feet deep for Kaukalaelae Point, 15 to 75 feet deep for Garden Eel Cove, and 7 to 38 feet deep for Hilo Bay. In both Kaukalaelae Point and Garden Eel Cove, one of the proposed moorings at each site is intended for recreational use, while the remainder of the proposed moorings are intended for commercial use. All five proposed moorings in Hilo Bay are intended for mixed commercial and recreational use based on first availability.

Exhibit A

In addition to this letter of permission, the project drawings (Enclosure 2), BMP plan (April 2018) (Enclosure 3) depicting the authorized work, and Department of Aquatic Resources Site Selection Guidelines (Enclosure 4) are also provided as attachments of this permit.

PROJECT LOCATION:
Kaukalaelae Point (Keauhou Bay): 19.559234 N, -155.967445 W;
Makako Bay (Garden Eel Cove): 19.736077 N, -156.058710 W;
Kona, Island of Hawaii, Hawaii
and
Hilo Harbor: 19.741533 N, -155.060257 W
Hilo, Island of Hawaii, Hawaii

PERMIT CONDITIONS:

General Conditions:

1. The time limit for completing the work authorized ends on December 13, 2024. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. If a conditioned Coastal Zone Management Consistency Determination has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions (Enclosure 4).

7. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee understands and agrees that if future operations by the United States require the removal, relocation, or other alteration of the structure or work herein authorized, or if in the opinion of the Secretary of the Army or their authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required upon due notice from the U.S Army Corps of Engineers to remove, relocate, or alter the structural work or obstructions caused thereby without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. You must install and maintain, at your expense, any safety lights and signals prescribed by the United States Coast Guard (USCG), through regulations or otherwise, on your authorized facilities. The USCG may be reached at the following address and telephone number: Fourteenth Coast Guard District, Commander (dpw), 300 Ala Moana Boulevard, Room 9-216, Honolulu, Hawaii 96850, ATTN: Kensley Raigeluw. You can contact the USCG via email at kensley.raigeluw@uscg.mil .

3. Prior to the commencement of any work authorized by this permit, you shall advise the project manager, Vera Koskelo, in writing at:
   U.S. Army Corps of Engineers - Honolulu District
   Building 230, CEPOH-RO
   Fort Shafter, HI 96858-5440
   or via email at CEPOH-RO@usace.army.mil and Vera.B.Koskelo@usace.army.mil of the date the authorized activity will commence and the name and telephone number of all contractors or other persons performing the work. A copy of this permit and drawings must be provided to the contractor and made available to any regulatory representative during an inspection of the project site.

4. Permittee shall submit a signed certification regarding the completed work and any required mitigation. A “Compliance Certification” is provided (Enclosure 5).

5. Endangered Species. You must comply with the following conditions to avoid and/or minimize adverse impacts to threatened and endangered species, including designated critical habitat:
   a) Incidents where any individuals of Green Sea Turtle (*Chelonia mydas*), Hawksbill Turtle (*Eretmochelys imbricata*), Loggerhead Sea Turtle (*Caretta caretta*), Hawaiian Monk Seal, (*Monachus schauinslandi*) listed by NOAA Fisheries under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the U.S. or structures or work in navigable waters of the U.S. authorized by this NWP shall be reported to NOAA Fisheries, Office of Protected Resources at (301) 713-1401 and the Regulatory Branch of the Honolulu District, U.S. Army Corps of Engineers at (808) 835-4303. The finder should leave the animal

alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed discharge exposure or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, to collect specimens or take other measurements to ensure that evidence intrinsic to the specimen is preserved.

6. Water Quality Certification. You must implement and abide by the conditions of your individual Section 401 Water Quality Certification, unless waived, for this project by the State of Hawaii Department of Health, Clean Water Branch. Expiration of your WQC invalidates this authorization.

7. Coastal Zone Management Consistency Determination.
   You must implement and abide by the conditions of your individual Coastal Zone Management Consistency Concurrence issued for this project by the State of Hawaii Department of Business, Economic Development and Tourism, Office of Planning. Expiration of your CZM Consistency Concurrence invalidates this authorization.

Further Information:

1. Congressional Authorities:
   You have been authorized to undertake the activity described above pursuant to:
   ☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
   ☐ Section 404 of the Clean Water Act (33 U.S.C. 1344).
   ☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.
   a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
   b. This permit does not grant any property rights or exclusive privileges.
   c. This permit does not authorize any injury to the property or rights of others.
   d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
   a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
   b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
   c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
   d. Design or construction deficiencies associated with the permitted work.
   e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
   a. You fail to comply with the terms and conditions of this permit.
   b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
   c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

   Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

KOSKELO.VERA.B.1370139110
Digitally signed by KOSKELO.VERA.B.1370139110
Date: 2019.12.13 10:28:59 -10'00'
Vera B. Koskelo
Project Manager, Regulatory Office

13 December 2019
(DATE)

Vera B. Koskelo
Project Manager, Regulatory Office

US Army Corps of Engineers, Honolulu District

DEPARTMENT OF THE ARMY PERMIT
PERMIT TRANSFER

File Number: **POH-2019-00099**
Project Title: **Day Use Mooring Buoys, Kona, Hilo, HI**
Subject: **Department of the Army Permit Property Transfer**

PROPERTY TRANSFER: When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

PERMIT TRANSFEREE:

_____ _____
Permittee/Transferee Signature DATE

_____
Permittee Name (Please Print)

_____
Street Address

_____
City, State, and Zip Code

NEW PROPERTY OWNER:

_____ _ _____
New Permittee/Property Owner Signature DATE

_____
New Permittee/Property Owner Name (Please Print)

_____
Street Address

_____
City, State, and Zip Code

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

WQC1012.FNL.19

January 10, 2019

The Honorable Suzanne Case
Chairperson
Department of Land and Natural Resources
1151 Punchbowl Street Room 220
Honolulu, Hawaii 96813

Dear Ms. Case:

Subject: Section 401 Water Quality Certification (WQC) for Installation of Day Use Mooring Buoys for Hawaii Island Island of Hawaii, Hawaii File No. WQC1012/DA File No. POH-2016-00235

In accordance with the provision of the Clean Water Act, as amended (33 U.S.C. 1251 et seq.; the "CWA"); Hawaii Revised Statutes (HRS), Chapters 91, 92, and 342D; Part 121 of Title 40, Code of Federal Regulations (CFR); and Hawaii Administrative Rules (HAR), Chapter 11-54; the Department of Health (DOH), Clean Water Branch (CWB) issues this Section 401 WQC for your project based on your Section 401 WQC application (hereinafter referred to as the "Application"), dated November 5, 2018 (received on January 8, 2019). The activities associated with the subject project, including preconstruction, construction, and post construction monitoring (hereinafter referred to as the "Activities") will be authorized under the U.S. Department of the Army, Pacific Ocean Division, Honolulu District Office permit, File No. POH-2016-00235.

1. The DOH has examined the Application with respect to water quality considerations and asserts that when all requirements and conditions contained in this Section 401 WQC are fully complied with, there is reasonable assurance that the water pollutant discharges resulting from the Activities will be conducted in a manner which will not violate the applicable State water quality standards (WQS) and will comply with the applicable provisions of the CWA, Sections 301, 302, 303, 306, and 307.

Exhibit B

2. This Section 401 WQC becomes effective on **January 10, 2019** and shall expire on midnight **January 9, 2021**. The DOH may, upon written request from the Applicant who is either the Owner or its Duly Authorized Representative, administratively extend the expiration date of this Section 401 WQC. The decision by the DOH to allow an administrative extension will be made on a case-by-case basis taking into account compliance history and impact to receiving State water quality.

3. This Section 401 WQC may be revoked when:

   a. The DOH determines that any portion of the Activities are violating existing State WQS or any condition in this Section 401 WQC and the Applicant fails to cease the violation within seven (7) calendar days of notice by DOH letter.

   b. New State WQS are subsequently established before the Activities are completed, the DOH determines that any portion of the Activities are violating the new State WQS, and the Applicant fails to cease the violation within 180 calendar days of notice by DOH letter.

   These actions shall not preclude the DOH from taking appropriate enforcement action authorized by law.

4. The following conditions must be complied with by the Applicant's organization and its contractor(s) when conducting the Activity:

   a. Invite the DOH-CWB to attend the partnering, pre-construction, or any other similar type of meeting that is established for the proposed project and its Activities, if any.

   b. Unless otherwise specified, all Section 401 WQC compliance requirements must be submitted via the DOH e-Permitting Portal Section 401 WQC Compliance Form. The DOH e-Permitting Portal is located at: https://eha-cloud.doh.hawaii.gov/epermit/.

   c. Provide the notifications below via the DOH e-Permitting Portal Section 401 WQC Compliance Form:

      i. The Applicant shall notify DOH at least seven (7) calendar days before the start of the Activities.

      ii. The Applicant shall notify DOH within 14 calendar days after the completion of the Activities, including the disturbed in-water area restoration activities.

d. Comply with all requirements, specifications, schedules, procedures, drawings, and other information contained in the Application.

e. Maintain a copy of the Application and this Section 401 WQC at the project site or in the nearby field office.

f. Maintain records at the project site or in the nearby field office demonstrating that all Section 401 WQC requirements have been fully complied with.

g. Ensure that all Activities are conducted in a manner that will comply with the "Basic Water Quality Criteria Applicable to All Waters" as specified in HAR, §11-54-4.

h. Ensure that all material(s) placed or to be placed in State waters are free of waste metal products, organic materials, debris, and any pollutants at toxic or potentially hazardous concentrations to aquatic life as specified in HAR, §11-54-4(c).

i. Ensure that the Activities will not interfere or become injurious to any designated uses and/or existing uses of the receiving State water.

j. Properly implement and maintain all water pollution control measures and Best Management Practices (BMPs) specified in the Application. All water pollution control measures must be in place and functional before any Activities begin and shall not be removed until the Activities are completed and the disturbed area water quality has returned to its pre-construction condition or better. All temporary water pollution control measures and temporary structures shall be removed following the completion of the Activities and upon verification that the affected quality of the water column has been returned/restored to the pre-project condition.

k. Conduct the Applicable Monitoring and Assessment Plan (AMAP) in your Application.

    i. The DOH may, at its own discretion, require the Applicant to modify the AMAP, including modifying the monitoring frequencies, adding parameters to be monitored, and adding sampling locations.

    ii. Any request for reduction in monitoring frequencies shall be submitted via the DOH e-Permitting Portal Section 401 WQC Compliance Form. The request shall include an assessment of monitoring results which clearly demonstrate that the Activities are in compliance with applicable State WQS.

iii. Color photographs shall be taken daily before, during, and after the completion of the Activities. Copies of the color photographs shall contain the date and time the photos were taken and a written narrative description of what is being depicted in the photograph. A photograph orientation map shall also be submitted. Photographs taken before the commencement of the Activities shall be submitted to the DOH-CWB via the DOH e-Permitting Portal Section 401 WQC Compliance Form prior to the commencement of the Activities. Photographs taken during the Activities shall be submitted with the field sampling report (see below). Photographs taken after the completion of the Activities shall be submitted to the DOH-CWB within two (2) weeks after the completion of the Activities.

iv. Photographs taken during the field sample collection shall be submitted to the DOH-CWB by e-mail at: cleanwaterbranch@doh.hawaii.gov in Excel and/or PDF formats before the closing of the next business day the sample was taken.

The e-mail shall contain the project name, Section 401 WQC file number, and date of field measurement in the subject line, and the following certification statement below, and the name of the individual making the certification.

"**I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.**"

l. Immediately report to the DOH-CWB by e-mail at: cleanwaterbranch@doh.hawaii.gov and at telephone number (808) 586-4309 any spill(s) or other contamination(s) that occurs at the project site at any time following the commencement of the Activities.

m. Ensure that construction debris is contained and prevented from entering or reentering State waters. All construction debris shall be properly removed from the aquatic environment and disposed of at an upland State and County approved site. Before the start of the Activities, a Solid Waste Disclosure Form for Construction Sites shall be completed and returned to the DOH's Solid and Hazardous Waste Branch, Office of Solid Waste Management. No construction material or construction-related materials shall be stockpiled in the aquatic environment or stored or placed in ways that will disturb the aquatic environment. The Solid Waste Disclosure Form for Construction Sites is available online at: http://health.hawaii.gov/shwb/files/2013/06/swdiscformnov2008.pdf.

n. Properly collect and remove all side cast material and dispose at an upland State and County approved site.

o. If water quality monitoring or daily inspection or observation result(s) indicates non-compliance with this Section 401 WQC will occur or is occurring, Applicant shall immediately cease that portion of the Activities causing the non-compliance. The project activity shall not resume until adequate mitigative measures are implemented and appropriate corrective actions are taken. These actions shall not preclude the DOH from taking enforcement action authorized by law. The DOH shall not be responsible for any damages or costs incurred due to the temporary cessation of any of the Activities.

p. Review and update the effectiveness and adequacy of pollution control measures and BMPs in the Application. Applicant shall modify the pollution control measures, BMPs, and AMAP when instructed by the DOH.

q. Any changes or modifications to the pollution control measures, BMPs, and AMAP in the Application shall be submitted to the DOH-CWB for approval. Applicant shall address all comments and concerns to the DOH-CWB satisfaction before the changes or modifications become effective.

r. There shall be no discharge of any type of wash water and/or effluent into State waters without first obtaining from the DOH a National Pollutant Discharge Eliminations System (NPDES) permit authorizing such type of water pollutant discharge to State waters.

s. Runoff, return flow, or airborne particulate pollutants, if any, from the excavated/dredged material dewatering process or from stockpiling shall be contained on land and not be allowed to enter State waters. In the event of potential discharge of these pollutants, the Applicant shall first obtain from the DOH a NPDES permit authorizing such discharge.

t. Discontinue the Activities during flood conditions.

u. Ensure that all areas impacted, either directly or indirectly, by the Activities are fully restored.

v. Avoid locating moorings (including anchors and floats) in sensitive aquatic habitats such as coral reefs, fish spawning areas, and submerged aquatic vegetation (unless location is acceptable to the Department of Land and Natural Resources, Division of Aquatic Resources or the National Oceanic Atmospheric Administration).

w. Ensure moorings (including anchors and floats) are made of clean, inert material. Treated lumber shall not be used as it may contain compounds that can be released into the water and become toxic to the aquatic environment.

x. Pre-cast and cure concrete anchors, if required, away from State waters prior to use to prevent seepage of potentially toxic substances into the waterbody.

y. Locate moorings in depths that allow structures and vessels to remain afloat at the lowest possible water levels and that prevent propellers from disturbing bottom sediments.

z. Select mooring anchors of an adequate size to secure vessels or structures and prevent the anchor from shifting or dragging along the bottom of the state water.

aa. Size the length of mooring lines, chains, or cables to avoid excess line, chain, or cable accumulation on the bed of the State water.

bb. Ensure native beach material such as logs, sand, gravel, and boulders that are important components of fish habitat are not used as mooring structures and are left in place on the foreshore.

cc. Properly dispose of derelict or unused floats, lines, chains, or cables in accordance with appropriate laws and rules.

dd. Ensure moorings are kept in good repair by regularly inspecting and maintaining the structure. Mooring maintenance must be performed into perpetuity (or until it is properly disposed of) or it will itself become a pollution source.

If you have any questions, please contact Mr. Darryl Lum of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

JOANNA SETO, P.E., ACTING CHIEF
Environmental Management Division

DCL:na

c: Regulatory Office, POH, COE
[via e-mail cepoh-ro@usace.army.mil only]
Mr. John Nakagawa, CZM Program, Office of Planning, DBEDT
[via e-mail john.d.nakagawa@hawaii.gov only]
Mr. Finn McCall, DLNR-DOBOR
[via e-mail finn.d.mccall@hawaii.gov]
(w/Receipt No. 62080 for $1000 Filing Fee)
Mr. Stephen Schmelz, DLNR-DOBOR
[via e-mail stephen.c.schmelz@hawaii.gov only]
CWB, Hawaii District Health Office [via e-mail only]

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

MARY ALICE EVANS
DIRECTOR
OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

DTS201910180815NA

December 4, 2019

To: Edward Underwood, Administrator
Division of Boating and Ocean Recreation
Department of Land and Natural Resources

Attn: Finn McCall
Division of Boating and Ocean Recreation

From: Mary Alice Evans, Director Mary Alice Evans

Subject: Hawaii Coastal Zone Management Program Federal Consistency Review for the Installation of Day Use Mooring Buoys at Kaukalaelae Point, Makako Bay, and Hilo Bay, Hawaii Island; Department of the Army Permit File No. POH-2019-00099

The Hawaii Coastal Zone Management (CZM) Program has completed the federal consistency review for the installation of day use mooring buoys at Kaukalaelae Point, Makako Bay, and Hilo Bay, Hawaii Island, which is subject to federal permit authorization under Department of the Army Permit File No. POH-2019-00099 (proposed activity).

We conditionally concur with the certification that the proposed activity is consistent with the enforceable policies of the Hawaii CZM Program based on the following conditions.

1. The proposed activity shall be completed as represented in the CZM federal consistency application, including the consistency certification and supporting materials, that was completed on October 22, 2019. Any changes to the proposed activity shall be submitted to the Hawaii CZM Program for review and approval. Changes to the proposed activity may require a full CZM federal consistency review, including publication of a public notice and provision for public review and comment. This condition is necessary to ensure that the proposed activity is implemented as reviewed for consistency with the enforceable policies of the Hawaii CZM Program. Hawaii Revised Statutes (HRS) Chapter 205A Coastal Zone Management, is the federally approved enforceable policy of the Hawaii CZM Program that applies to this condition.

2. To mitigate potential adverse effects from the proposed activity, the "Day Mooring Installations Best Management Practices" (2018) shall be fully implemented. This condition is necessary to ensure consistency with HRS Chapter 205A Coastal Zone Management, which is the federally approved enforceable policy that applies to this condition.

Exhibit C

3. The proposed activity shall be in compliance with State of Hawaii water quality standards and requirements specified in Hawaii Administrative Rules (HAR) Chapter 11-54 Water Quality Standards, including the Section 401 Water Quality Certification (WQC1012) issued by the Department of Health, Clean Water Branch on January 10, 2019. This condition is necessary to ensure consistency with Hawaii CZM Program federally approved enforceable policies HRS Chapter 342D Water Pollution, and HAR Chapter 11-54.

If the requirements for conditional concurrences specified in 15 CFR § 930.4(a), (1) through (3), are not met, then all parties shall treat this conditional concurrence letter as an objection pursuant to 15 CFR Part 930, subpart D. Furthermore, you are hereby notified that, pursuant to 15 CFR § 930.63(e) and 15 CFR Part 930, subpart H, you have the opportunity to appeal an objection resulting from not meeting the requirements of 15 CFR § 930.4(a), (1) through (3), to the Secretary of Commerce within 30 days after receiving this conditional concurrence letter, or 30 days after receiving notice from the U.S. Army Corps of Engineers that your Department of the Army Permit will not be approved as amended by the conditions required by this concurrence.

This CZM consistency conditional concurrence does not represent an endorsement of the project nor does it convey approval with any other regulations administered by any state or county agency. Thank you for your cooperation in complying with the Hawaii CZM Program. If you have any questions, please call John Nakagawa of our CZM Program at 587-2878.

cc: Vera Koskelo, U.S. Army Corps of Engineers (by email)
Darryl Lum, DOH, Clean Water Branch (by email)

INSTALLATION OF DAY USE MOORING BUOYS AT THE MANTA SITES, KAUKALAELAE POINT AND MAKAKO BAY

DRAFT ENVIRONMENTAL ASSESSMENT

Prepared for:
Approving Agency & Applicant
State Department of Land and Natural Resources
Division of Boating and Ocean Recreation
4 Sand Island Access Road
Honolulu, HI 96819

Prepared by:
HCRI
Saunders Hall #718
2424 Maile Way
Honolulu, HI 96822
http://blog.hawaii.edu/hcri/
hcri@hawaii.edu

October 2020

Exhibit D

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List of Acronyms and Abbreviations

BMP	Best management practices	IUCN	International Union for Conservation of Nature
CCA	Crustose Coralline Algae	km2	square kilometers
CRTF	Coral Reef Task Force	KOA	Kona International Airport
CZM	Coastal Zone Management	MBTA	Migratory Bird Treaty Act
CZMA	Coastal Zone Management Act	MMPA	Marine Mammal Protection Act
CWB	Clean Water Branch	NELHA	The National Energy Laboratory of Hawai'i Authority
WQC	Water Quality Certification	NMFS	National Marine Fisheries Service
DACOR	Dominant Abundant Common Occasional Rare	NOAA	National Oceanic and Atmospheric Administration
DLNR	Department of Land and Natural Resources	NRCS	National Resources Conservation Service
DMB	Day Mooring Buoy	OEQC	Hawai'i Office of Environmental Quality Control
DOBOR	Division of Boating and Ocean Recreation	OHA	Office of Hawaiian Affairs
DOT	Department of Transportation	ORMA	Ocean Recreation Management Area
EA	Environmental Assessment	Pac-SLOPES	Procedures for Endangered Species in the Central and Western Pacific Region
EIS	Environmental Impact Statement	SCUBA	Self-Contained Underwater Breathing Apparatus
FONSI	Finding of No Significant Impact	SHPD	State Historic Preservation Division
HAR	Hawai'i Administrative Rule		
HCR	House Concurrent Resolution	USACE	U.S. Army Corps of Engineers
HEPA	Hawai'i Environmental Protection Act	USFWS	U.S. Fish and Wildlife Service
HOST	Hawaiian Ocean Science and Technology Park	USC	United States Code
HRS	Hawai'i Revised Statutes	USCG	U.S. Coast Guard

I. EXECUTIVE SUMMARY

Project Name:	Installation of Day-Use Mooring Buoys at the Manta Ray Viewing Sites, Kaukalaelae Point and Makako Bay
Prepared for:	Hawai‘i Department of Land and Natural Resources (DLNR) Division of Boating and Ocean Recreation (DOBOR)
Anticipated Determination:	Finding of No Significant Impact (FONSI)
Project Location:	West Hawai‘i, Hawai‘i Island
TMK:	Seaward of 3-7-5-043-042 & 3-7-8-010-038
Land Use Classification:	State Submerged Land
Land Area:	Boat Moorings on State Submerged Land
EA Trigger:	Use of State Lands
Approvals Required:	Mooring Permit from DLNR; Coastal Zone Management Federal Consistency Review; Rivers and Harbors Act Sect. 10 Permit; State Department of Health, Clean Water Branch Sect. 401 Water Quality Certification

SUMMARY:

The Hawai‘i Department of Land and Natural Resources, Division of Boating and Ocean Recreation, proposes work at the two manta ray viewing sites, Kaukalaelae Point and Makako Bay, on the Kona side of Hawai‘i Island. This will involve the reconfiguration of existing moorings and installation of a total of 12 and 13 moorings at each site, respectively. At this time, the sites have no sanctioned, permitted moorings that are maintained and managed by the State, and the new configuration will accommodate more of the boats utilizing these sites on a nightly basis to conduct the highly popular manta viewing tours. Moorings will furthermore reduce overcrowding and offset anchoring on sensitive benthic habitat. The configuration of all moorings would maintain clearance from the US Coast Guard navigation channel, provide safer recreational opportunity for motorized vessels, and ensure continued use of the areas by non-motorized recreational users such as swimmers, paddlers, and other traditional uses of the site.

II. PROJECT OVERVIEW

The proposed project, *Installation of Day-Use Mooring Buoys at the Manta Ray Viewing Sites, Kaukalaelae Point and Makako Bay*, (hereafter referred to as "the project") involves rearranging the current configuration of moorings within the popular manta ray viewing sites and installing additional day-use mooring buoys (***DMBs***) at each site. The Department of Land and Natural Resources (***DLNR***), Division of Boating and Ocean Recreation (***DOBOR***) will implement a management program through Hawai'i Administrative Rule Chapter 13-256 (Hawai'i Administrative Rule [***HAR***] Chapter 13-256) to maintain the moorings, regulate their usage, and maintain safe conditions. This Proposed Project has the following goals:

1. Improve safety for ocean users and boats.
2. Provide recreational opportunity.
3. Protect the marine environment.

These goals will be achieved through the following measures:

- Remove existing moorings that are unpermitted and non-compliant with engineering and/or safety standards set by DOBOR Best Management Practices (BMP).
- Rearrange mooring configurations to optimize vessel usage.
- Install new moorings at each site to accommodate high vessel traffic, up to 13 moorings present at Makako Bay (aka Garden Eel Cove; Manta Heaven) and 12 moorings at Kaukalaelae Point (aka Keauhou; Manta Village).

Each of these measures will be discussed in greater detail within this document. The Environmental Assessment (***EA***) represents the project's analysis in accordance with the Hawai'i Environmental Protection Act (***HEPA***) and its affiliated statutes including Hawai'i Revised Statute (***HRS***) Chapter 343. Under *§343-5 (a) Applicability and requirements*, an EA is required for the project under the following qualifying conditions:

> *(1) Propose the use of state or county lands or the use of state or county funds, other than funds to be used for feasibility or planning studies for possible future programs or projects that the agency has not approved, adopted, or funded, or funds to be used for the acquisition of unimproved real property; provided that the agency shall consider environmental factors and available alternatives in its feasibility or planning studies; provided further that an environmental assessment for proposed uses under section 205-2(d)(11) or 205-4.5(a)(13) shall only be required pursuant to section 205-5(b);*
>
> *(2) Propose any use within any land classified as a conservation district by the State Land Use Commission under Chapter 205;*

This EA evaluates the activities proposed for the Manta Ray Viewing Sites, Kaukalaelae Point and Makako Bay on Hawai'i Island's Kona coast. The purpose of this EA is to inform the relevant county, state, and federal agencies and the public of the likely environmental consequences of these activities.

PURPOSE & NEED

DAY-USE MOORING BUOYS (DMBS)

DMBs are intended to protect recreational and natural resources from the impacts of anchoring. Anchors and their chain or line cause scarring, tissue loss, and breakage where they come into contact with the coral reef. By providing a mooring ball at popular ocean recreation sites, vessels can attach to the permanent mooing in lieu of dropping their own anchor. There are several studies that draw a distinct correlation between anchoring intensity and damage to the marine environment (Allen, 1992; Davis, 1977; Dinsdale and Harriott, 2004; Forrester and Flynn, 2015; Giglio et al., 2017; Jameson et al., 2007; Milazzo et al., 2004; Saphier and Hoffmann, 2005; Venturini et al., 2016). Forrester & Flynn documented a 10% loss of coral cover at highly anchored sites, while other studies vary in their comparable estimates of coral cover loss between 0.3% (Mcmanus et al., 1997) and 7% annually, with an observable range of 0.38% to 36.08% (Saphier and Hoffmann, 2005).

In 1981, John Halas helped the Key Largo National Marine Sanctuary develop a mooring system designed to provide safe mooring opportunities to users and to offset coral reef damage from boat anchors. Shortly after, the University of Hawai‘i Sea Grant College Program began to work with community partners to develop a similar mooring program for the State of Hawai‘i. Initial testing with local dive companies and the Hawai‘i Institute of Geophysics (***HIG***) helped to develop a pilot study for mooring installations and talks began regarding permitting. In 1987, DLNR and the Department of Transportation (***DOT***) Harbors Division began to establish jurisdiction and approved further installations of moorings on the Kona Coast of Hawaii Island and off of Molokini Island on Maui. Permitting and testing continued for the next few years.

When the DOT Harbors Division moved to DLNR and DOBOR, the question of jurisdiction was simplified and the Hawai‘i Day Use Mooring Buoy Program was officially formalized in 1995 with the adoption of HAR Chapter 13-257, “Day Use Mooring Rules.” DOBOR obtained a 1995 General Permit from the US Army Corps of Engineers (***USACE***) to install 277 DMBs statewide. This initiative is largely driven by the donations and volunteered time of private users as well as the 501(c)(3) nonprofit organization Malama Kai Foundation.

The purpose of the Hawai‘i DMB Program is included in the General Provisions of HAR Chapter 13-257:

> *§13-257-1 Purpose and scope. (a) The purpose of the day use mooring rules and zones is to reduce damage to coral and other marine life as a result of continuous use of anchors by commercial and recreational vessels in zones of high dive and mooring activity statewide*

Sites where user pressures regularly exceed the number of installed moorings will be subjected to more dropped boat anchors that can damage fragile corals. If a mooring is available, then boats do not need to drop anchors and risk impacts to the sensitive marine environments. Levrel et al. (2012) considered mooring systems to be an enhancement of ecological function and appropriate remediation for damage to seagrass beds and coral reefs. Jameson et al. reported from monitoring data that moorings aided in the recovery of impacted dive sites (2007). Marbà et al. made a similar conclusion about seagrass bed recovery from an evaluation eight years after installing moorings (2002). Saphier and Hoffmann’s model for anchor damage led them to conclude that anchors and their chains are so destructive,

moorings should be used whenever possible (2005), and in a review and study of four major dive sites in Eastern Australia, Harriott et al. concluded that moorings "should be given the highest priority by management agencies" (1997, p. 179). After evaluating the scientific literature and perceptions and boating activity of Hawaii's ocean users, the state determined that there is high value in DMBs and installation and maintenance of moorings is a valuable marine resource management tool.

KONA MANTA VIEWING SITES DMBS

Day-use moorings at the manta ray viewing sites will offset anchor damage, improve safety, and provide recreational opportunity for the site's many visitors. Currently, site visitation far exceeds the number of available moorings. As many as 30 boats have been observed at a single site simultaneously where only seven moorings are available (Marine Science Consulting, LLC., 2015). Additional moorings will service an established demand that has grown over the past few decades. These DMBs will provide greater public benefit and are not expected to negatively impact the environment, public access, nor commercial opportunity.

RESPONSIBLE AGENCIES & FUNDING

The responsible agency for the project is the Department of Land and Natural Resources (DLNR) Division of Boating and Ocean Recreation (DOBOR). Funding for the project is provided by the State to the DLNR.

The EA process includes a 30-day public notice and comment period that starts with the project's announcement in the Hawai'i of Environmental Quality Control (OEQC)'s Environmental Notice. The Draft EA will be distributed to agencies and interested parties requesting copies, and will be made available at public libraries near the affected area, in the state library in Honolulu, and online at https://health.hawaii.gov/oeqc/

A Notice of Availability for the Final EA and anticipated FONSI will be distributed in the same manner, pending evaluation of this DEA. Thereafter, the DLNR will determine whether a full Environmental Impact Statement (EIS) is needed, defer the decision pending additional itemized information, or issue a FONSI. Should DLNR issue a FONSI determination, a 30-day challenge period to the decision will begin and no action will be taken until this period is concluded.

REQUIRED PERMITS & APPROVALS

There are several permits and approvals required for the project:

- United States Army Corps of Engineers (USACE) Section 10 Nationwide Permit
- State of Hawai'i Department of Health Clean Water Branch Section 401 Water Quality Certification Application
- Department of Planning Coastal Zone Management (CZM) Program Federal Consistency Review

USACE Provisional Letter of Permission (POH-2019-00099) and DOH CWB (WQC1012) permits were procured in 2019 for the mooring installation actions described in this EA. CZM Review was additionally completed in 2019 and the project actions found to be consistent with the enforceable policies of the Hawai'i CZM Program. The ***Permits, Laws, & Approvals*** section of this document discuss these in greater detail.

PROJECT STATUS & IMPLEMENTATION SCHEDULE

In 2014, the State House of Representatives passed House Concurrent Resolution (HCR) 170 urging DLNR to manage the Kona manta dive sites and address overcrowding, safety, and liability under existing statutes (Lowen & Nishimoto, 2014). DOBOR consulted with key stakeholders among tour companies and devised a list of proposed rules and management measures for the sites, including the installation of additional moorings. Public meetings in 2016 and 2017 reviewed these strategies and comments were integrated into the HAR Chapter 13-256 updates. In March 2018, these rule changes were released to manta tour companies for 30 days of public comment, and the final draft of HAR Chapter 13-256 was submitted to the Attorney General's Office for review. Additional comments were encouraged from the general public on the DOBOR website, handouts, and at meetings to be made via phone or email (DLNR.BD.DMB@hawaii.gov). These comments were monitored and addressed by DOBOR, and are compiled in ***Appendix A***. Pending public hearings and state review, these changes are expected to go into effect by Summer 2021.

Site assessments for Kaukalaelae Point and Makako Bay were conducted in 2016 and 2018 to confirm the location of the proposed mooring installations. Representatives of Malama Kai Foundation furthermore reassessed the sites in August 2020 to recommend priority mooring installation locations at Kaukalaelae Point. Additionally, an assessment of boating and ocean safety was conducted in 2015 by Marine Science Consulting LLC (***Appendix B***). Pre-installation assessments were conducted in November 2018 and June 2019.

The project is to be completed in two phases:

1. Installation of four DMBs at Kaukalaelae Point

2. Installation of DMBs at Makako Bay and Kaukalaelae Point, not to exceed 13 moorings at either site total, and removal of existing moorings that do not meet the approved DOBOR engineering specifications.

PHASE 1

Due to budgetary constraints, the program would install four priority moorings at Kaukalaelae Point where studies have consistently documented the highest levels of crowding. Installations are targeted to begin in Spring 2021 with semi-annual monitoring for a period of four years. Moorings will also receive semi-annual maintenance inspections by contractor and nightly inspections by users with ad hoc repairs when appropriate. The mooring maintenance plan is discussed in greater detail under the ***General Settings*** section of this document.

During implementation, HAR Chapter 13-257 will regulate the usage of the day-use moorings:

> *§13-257-3 Time limit. (a) The time limit for use of a day use mooring buoy by any one vessel shall not exceed two and one half hours when another vessel is waiting for the use of that mooring buoy, except as provided by section 13—37-3 for the old Kona airport marine life conservation district.*
>
> *§13-257-4 Anchoring restrictions. Anchoring is prohibited within one hundred yards of any day use mooring buoy, except as otherwise provided in these rules. Anchoring elsewhere in a day use mooring zone is permitted in areas of sand, rock, or rubble*

> *bottom types where no live corals exist. [Eff 9/16/95] (Auth: HRS §§200—2, 200—3, 200—4, 200—10) (Imp: HRS §200—10)*

Commercial business should not be interrupted as a result of the project, as construction will be limited to daylight hours when tours are not conducted and anchoring in sandy bottom areas will continue to be permissible when compliant with HAR Chapter 13-257. Duration of the installation process would not exceed 5 days for the initial installations of four moorings. These activities will increase the number of moorings at the site from five to nine. While nine moorings will not accommodate the average number of companies documented to offer tours prior to 2020, nine moorings will provide significant coral protection value to this high use site.

PHASE 2

Due to the anticipated budgetary restrictions resulting from the COVID-19 pandemic, DOBOR has determined that it will be unable to commit to the installation and maintenance of up to thirteen DMBs at each of the two popular manta viewing sites. Once the state budget can accommodate the additional installations and maintenance of DMBs, the division will proceed with the installations outlined in this plan. The maximum of 13 moorings was determined through spatial analysis and benthic habitat assessments, and taking into consideration the use of a campfire for conducting tours (see ***Site Conditions*** section for more details).

The details of Phase 2 are provided here for the purposes of providing the long-term cumulative impact perspective that is critical to an Environmental Assessment, but the project intends to install only four moorings at this time. Should budgetary circumstances become more favorable for additional mooring installations at the manta ray viewing sites, the Division will install up to 13 moorings at either site according to the specifications outlined in this document.

As both sites currently have moorings in place, some of which are installed under prior USACE permits and are considered acceptable in condition and build, it may or may not be necessary to remove these moorings to accommodate updated configurations for the new mooring fields. Removals are estimated to require, at max, two days at each site. This would be followed by installations of two to three moorings per day for a total of four to seven days. Mooring removals are not planned for Phase 1, and would be a part of Phase 2 to accommodate the final mooring arrangement at the sites.

III. General Settings

There are two project sites (Figure 1), both located within the West Hawai‘i Ocean Recreation Management Area (***ORMA***). Makako Bay (aka Garden Eel Cove or Manta Heaven) is located immediately west of Kailua-Kona International Airport and the Natural Energy Laboratory campus (Seaward of TMK 3-7-5-043-042). The second site, Kaukalaelae Point (aka Keauhou Bay or Manta Village), is located on the point immediately south of Keauhou Bay (Seaward of TMK 3-7-8-010-038). The sites are in the State of Hawai‘i waters and would fall under management by the DLNR DOBOR. Underwater topography is typical of the leeward coastal reef structure. Garden Eel Cove has basalt boulders down to around 20', then lively coral reef to a depth of around 70', where the coral dissipates to sand. Kaukalaelae is similar except that the north boundary is an active boating channel with a sandy bottom. Current moorings at the sites (Figures 2 and 3) will be removed in Phase 2 if found to be of substandard construction or in conflict with the proposed mooring configuration of this project.

Figure 1 Map of the Kona manta sites located on the west coast of Hawai‘i Island at the yellow points. Makako Bay (north) and Kaukalaelae (south) are the two manta ray viewing sites of the project.

Figure 2 Map of Makako Bay (Garden Eel Cove) configuration of the seven current existing moorings.

Figure 3 Map of Kaukalaelae Point (Keauhou Bay) configuration of the five current existing moorings. Note the closely-grouped moorings Keauhou Aggressor North and South represent bow and stern moorings that are used simultaneously and do not represent two distinct mooring opportunities.

Each site was surveyed and mapped for suitable benthic habitat where moorings could be installed to avoid impacts as much as possible. Given the constraints of currents and environmental conditions, site accessibility (moorings cannot be too far from the dive site of interest to prevent users from having to swim excessively, nor should they be too far from coral reef resources to avert anchoring within the area immediately surrounding the mooring) and the scope of a boat attached to a mooring (*swing circle*), the sites were each fitted with thirteen moorings.

After installation points were selected, follow-up surveys revealed that only up to twelve moorings were appropriate for Kaukalaelae, bringing the total number of moorings to 25 total at both sites. The installation and maintenance of 25 moorings (Figures 4 and 5) will offset anchor damage, improve safety, and provide recreational opportunity for the site's many visitors.

KONA MANTA VIEWING HISTORY

Resident reef manta rays (*Mobula alfredi*) are the primary attraction at both sites where visitors participate in snorkel or dive tours to observe these feeding giants, who may number more than 20 in a night. The reef manta ray has a circumtropical and sub-tropical distribution, existing in the Pacific, Atlantic and Indian Oceans. These global populations are primarily confined to productive near-shore environments along islands and continental shelves (Marshall et. al. 2011). They are slow to reach reproductive maturity at around three to ten years (IUCN, 2010), and females bear young approximately once every two to five years (Marshall & Bennett, 2010). These characteristics, along with their highly predictive behavior day to day, make them particularly vulnerable to disturbances.

In the 1970's, the Kona Surf Hotel at Kaukalaelae Point turned bright lights at night onto the breaking surf for their guests' enjoyment. The artificial lighting attracted zooplankton and, in turn, brought in feeding mantas. In subsequent decades, Kaukalaelae was given the nickname, "Manta Village," and became one of Hawai'i's most popular dive sites. The hotel shut down in 2000 and the lights were turned off. While mantas ceased to feed reliably at night at Kaukalaelae, divers sought out new feeding sites and discovered a high density of reef mantas at the Makako Bay location. Diving and tourism developed at the new location, known as "Manta Heaven," and continued to expand in the number of boats and companies running nightly trips. In 2004, the Keauhou hotel reopened as the Sheraton Kona Resort & Spa at Keauhou Bay, and the lights were switched back onto the surf. The mantas returned in reliably high numbers soon after, and tourism continued at both sites.

In 2010, nightly manta counts provided by professional dive leaders and analyzed in a doctoral thesis at the University of Hawaii revealed that the Kona manta population was potentially increasing despite more boats and visitors at the sites (Clark, 2010). Since 2007, the number of commercial manta companies with boats has grown from an estimated 30 in 2007 (Clark, 2010) to 42 in 2015 (Marine Science Consulting, LLC., 2015) and over 60 in 2019, according to DLNR DOBOR. The rapid increase of commercial operators in recent years has drawn criticism from operators, conservation groups, and the general public. Between January and April 2018, three mantas were documented with severe injuries most likely inflicted by a boat propeller and/or rope and line (Figure 6 "Manta Tour Guides and Operators," 2018). Previous to 2018, injuries were documented infrequently and only two deaths have been recorded in Hawai'i, both from entanglement on poorly-constructed mooring leading lines (Deakos et al., 2011; "Manta Tour Guides and Operators," 2018), which will not be allowed in any future mooring installations. While it is not possible to link these documented injuries to the manta

Figure 4 Map of planned mooring installations at Makako Bay

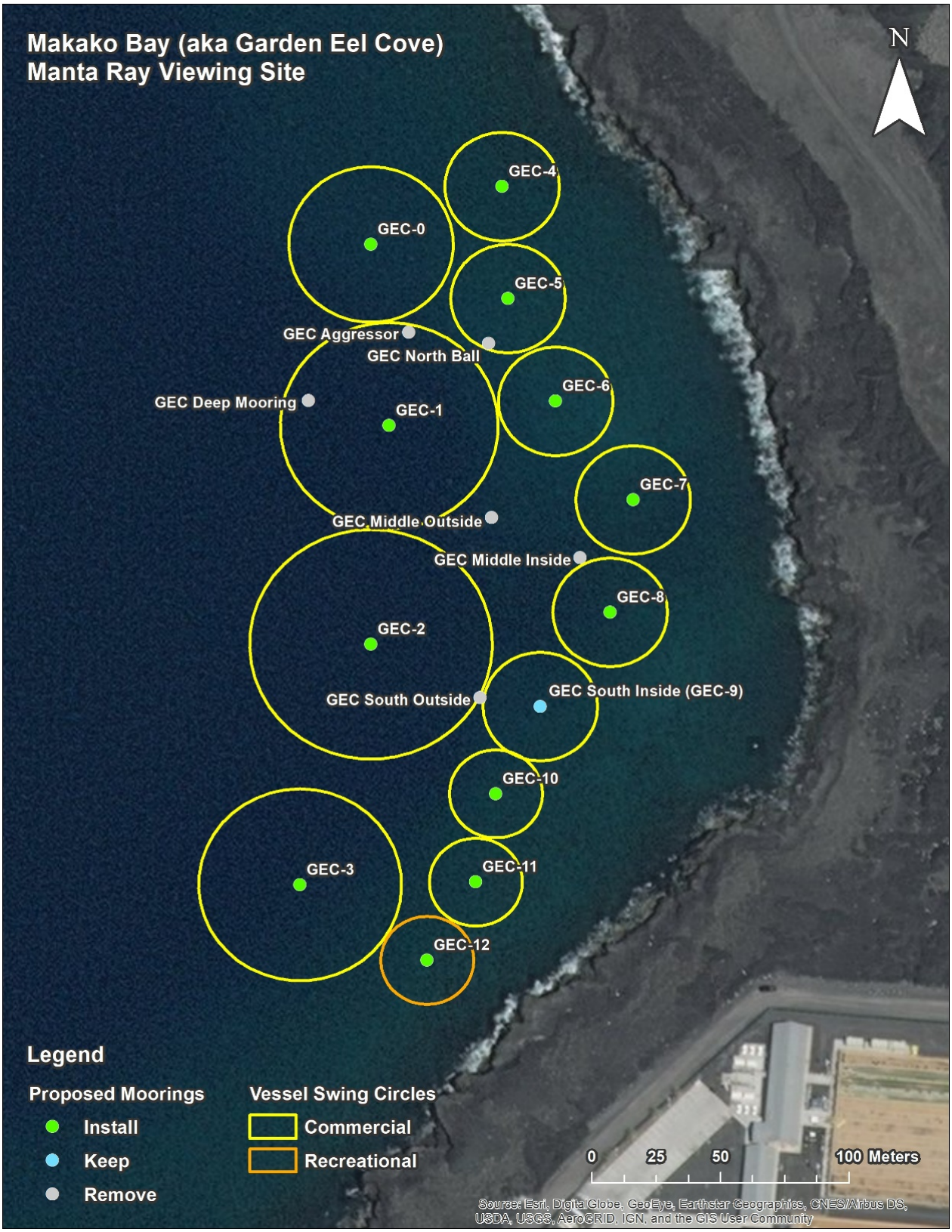
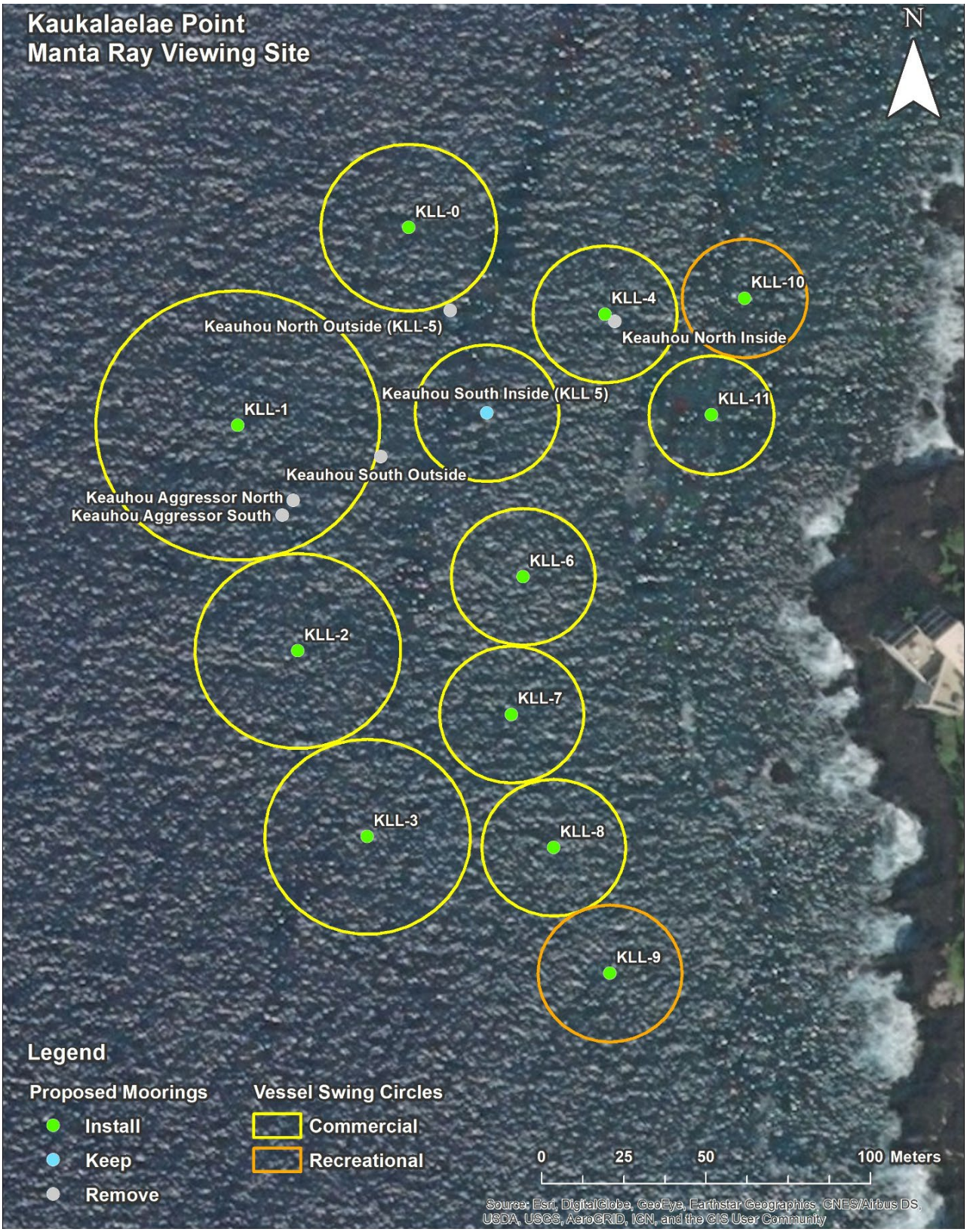


Figure 5 Map of planned mooring installations at Kaukalaelae Point. Moorings KLL-1, -2, -6, and -7 would be prioritized for Phase 1, with sites KLL-10 and -11 considered as alternates should the substrate at KLL-1 and -2 not have suitable anchorage for the two preferred mooring types: pin and manta anchor mooring



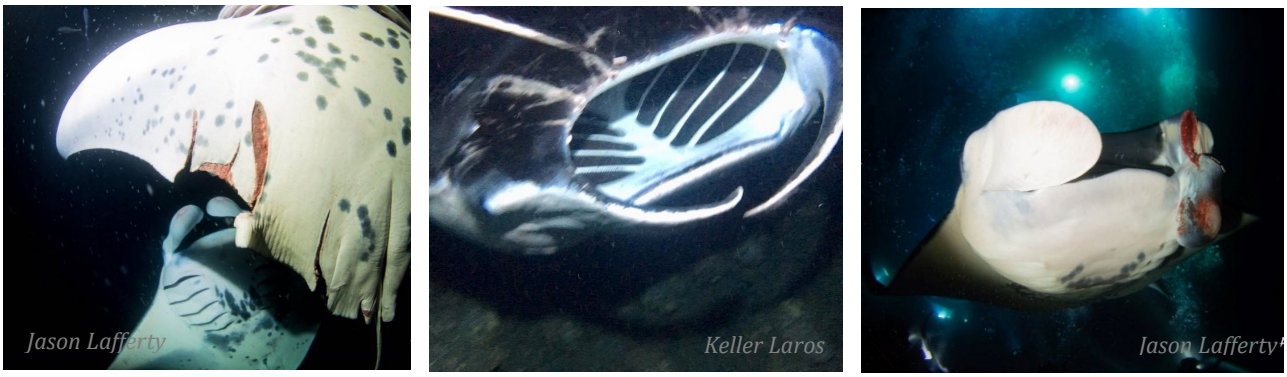


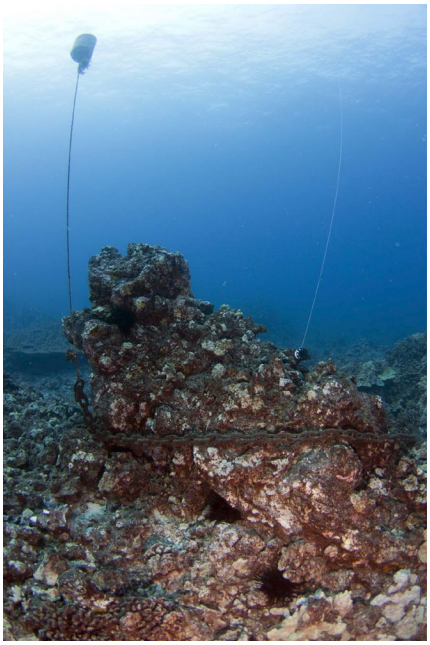
Figure 6: Injuries to Kona mantas (Mobula alfredi)) reported on the Facebook group Manta Tour Guides and Operators. Three separate manta injuries to Eli in March (left), Vallaray in late April (center), and Ralph's Ray in early April (right) of 2018.

tour boats, it does demonstrate that manta rays are threatened by boat propellers and lines, and that responsible boating mandates cautious conduct in these high-density sites.

In 2014, the State House of Representatives passed HCR 170 urging DLNR to manage the Kona manta dive sites and address overcrowding, safety, and liability under existing statutes (Lowen & Nishimoto, 2014). The project sites are frequently visited by more boats than there are available moorings, causing operators to tie up to boats that are moored (i.e. *rafting*), anchor in sensitive habitats, run their engines near participants in the water, or otherwise create unsafe conditions for the users, wildlife, and environment. In a study of ocean safety at the two sites, 13 - 15 boats (114 – 190 people in-water) were observed simultaneously on average with as many as 30 boats counted during one survey (Marine Science Consulting, LLC., 2015). The manta tours host up to 300 divers and snorkelers nightly with an estimated 60 operators competing for space and access. Both the unavailability of moorings and the lack of safety and crowding regulations have contributed to a hazardous situation. Additionally, the sites are most frequently visited at night when spotting in-water obstacles, people, and mantas is harder than during daylight hours. Additional details on the tours are provided in the section ***Site Uses***.

EXISTING MOORING ASSESSMENT

As of 2018, the State of Hawai'i has over 200 permitted DMBs, which serve as an anchoring alternative for commercial and recreational vessels. Since the inception of a state mooring program in the 1980s, the State has relied on the efforts of volunteers and nonprofits to install, maintain and repair moorings. Additional unpermitted and illegal moorings have begun to fill state waters, many of them of questionable build with significant impact on the marine environment. One example found near the Kaukalaelae Point manta viewing site features a choke-chain wrapped around a prominent reef structure with a bleach bottle buoy line attached to the chain (see image). These types of moorings are removed where possible, but are difficult to prevent and detect. Providing legal, permitted moorings is one way to counter these illegal activities.



At present, there are seven moorings at Makako Bay (Figure 2) and six at Kaukalaelae Point (Figure 3). Of the thirteen, only six were permitted under a Section 10 (Rivers and Harbor Act of 1882) USACE Letter of Permission POH-2009-00063 or General Permit GP 95-1. These moorings mostly consist of the preferred engineering configuration, the Hawaiian Eye. Figure 7 provides three common configurations found in Hawai‘i. Existing moorings are listed in Table 2. These moorings were furthermore inspected and are described in this document.

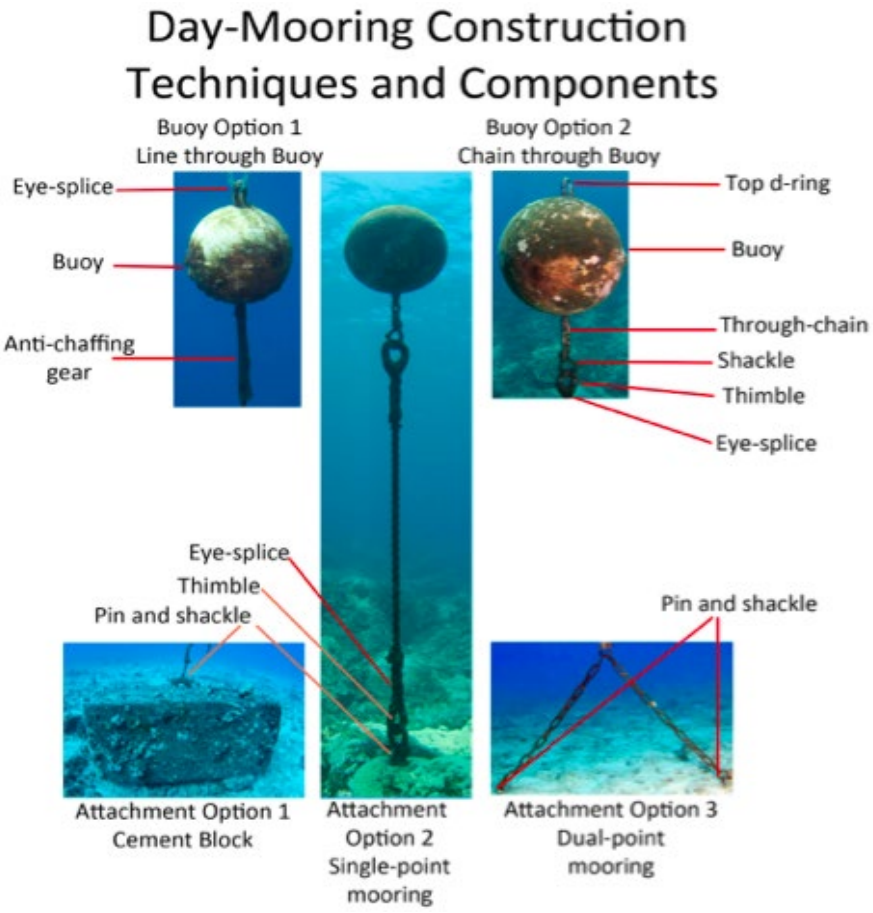


Figure 7 Three common mooring configurations found in Hawai‘i with components labeled.

Each mooring was inspected for its structural engineering and its proximity to sensitive habitats. The benthic composition of the mooring area was determined using a DACOR assessment (Dominant (>75%), Abundant (40-75%), Common (10-40%), Occasional (5-10%), and Rare (<5%)), which assigns relative dominance value to each of the benthic habitat categories used in this study (Table 3). Moorings that conflict with the proposed mooring arrangement were selected for removal.

Table 2 Existing moorings at the manta sites, Kaukalaelae Point and Makako Bay.

Mooring Name	Latitud	Longitude	Permit	Action
SITE: MAKAKO BAY (GARDEN EEL COVE)				
GEC Aggressor	19.73728	-156.05434	None	Remove
GEC Deep Mooring	19.73705	-156.05469	None	Remove
GEC Middle Inside	19.7365	-156.05374	POH-2009-00063	Remove
GEC Middle Outside	19.73664	-156.05405	None	Remove
GEC North Ball	19.73725	-156.05406	None	Remove
GEC South Inside	19.73598	-156.05388	POH-2009-00063	Keep
GEC South Outside	19.73601	-156.05409	None	Remove
SITE: KAUKALAELAE POINT (KEAUHOU)				
Keauhou Aggressor North	19.55889	-155.96797	None	Remove
Keauhou Aggressor South	19.55885	-155.968	None	Remove
Keauhou North Inside	19.55938	-155.96709	GP 95-1	Remove
Keauhou North Outside	19.55941	-155.96754	POH-2009-00063	Remove
Keauhou South Inside	19.55913	-155.96744	POH-2009-00063	Keep
Keauhou South Outside	19.55901	-155.96773	POH-2009-00063	Remove

The DACOR analysis was followed by a more specific benthic description that categorized CCA type (encrusting or branching) and listed the species of coral and macroalgae present. Coral heads greater than 1 meter in diameter were noted by number and species both within the 10-meter survey radius and in the surrounding area. Any coral bleaching or disease within the survey radius was also documented, as well as coral damage such as breakage or abrasions resulting from the mooring. Non-wave breakage was defined as when the coral was attached to a solid substrate, and not occurring near rubble or loose material that might impact the coral. Documenting ecological conditions is important to determine mooring effectiveness over time and to identify structural adjustments needed to prevent damage caused by mooring components. This methodology provides a detailed snapshot of the conditions and activity at each of the mooring sites surveyed.

Table 3 DACOR benthic habitats.

Benthic Habitats and their descriptions used during the DACOR assessment	
Sand/Silt	Sand is defined as a loose, granular substrate that can be produced through erosion or the waste products of marine organisms.
Rubble	Rubble consists of dead, broken coral fragments. It is much more rugose and provides more habitat than sand, cement, or base basalt, but it does not support the diverse community of a live coral reef. Heavy seasonal waves can roll rubble around and prevent the successful recruitment of new coral colonies.
Cement	Limestone cement is a hard-packed, two-dimensional substrate. While coral cement habitat does not provide much cover to support reef organisms, it can serve as a solid foundation for new coral settlement in favorable conditions.
Coral Reef	Coral reef consists of live coral habitat.
Macroalgae	Large algae living attached to the substrate
Crustose Coralline Algae (CCA)	Calcareous, hard algae living encrusted on the substrate

MAKAKO BAY

Day Mooring 5.1: GEC Aggressor

SUMMARY





Coral and gravel/rubble were abundant (40-75%) at the survey site. No corals greater than one meter in diameter were observed inside or outside of the survey radius. The buoy chain attachments were not intact and the chain was not in good condition. The ground attachment was intact line but was a non-standard construction consisting of a chain wrapped around a boulder. No coral or AIS growth was observed on the buoy or chain. No broken or bleached corals, trash, or prohibited fishing were observed at the site. Two commercial vessels and one fishing vessel using fishing poles were observed during the surface surveys. The fishing vessel was drifting and the status of the two commercial vessels was unknown.

Day Mooring 5.1: GEC Aggressor

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: Not Permitted

Latitude/Longitude: 19.73728, -156.05469

Details: Manta ray viewing area; within humpback whale sanctuary

Buoy Depth: Unknown

Attachment Point Depth: 80 ft.

Buoy Intact: No

Lines Intact: Yes

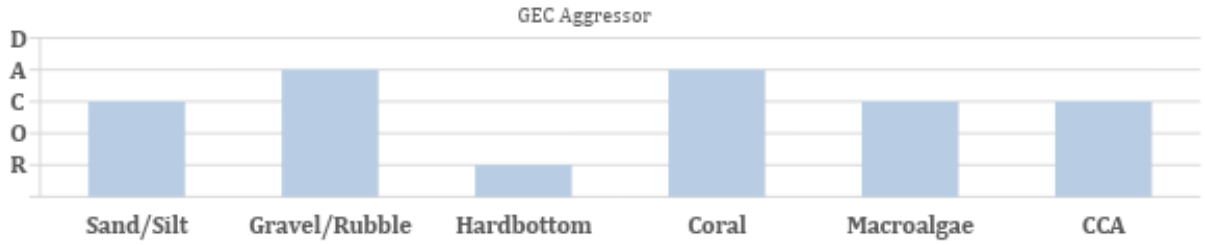
Ground Attachment Intact: Yes

Construction Notes: Non-standard ground attachment consisting of chain wrapped around reef (no pins); 2 non-standard buoys that are improperly attached; tagline is too long and improperly attached

Comments on Condition: Improper ground attachment to boulder could shift; buoys are soft and compressible.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A **Large (> 1 m) Coral Heads**: N/A

Coral Species Within Radius: *Porites compressa, Porites lobata, Montipora capitata*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Commercial	Unknown
2	N/A	Commercial	Unknown
3	N/A	Fishing (pole)	Drifting

Day Mooring 5.2: GEC North Ball

SUMMARY

Coral was dominant (> 75%) at this site. No corals greater than one meter in diameter were observed inside the survey radius, and one *P. lobata* greater than one meter was observed in the surrounding area. Buoy attachments were intact, but the ground attachment consisted of a single pin. No coral or AIS growth was observed on the buoy or chain. Bleached *P. lobata* and *P. meandrina* were observed, but no broken corals, trash, or prohibited fishing were observed during the survey. Three vessels were observed during the surface survey; two commercial vessels on moorings and one fishing vessel en route employing poles.

Day Mooring 5.2: GEC North Ball

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: Not Permitted

Latitude/Longitude: 19.73725, -156.05406

Details: Manta ray viewing area; within humpback whale sanctuary

Buoy Depth: 7 ft.

Attachment Point Depth: 26 ft.

Buoy Intact: Yes

Lines Intact: Yes

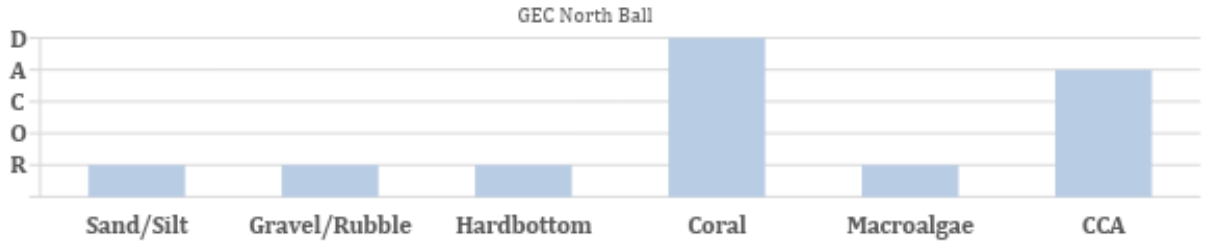
Ground Attachment Intact: Yes

Construction Notes: Single pin ground attachment; standard buoy

Comments on Condition: Good

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A

Large (> 1 m) Coral Heads: N/A

Coral Species Within Radius: *Porites compressa, Porites lobata, Porites evermanni, Montipora capitata, Montipora patula*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Commercial	On Mooring
2	N/A	Commercial	On Mooring
3	N/A	Fishing (pole)	En Route

Day Mooring 5.3: GEC Deep Mooring

SUMMARY

Sand/silt was dominant (> 75%) at the site, and coral was occasional (5-10%). No corals greater than one meter in diameter were found within the survey area, but two *P. lobata* greater than one meter were noted in the surroundings. All attachments were intact, and the buoy chain was in good condition. Coral growth was noted on the buoy, but no AIS growth was observed on the buoy or chain. One broken coral was observed at the site, and divers noted coral disease, but no details were given. No trash or prohibited fishing was observed. Two vessels were noted during the surface surveys, both commercial vessels on moorings.

Day Mooring 5.3: GEC Deep Mooring

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: Not Permitted

Latitude/Longitude: 19.73705, -156.05434

Details: Manta ray viewing area; within humpback whale sanctuary

Buoy Depth: 37 ft.

Attachment Point Depth: 77 ft.

Buoy Intact: Yes

Lines Intact: Yes

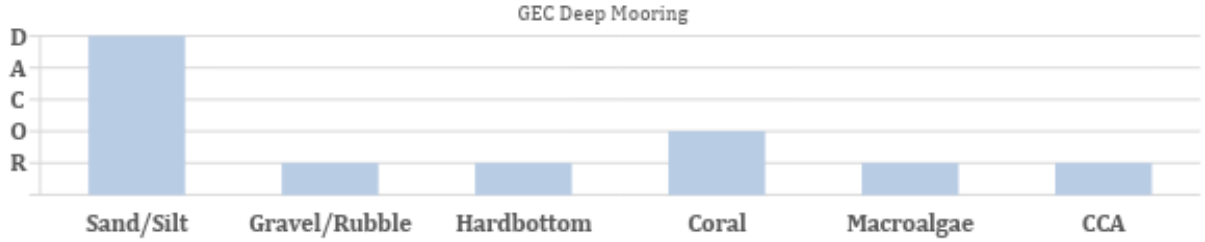
Ground Attachment Intact: Yes

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Coral growth on the buoy.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: Species not recorded

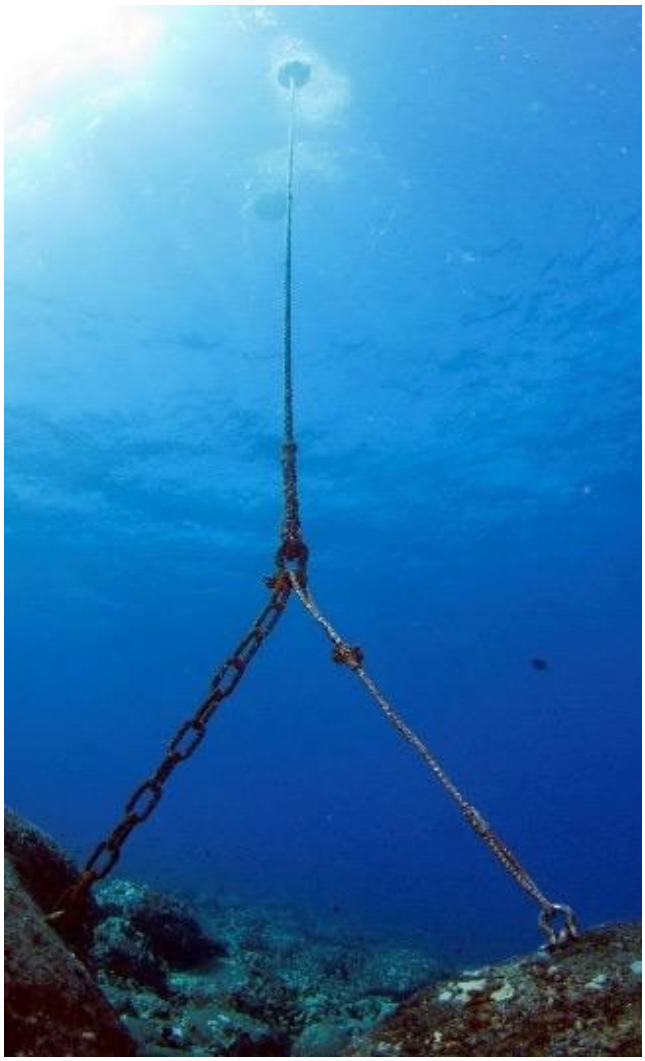
Large (> 1 m) Coral Heads: N/A

Coral Species Within Radius: *Porites lobata, Montipora capitata*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Commercial	On Mooring
2	N/A	Commercial	On Mooring

Day Mooring 5.4: GEC Middle Outside



SUMMARY

Coral was abundant at the survey site (40-75%). No corals greater than one meter in diameter were observed inside or around the survey radius. Buoy D-rings and ground attachments were not intact, with the ground attachment consisting of half cable, half chain, with moderate to severe corrosion. Coral growth was observed on the buoy, but no AIS growth was found on the buoy or chain. Broken corals (2-5) and bleached *P. meandrina* were noted at the site, but no trash or prohibited fishing was observed. Two commercial vessels were observed on moorings during the surface survey.

Day Mooring 5.4: GEC Middle Outside

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: Not Permitted

Latitude/Longitude: 19.73664, -156.05405

Details: Manta ray viewing area; within humpback whale sanctuary

Buoy Depth: 10 ft.

Attachment Point Depth: 36 ft.

Buoy Intact: No

Lines Intact: Yes

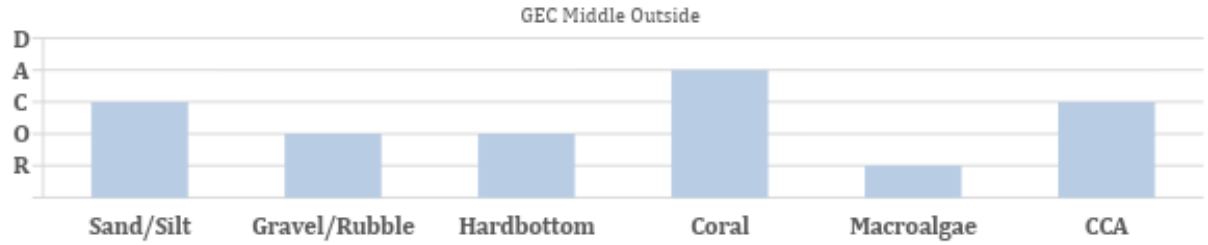
Ground Attachment Intact: No

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Ground attachment has moderate/severe corrosion and is half cable, half chain; buoy D-ring is not intact; coral growth on the buoy.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: Species not recorded

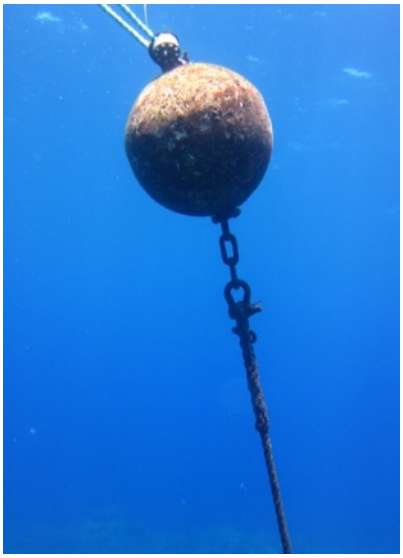
Large (> 1 m) Coral Heads: N/A

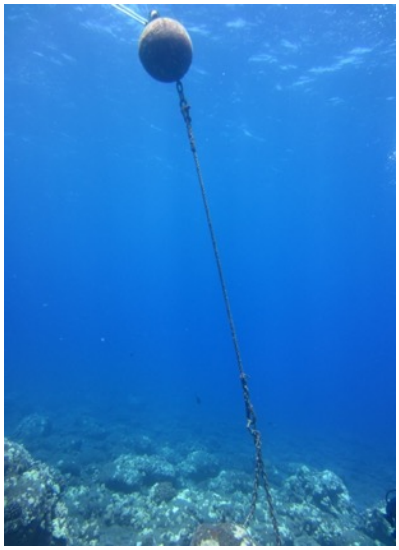
Coral Species Within Radius: *Porites compressa, Porites lobata, Palythoa caesia, Cyphastrea agassizi, Montipora capitata, Montipora patula*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Commercial	On Mooring
2	N/A	Commercial	On Mooring

Day Mooring 5.5: GEC Middle Inside



SUMMARY

Coral was abundant at the survey site (40-75%). No corals greater than one meter in diameter were observed inside or around the survey radius. All attachments were intact, and the buoy chain was in good condition. No coral or AIS growth was noted on the buoy or chain. Bleached *Montipora spp.* and stressed *Porites spp.* were observed in the surroundings, with the *Porites spp.* exhibiting algal overgrowth and pigmentation response. No broken corals, trash, or prohibited fishing activities were recorded, and one commercial vessel was observed on the mooring during surface surveys.

Day Mooring 5.5: GEC Middle Inside

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: POH-2009-00063

Latitude/Longitude: 19.7365, -156.05374

Details: Manta ray viewing area; within humpback whale sanctuary

Buoy Depth: 8 ft.

Attachment Point Depth: 26 ft.

Buoy Intact: Yes

Lines Intact: Yes

Ground Attachment Intact: Yes

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Good condition.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:

Coral Growing on Buoy Components: N/A

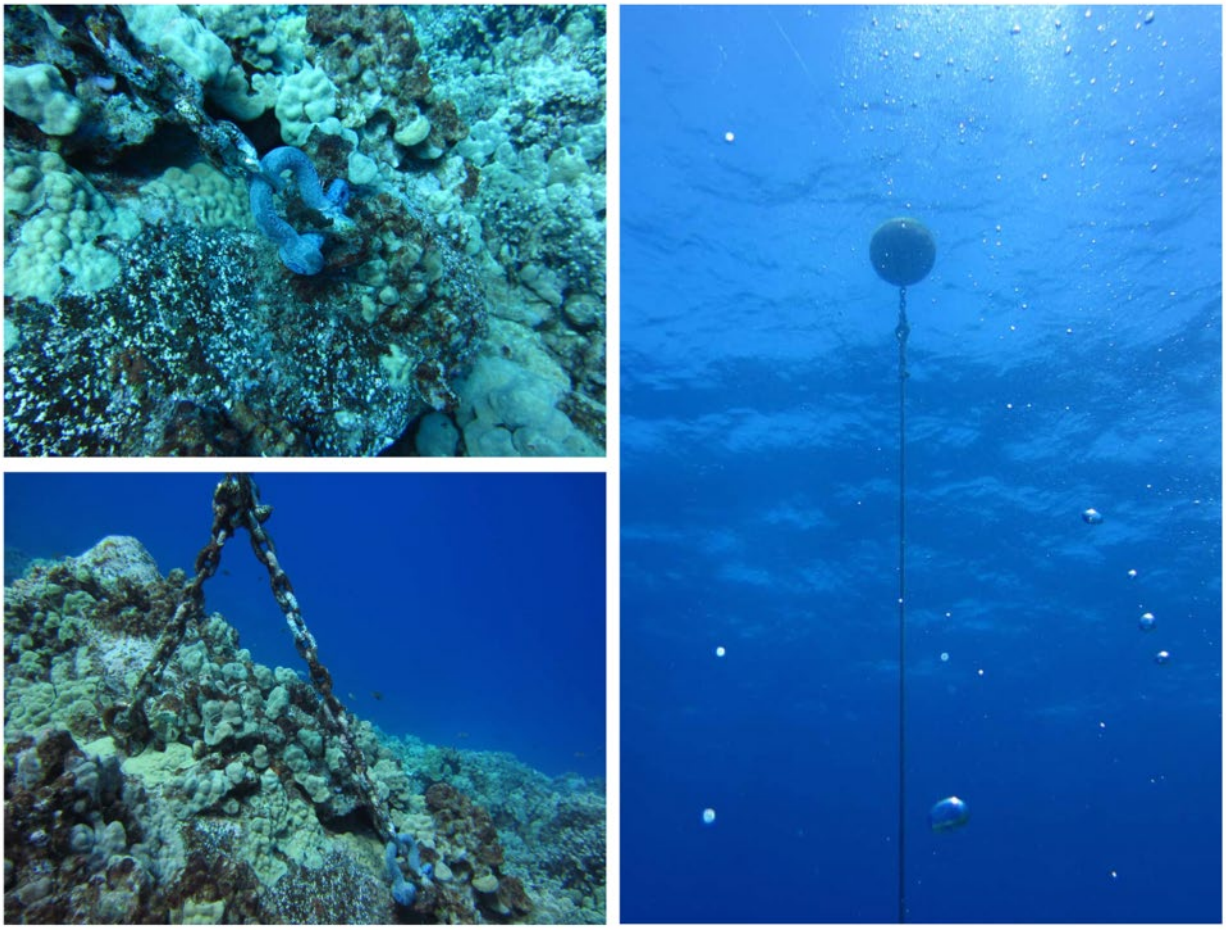
Large (> 1 m) Coral Heads: N/A

Coral Species Within Radius: *Porites compressa, Porites lobata, Porites evermanni, Montipora capitata*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Commercial	On Mooring

Day Mooring 5.6: GEC South Outside



SUMMARY

Coral was dominant (> 75%) at this site. No corals greater than one meter in diameter were observed inside or surrounding the survey radius. Buoy attachments and ground attachments were intact, with one new shackle. Coral growth was observed on the buoy but not the buoy chain, and no AIS growth was observed on the buoy or chain. Bleached *M. capitata* was observed, growth anomalies (5 cm) were found on *P. lobata*, and algal overgrowth (40 cm) was observed on *P. compressa*. No broken corals, trash, or prohibited fishing were observed. Six vessels were observed during surface surveys; one sailing vessel en route, two fishing vessels employing poles (status unknown), and three commercial vessels on moorings.

Day Mooring 5.6: GEC South Outside

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: Not Permitted

Latitude/Longitude: 19.73601, -156.05409

Details: Manta ray viewing area; within humpback whale sanctuary

Buoy Depth: 8 ft.

Attachment Point Depth: 33 ft.

Buoy Intact: Yes

Lines Intact: Yes

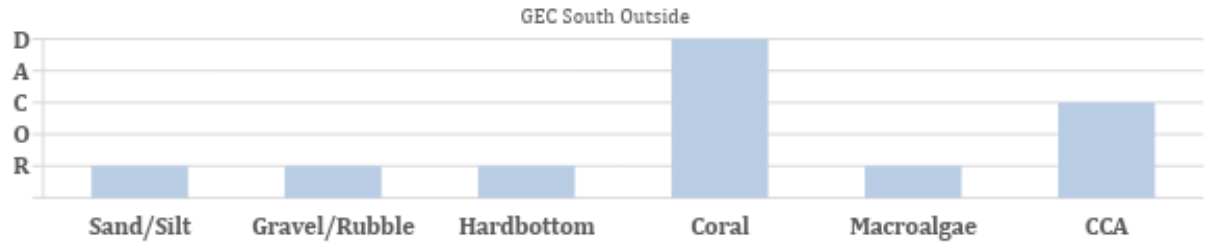
Ground Attachment Intact: Yes

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Good condition; one new shackle on ground attachment; coral growth on the buoy.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: Species not recorded

Large (> 1 m) Coral Heads: N/A

Coral Species Within Radius: *Porites compressa, Porites lobata, Porites evermanni, Palythoa caesia, Montipora capitata, Montipora patula, Pavona varians*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Sailing	En Route
2-3	N/A	Fishing (pole)	Unknown
4-6	N/A	Commercial	On Mooring

Day Mooring 5.7: GEC South Inside

SUMMARY

Coral was dominant (> 75%) at this site. No corals greater than one meter in diameter were observed inside or surrounding the survey radius. Buoy attachments and ground attachments were intact, and appeared to be newly installed with new shackles, chain, and buoy. No coral or AIS growth was observed on the buoy or chain. Bleached *P. lobata* and *M. capitata* were observed, and corals were stressed and covered in mucus, with algal overgrowth. No broken corals, trash, or prohibited fishing were observed. One commercial vessel was observed on a mooring during surface surveys.

Day Mooring 5.7: GEC South Inside

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: POH-2009-00063

Latitude/Longitude: 19.73598, -156.05388

Details: Manta ray viewing area; within humpback whale sanctuary

Buoy Depth: 8 ft.

Attachment Point Depth: 20 ft.

Buoy Intact: Yes

Lines Intact: Yes

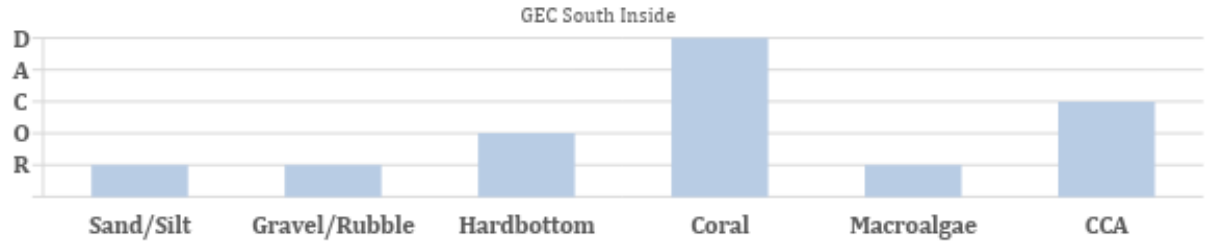
Ground Attachment Intact: Yes

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Good condition; newly installed components.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A

Large (> 1 m) Coral Heads: N/A

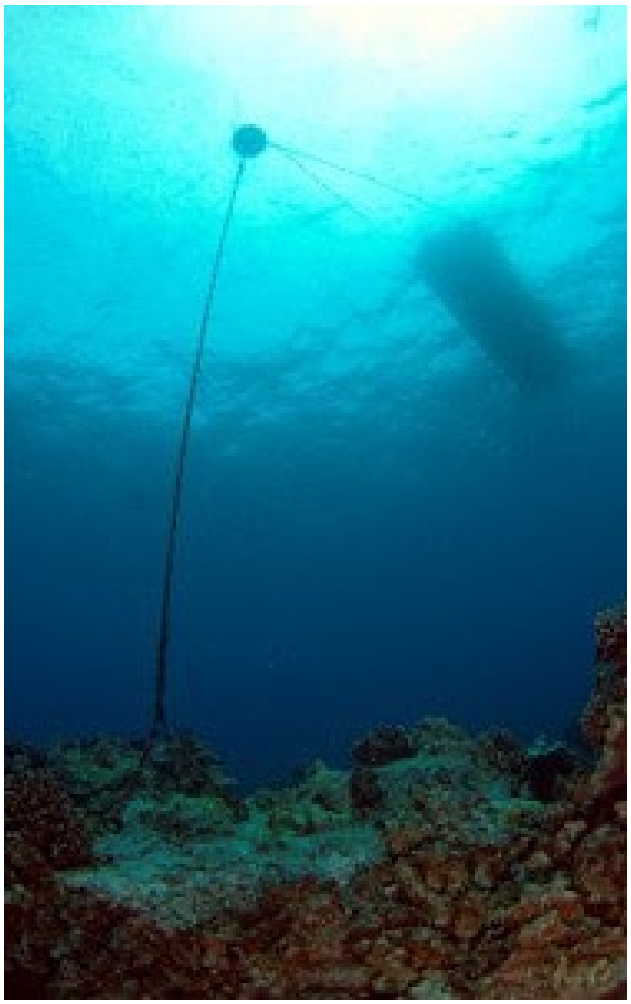
Coral Species Within Radius: *Porites compressa, Porites lobata, Porites evermanni, Pocillopora meandrina, Montipora capitata, Montipora patula, Pavona varians, Leptoseris incrustans*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Commercial	On Mooring

KAUKALAELAE POINT

Day Mooring 12.1: Keauhou North Outside



SUMMARY

Coral and gravel/rubble were abundant (40-75%) at the survey site. One *P. lobata* greater than one meter in diameter was observed within the survey radius, and two *P. lobata* greater than one meter were observed outside the radius. The mooring attachments and buoy were intact. There was no coral or AIS growth on the buoy or chain, but the buoy had calcareous and turf growth. One broken coral and bleaching of *P. lobata* and *P. meandrina* were observed, and coral disease was also noted. No trash or prohibited fishing activities were recorded. One fishing vessel employing poles was observed during surface surveys, but the observer could not tell if the vessel was anchored, en route, or on a mooring.

Day Mooring 12.1: Keauhou North Outside

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: POH-2009-00063

Latitude/Longitude: 19.55941, -155.96754

Details: Manta ray viewing area

Buoy Depth: 11 ft.

Attachment Point Depth: 35 ft.

Buoy Intact: Yes

Lines Intact: Yes

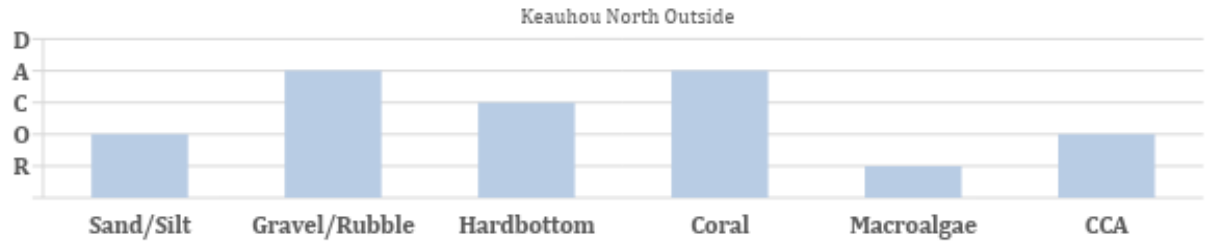
Ground Attachment Intact: Yes

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Good condition.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A

Large (> 1 m) Coral Heads: *Porites lobata (1)*

Coral Species Within Radius: *Porites compressa, Porites lobata, Porites brighami, Porites evermanni, Montipora capitata*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Fishing (pole)	Unknown

Day Mooring 12.2: Keauhou North Inside

SUMMARY

Coral was abundant (40-75%) at the survey site. Six massive *P. lobata* greater than one meter in diameter were observed within the survey radius, and 14 coral colonies greater than one meter were observed outside the radius. Five of the *P. lobata* were noted to be recovering from bleaching, and disease was noted in the surrounding areas. The mooring was in poor condition, with a bent thimble at the ground attachment and a missing buoy. The ground attachment was also non-standard, with a single attachment point. No coral or AIS growth was found on the buoy or chain. Bleached *P. lobata* and *P. meandrina* were recorded at the site, but no broken corals, trash, or prohibited fishing activities were observed. One recreational canoe was observed during surface surveys.

Day Mooring 12.2: Keauhou North Inside

MOORING ASSESSMENT

DM Number: N/A

Attachment Point Depth: 28 ft.

USACE Permit: GP 95-1

Buoy Intact: No

Latitude/Longitude: 19.55938, -155.96709

Lines Intact: No

Details: Manta ray viewing area

Ground Attachment Intact: No

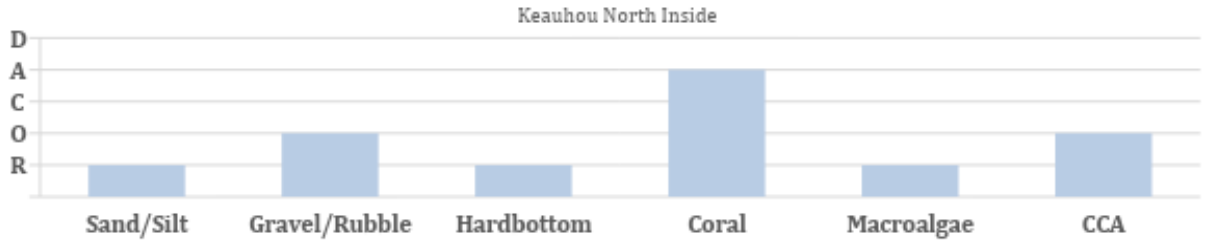
Buoy Depth: N/A

Construction Notes: Single pin ground attachment; missing buoy

Comments on Condition: Ground attachment thimble is bent; no buoy.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A

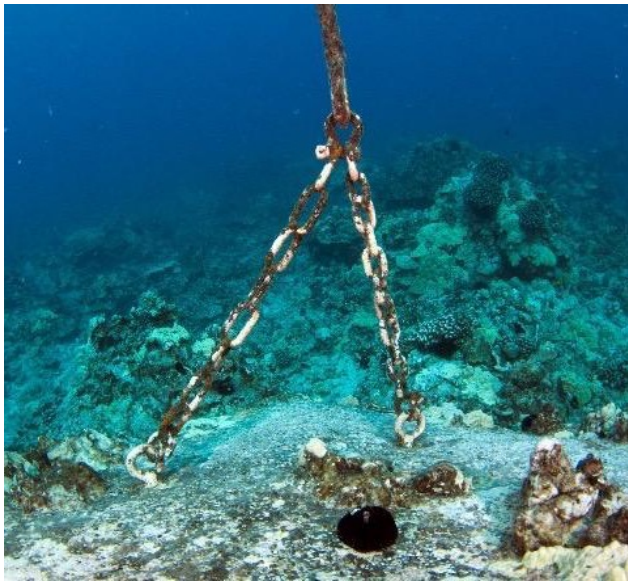
Large (> 1 m) Coral Heads: *Porites lobata (6)*

Coral Species Within Radius: *Porites compressa, Porites lobata, Montipora capitata*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Recreational Canoe	En Route

Day Mooring 12.3: Keauhou South Inside

SUMMARY

Coral and gravel/rubble were abundant (40-75%) at the survey site. Massive *P. lobata* and three mounding *P. evermanni* greater than one meter in diameter were observed within the survey radius, and two mounding *P. lobata* greater than one meter were observed outside the radius. Mooring attachments and chain were corroded and in poor condition. No coral or AIS growth was found on the buoy chain, but coral growth was noted on the buoy. No broken or bleached corals, trash, or prohibited fishing activities were observed. One fishing vessel en route was observed during surface surveys.

Day Mooring 12.3: Keauhou South Inside

MOORING ASSESSMENT

DM Number: N/A

Attachment Point Depth: 31 ft.

USACE Permit: POH-2009-00063

Buoy Intact: Yes

Latitude/Longitude: 19.55913, -155.96744

Lines Intact: No

Details: Manta ray viewing area

Ground Attachment Intact: No

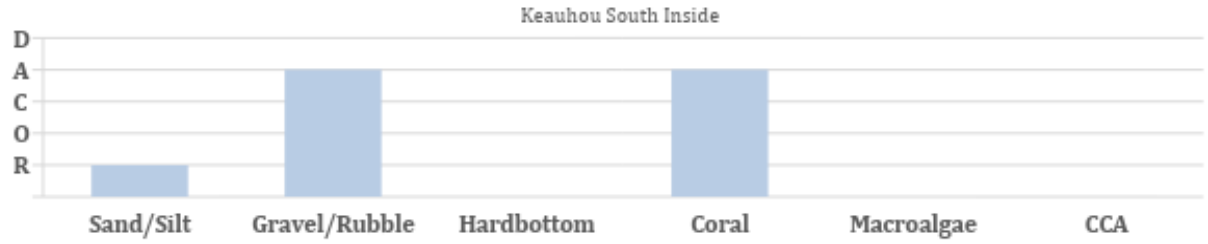
Buoy Depth: 16 ft.

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Corrosion on ground attachment and lines; coral growth on the buoy.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: Species not recorded

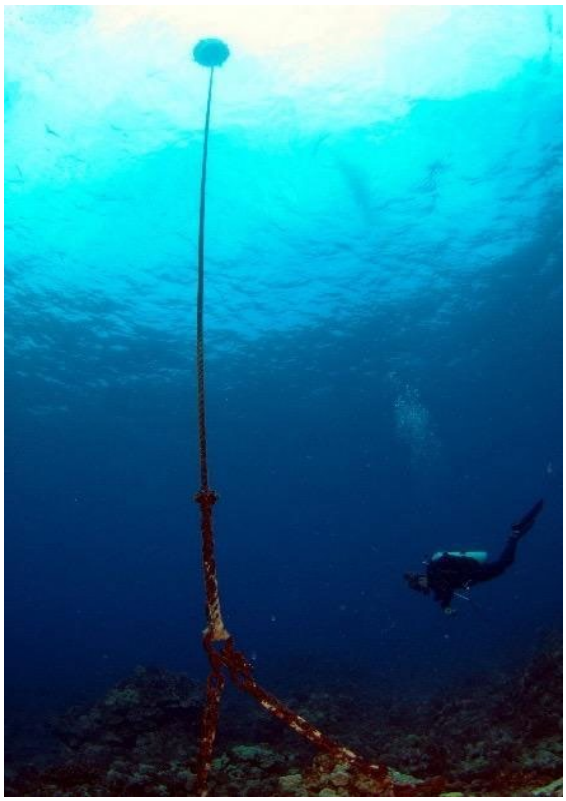
Large (> 1 m) Coral Heads: Porites lobata (1), Porites evermanni (3)

Coral Species Within *Radius: Porites compressa, Porites lobata, Porites brighami, Porites lichen, Palythoa caesia, Montipora capitata, Montipora patula, Pavona varians, Pavona duerdeni*

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Fishing	En Route

Day Mooring 12.4: Keauhou South Outside



SUMMARY

Coral was dominant (> 75%) at the survey site. Mounding *P. lobata* and branching *P. compressa* greater than one meter in diameter were observed within the survey radius, and one mounding *P. lobata* greater than one meter was observed outside the radius. The ground attachment was intact but had a loose shackle, hook, and chain at the attachment point. The buoy attachment and chain were corroded. No coral or AIS growth was found on the buoy or chain. Broken *P. compressa* (2-5) were observed at the site, but no bleached corals, trash, or prohibited fishing activities were observed. One cruise/snorkel vessel was observed en route during surface surveys. A total of 16 kayaks was also recorded at the surface.

Day Mooring 12.4: Keauhou South Outside

MOORING ASSESSMENT

DM Number: N/A

Attachment Point Depth: 34 ft.

USACE Permit: POH-2009-00063

Buoy Intact: No

Latitude/Longitude: 19.55901, -155.96773

Lines Intact: No

Details: Manta ray viewing area

Ground Attachment Intact: Yes

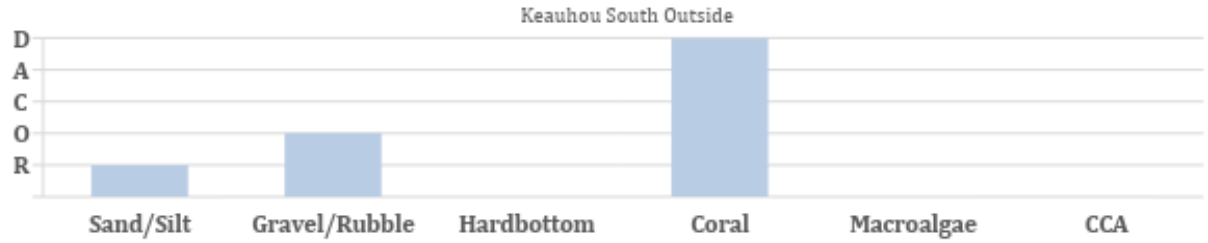
Buoy Depth: 7 ft.

Construction Notes: Standard 2-pin ground attachment; standard buoy

Comments on Condition: Buoy attachment and line are corroded; loose shackle, hook, and chain at the ground attachment.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A

Large (> 1 m) Coral Heads: Porites lobata (1), Porites compressa (1)

Coral Species Within Radius: Porites compressa, Porites lobata, Porites brighami, Porites lichen, Porites duerdeni, Porites evermanni, Pocillopora eydouxi, Montipora capitata, Montipora patula, Pavona varians

SURFACE ASSESSMENT

Vessel #	# of Divers	Purpose/Activity	Mooring Status
1	N/A	Cruise/Snorkel	En Route

Day Mooring 12.5: Keauhou Aggressor North

SUMMARY

Coral and gravel/rubble were abundant (40-75%) at the site. Four mounding *P. lobata* greater than one meter in diameter were found within the survey radius, and three were found outside the survey radius. A rise in the reef from 43 feet to 37 feet was observed at the mooring site. The mooring components were in poor condition, and the mooring construction was non-standard, consisting of a chain wrapped around a boulder and a Styrofoam buoy. The buoy is not sufficient to keep the chain off the benthos. No coral or AIS growth was found on the buoy or chain. Broken corals (10-20) and bleached *P. lobata* and *P. compressa* were recorded at the site, as well as trash impacting corals. Chain debris was found in the surrounding area, and parts of the mooring were abrading corals. No vessels were recorded during surface surveys.

Day Mooring 12.5: Keauhou Aggressor North

MOORING ASSESSMENT

DM Number: N/A

Attachment Point Depth: 44 ft.

USACE Permit: Not Permitted

Buoy Intact: No

Latitude/Longitude: 19.55889, -155.96797

Lines Intact: No

Details: Manta ray viewing area

Ground Attachment Intact: No

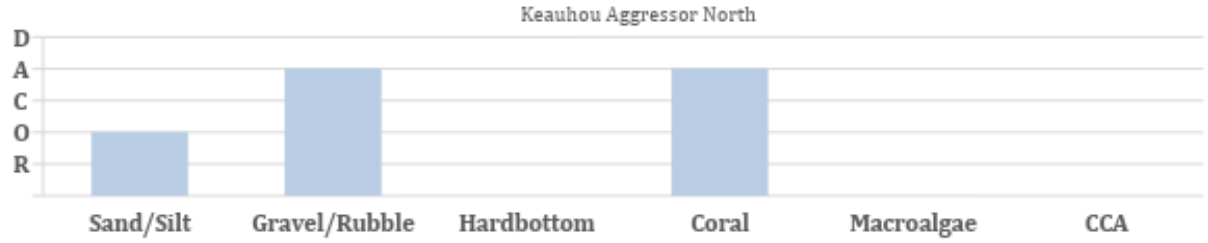
Buoy Depth: N/A

Construction Notes: Non-standard ground attachment consisting of chain wrapped around reef (no pins); non-standard Styrofoam buoy; no line components (all chain)

Comments on Condition: Improper ground attachment is abrading the surroundings; buoy is insufficient to keep components from dragging on the benthos and causing abrasions.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A

Large (> 1 m) Coral Heads: *Porites lobata (4)*

Coral Species Within Radius: *Porites compressa, Porites lobata, Porites duerdeni, Porites evermanni, Pocillopora meandrina, Pocillopora eydouxi, Montipora capitata, Montipora patula, Pavona varians, Pavona duerdeni*

SURFACE ASSESSMENT

No vessels observed.

Day Mooring 12.6: Keauhou Aggressor South

SUMMARY

Coral and gravel/rubble were abundant (40-75%) at the site. One massive *P. lobata* greater than one meter in diameter was found within the survey radius, and three were found outside the survey radius. The mooring components were in poor condition, and the mooring construction was non-standard, consisting of a chain wrapped around a boulder and a bleach bottle buoy. Buoy position was lower than normal. No coral or AIS growth was found on the buoy or chain. Broken corals (6-10) and bleached *P. lobata* and *P. meandrina* were recorded at the site, as well as trash impacting corals. Chain debris was found in the surrounding area. No vessels were recorded during surface surveys.

Day Mooring 12.6: Keauhou Aggressor South

MOORING ASSESSMENT

DM Number: N/A

USACE Permit: Not Permitted

Latitude/Longitude: 19.55885, -155.968

Details: Manta ray viewing area

Buoy Depth: 37 ft.

Attachment Point Depth: 44 ft.

Buoy Intact: No

Lines Intact: No

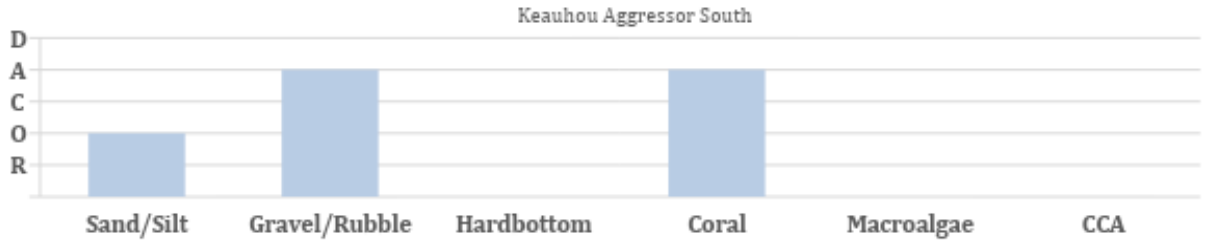
Ground Attachment Intact: No

Construction Notes: Non-standard ground attachment consisting of chain wrapped around reef (no pins); non-standard bleach bottle buoy

Comments on Condition: Improper ground attachment is abrading surroundings.

ECOLOGICAL ASSESSMENT (10-METER SURVEY RADIUS)

DACOR Analysis:



Coral Growing on Buoy Components: N/A

Large (> 1 m) Coral Heads: *Porites lobata (1)*

Coral Species Within Radius: *Porites compressa, Porites lobata, Porites duerdeni, Porites evermanni, Pocillopora meandrina, Montipora capitata, Montipora patula*

SURFACE ASSESSMENT

No vessels observed.

INSTALLATION OF NEW MOORINGS

Mooring locations were selected through a process of benthic surveys, consultations with regulatory agencies, stakeholder feedback, spatial analysis and consultation with DOBOR engineers. Following a series of meetings and proposed layouts, the two mooring configuration maps were selected as the final proposed sites for moorings (Figures 4 & 5). These sites followed the DOBOR DMB Best Management Practices (***Appendix C***) that moorings should be:

- Placed in areas of high recreational use
- At least 300 ft away from existing infrastructure.
- Preferentially installed in sand or on hard bottom substrate
- Not installed on steep slopes or in live coral.
- Set at a depth of 20 ft – 90 ft.
- Placed in state waters, within 3 nautical miles of coastline

Further guidance from the Division of Aquatic Resources (DAR) specified that selected sites should not have coral colonies larger than 3 ft (1 m) in the immediate area to protect against the risk of the mooring float failing and the chain or line damaging these larger colonies.

Surveys of the Kona manta sites were conducted in 2014, 2016, 2017, and 2020 to finalize coordinate positions and layouts for Phase 1 and 2. During Phase 1, moorings at KLL-1, -2, -6, and -7 will be prioritized for installation. However, in consultation with Mālama Kai Foundation, the preferred installation method of pins or manta anchor type moorings may not be feasible for the deeper sites at KLL-1 and -2. Should the substrate be unsuitable for these mooring types, alternate priority moorings will be installed at sites KLL-10 and KLL-11. During Phase 1, all moorings would be available to commercial and recreational users per the rules outlined in HAR Chapter 13-256.

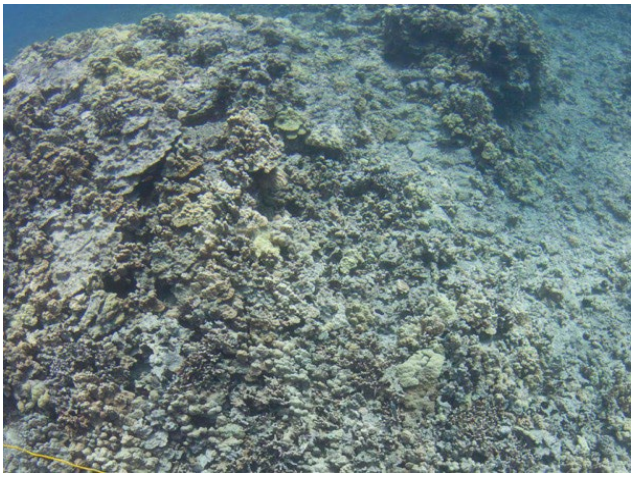
Moorings were arranged to optimize the number of vessels around a central point, known as a "campfire," where viewing is conducted during nightly manta tours. The moorings will furthermore be built to support vessels of a particular size class. Collectively, the moorings at Makako Bay would have a ratio of 1:3:8 of large (> 60 ft.), medium (60 ft. – 20 ft.), and small (< 20 ft.) vessels, respectively. These designations are evidenced in the size of the swing circles (yellow circles) around each mooring in Figures 4 and 5. Kaukalaelae will similarly support 1:3:7 of the same. This ratio is to encourage the use of smaller boats, which will, in turn, reduce the problem of overcrowding by commercial tours at the sites. One non-commercial mooring for vessels under 20 ft. will also be installed at each site.

Overall, the total number of proposed new installations is 13 at Garden Eel Cove (GEC) and 12 at Kaukalaelae (KLL), or 25 new moorings in total (summarized in Table 4). Three mooring coordinate positions originally planned for installation at GEC and one at KLL were close to existing mooring pins that the surveyors recommend no new installation is necessary.

Table 4 Proposed mooring positions at the manta sites Garden Eel Cove (GEC) and Kaukalaelae (KLL).

Mooring	Latitude	Longitude	Depth	Type	Action
GEC-0	19.73759641	-156.0544717	15	Boulder	Install
GEC-1	19.73696306	-156.0544081	20	Boulder	Install
GEC-2	19.73619760	-156.0544717	20	Reef	Install
GEC-3	19.73535608	-156.0547198	23	Boulder	Install
GEC-4	19.73779885	-156.0540137	15	Boulder	Install
GEC-5	19.73740733	-156.0539929	20	Boulder	Install
GEC-6	19.73704779	-156.0538259	20	Boulder	Install
GEC-7	19.73670300	-156.0535550	20	Boulder	Install
GEC-8	19.73630974	-156.0536357	19	Boulder	Install
GEC-9	19.73598000	-156.0538800	36	Reef	Use current
GEC-10	19.73567451	-156.0540352	60	Reef	Install
GEC-11	19.73536571	-156.0541055	70	Sand	Install
GEC-12	19.73509178	-156.0542753	75	Sand	Install
KLL-0	19.55963747	-155.9676541	38	Reef	Install
KLL-1	19.55909620	-155.9681222	44	Reef	Install
KLL-2	19.55847909	-155.9679577	39	Rubble	Install
KLL-3	19.55797072	-155.9677670	49	Rubble	Install
KLL-4	19.55940016	-155.9671167	26	Reef	Install
KLL-5	19.55913000	-155.9674400	29	Reef	Use current
KLL-6	19.55868173	-155.9673409	30	Reef	Install
KLL-7	19.55830485	-155.9673723	32	Reef	Install
KLL-8	19.55794065	-155.9672571	28	Reef	Install
KLL-9	19.55759629	-155.9671029	26	Reef	Install
KLL-10	19.55944354	-155.9667344	28	Reef	Install
KLL-11	19.55912452	-155.9668253	21	Boulder	Install
KLL-12	19.55944354	-155.9667344	19	Boulder	Do not install

GARDEN EEL COVE



Site: GEC-0

Latitude: 19.7375964

Longitude: -156.0544717

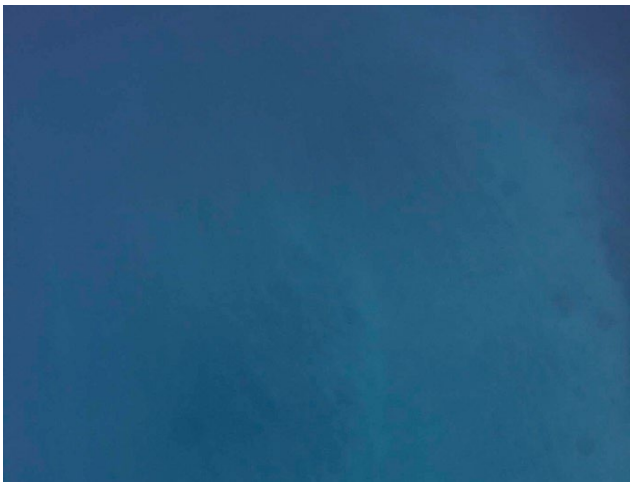
Depth: 36

Bottom Type: Reef

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 50%

Recommendations: Good location



Site: GEC-1

Latitude: 19.7369306

Longitude: -156.0544081

Depth: 75

Bottom Type: Sand

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 0%

Recommendations: Good location; manta anchor alternative recommended.

Site: GEC-2

Latitude: 19.7361976

Longitude: -156.0544717

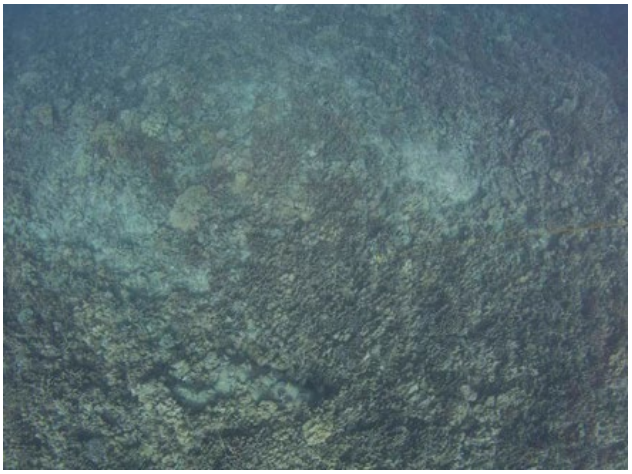
Depth: 70

Bottom Type: Sand

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 0%

Recommendations: Good location; manta anchor alternative recommended.



Site: GEC-3

Latitude: 19.73535608

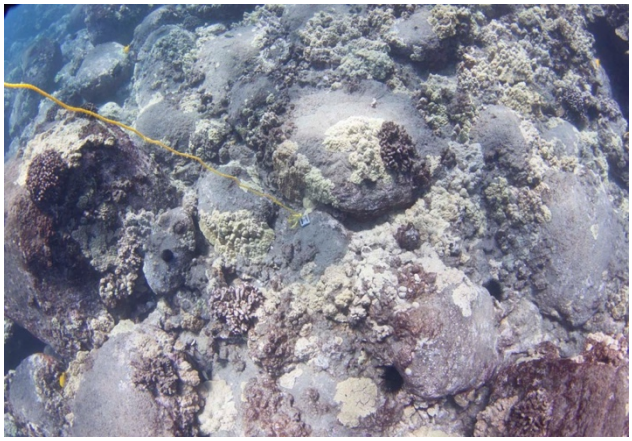
Longitude: -156.0547198

Depth: 60 Bottom Type: Reef

Coral Heads > 1 m within 10 m: 2 P. Lobata

Percent Coral Cover: 60%

Recommendations: Lots of coral near nudge the site base away from large co heads. Installation crew will report back w new location



Site: GEC-4

Latitude: 19.73779885

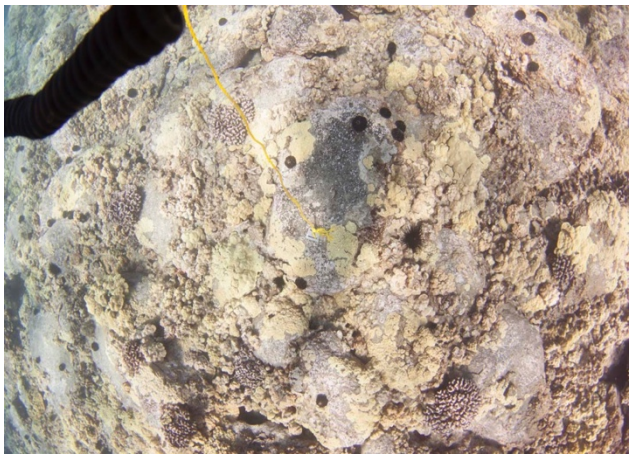
Longitude: -156.0540137

Depth: 19 Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 30%

Recommendations: Good location



Site: GEC-5

Latitude: 19.73740733

Longitude: -156.0539929

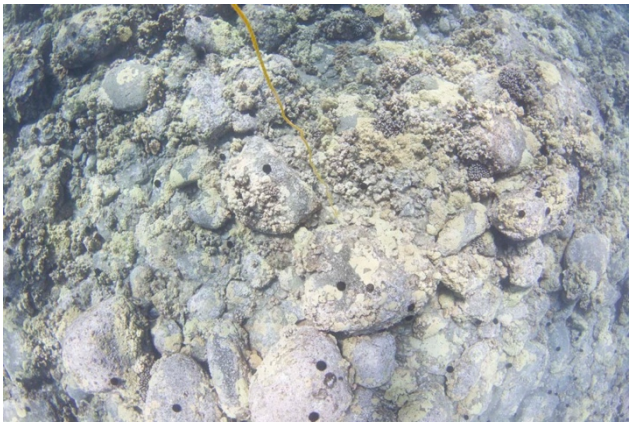
Depth: 20

Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 40%

Recommendations: Near the north mooring that will be removed



Site: GEC-6

Latitude: 19.73704779

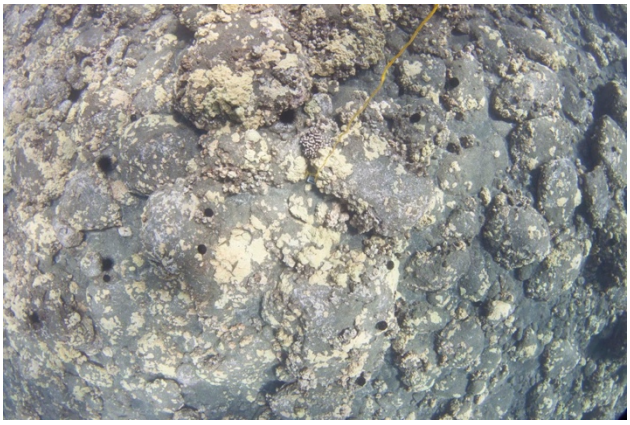
Longitude: -156.0538259

Depth: 20 Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 50%

Recommendations: Good location



Site: GEC-7

Latitude: 19.73670300

Longitude: -156.053555

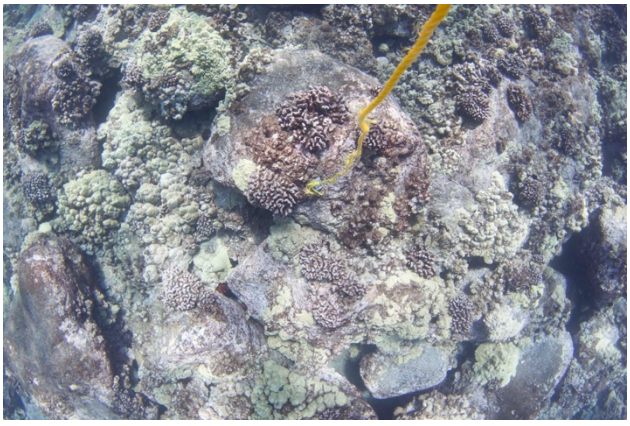
Depth: 20

Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 25%

Recommendations: Good location; nudged from original coordinates to accommodate swing circles for moored vessels



Site: GEC-8

Latitude: 19.73630974

Longitude: -156.0536357

Depth: 15 Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 30%

Recommendations: Good location

Site: GEC-9

Latitude: 19.7359830

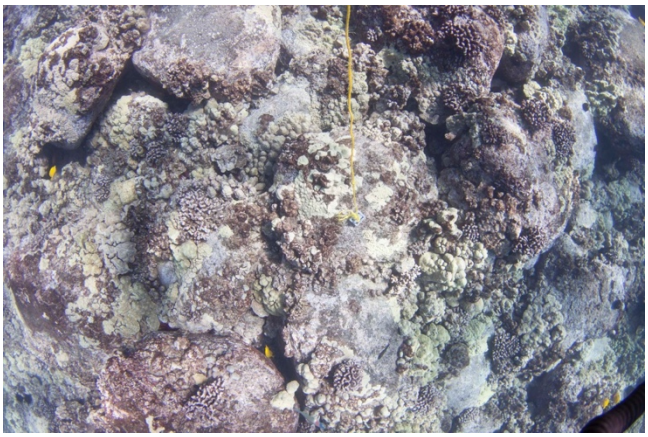
Longitude: -156.053880

Depth: 23 Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 2xP. Lobata

Percent Coral Cover: 15%

Recommendations: Use existing mooring at "south inside."



Site: GEC-10

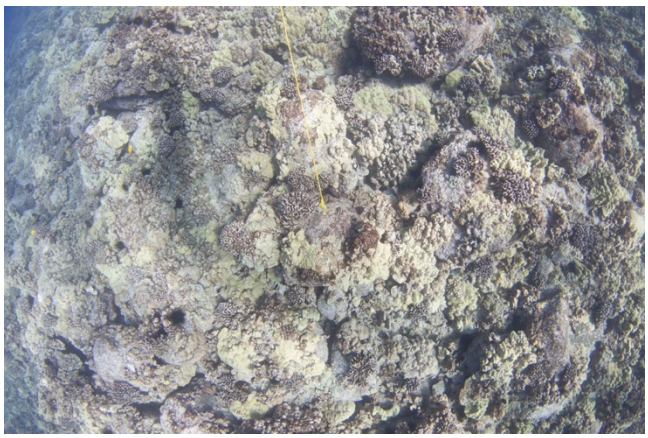
Latitude: 19.73567451

Longitude: -156.0540352

Depth: 20 Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 2xP. lobata

Recommendations: Good location if nudged away from large coral heads at time of installation



Site: GEC-11

Latitude: 19.73536571

Longitude: -156.0541055

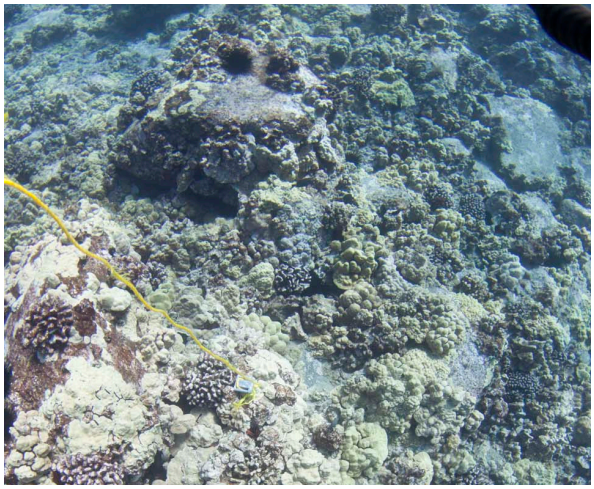
Depth: 15 Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 25%

Recommendations: Good location

north mooring for GEC-5.



Site: GEC-12

Latitude: 19.73509178

Longitude: -156.0542753

Depth: 20

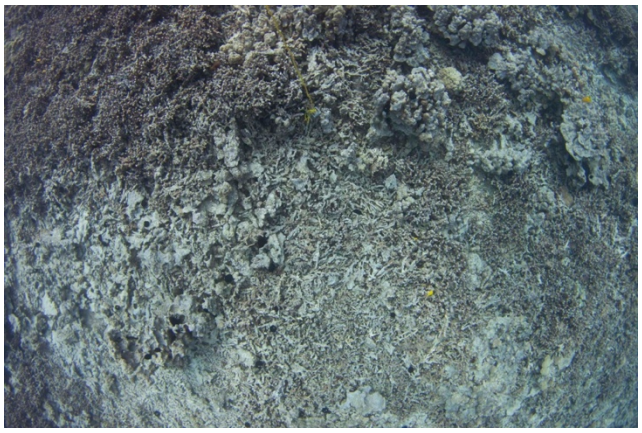
Bottom Type: Reef

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 40%

Recommendations: Good location

KAUKALAELAE POINT



Site: KLL-0

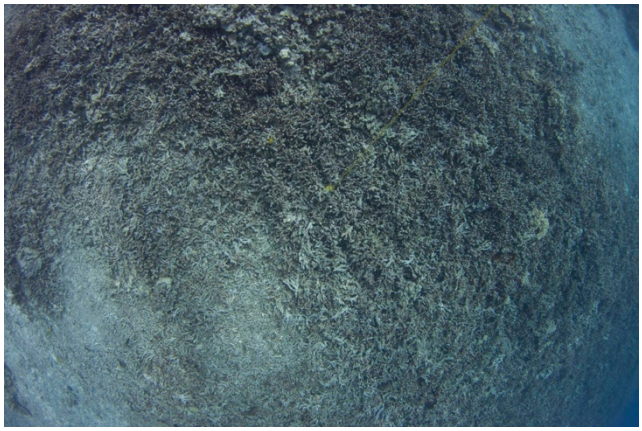
Latitude: 19.55963747

Longitude: -155.9676541

Depth: 38 Bottom Type: Reef

Coral Heads > 1 m within 10 m: 1xP. lobata

Recommendations: Move location away from large coral head at time of installation



Site: KLL-1

Latitude: 19.5590962

Longitude: -155.96812222

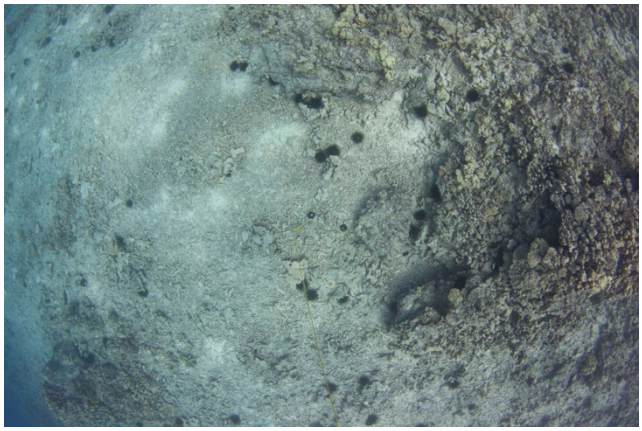
Depth: 44

Bottom Type: Reef

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 30%

Recommendations: Good location.



Site: KLL-2

Latitude: 19.55847909

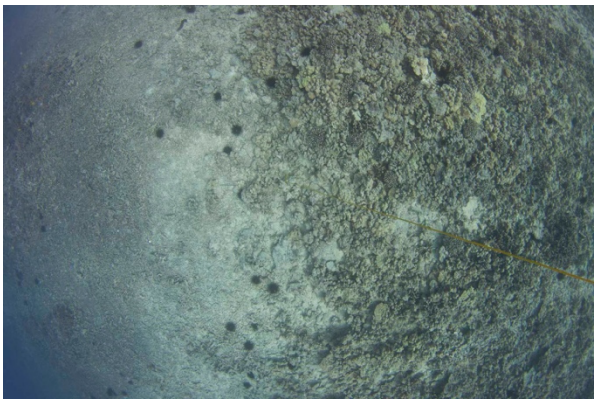
Longitude: -155.9679577

Depth: 39 Bottom Type: Rubble

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 10%

Recommendations: Good location.



Site: KLL-3

Latitude: 19.55797072

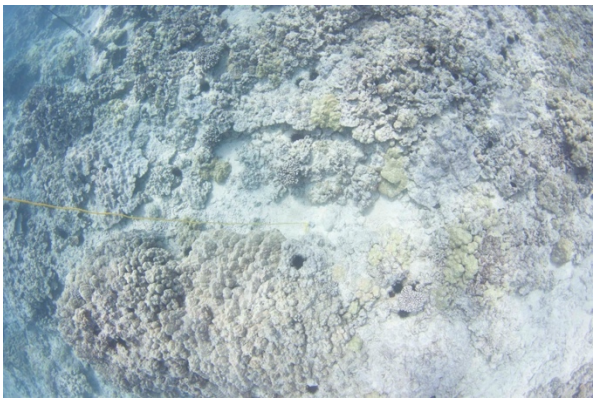
Longitude: -155.967767

Depth: 49 Bottom Type: Rubble

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 25%

Recommendations: Good location



Site: KLL-4

Latitude: 19.55940016

Longitude: -155.967117

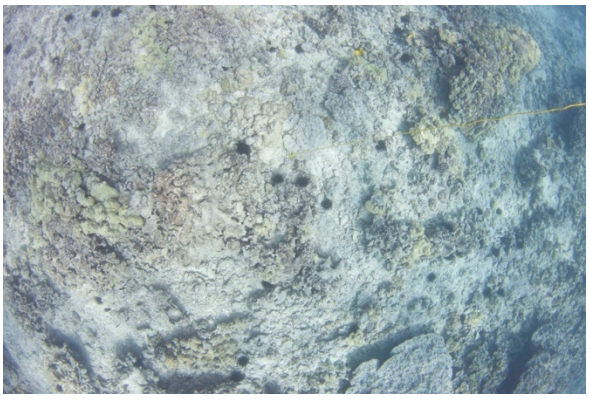
Depth: 29

Bottom Type: Reef

Coral Heads > 1 m within 10 m: 1xP. Lobata

Percent Coral Cover: 35%

Recommendations: Adjust location at the time of installation away from large coral head.



Site: KLL-5

Latitude: 19.55913

Longitude: -155.96744

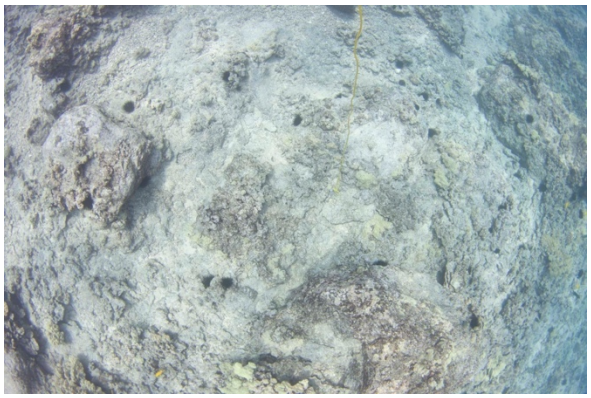
Depth: 30

Bottom Type: Reef

Coral Heads > 1 m within 10 m: 1xP. Lobata

Percent Coral Cover: 25%

Recommendations: Use existing mooring. Do not install a new mooring.



Site: KLL-6

Latitude: 19.55868173

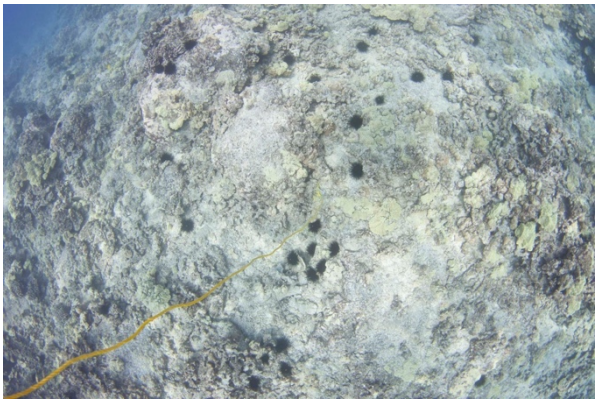
Longitude: -155.9673409

Depth: 32 Bottom Type: Reef

Coral Heads > 1 m within 10 m:0

Percent Coral Cover: 10%

Recommendations: Good location



Site: KLL-7

Latitude: 19.55830485

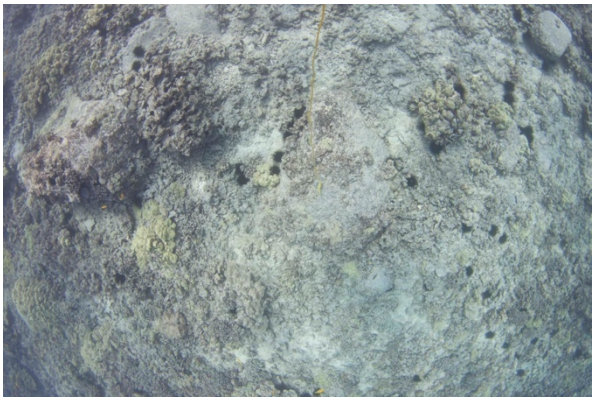
Longitude: -155.9673723

Depth: 28 Bottom Type: Reef

Coral Heads > 1 m within 10 m: 3 P. Lobata

Percent Coral Cover: 25%

Recommendations: Move installation point slightly to avoid large coral heads



Site: KLL-8

Latitude: 19.55794065

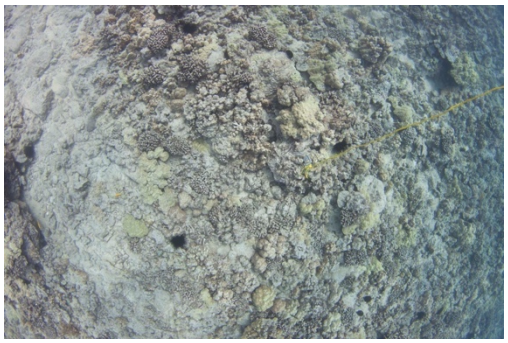
Longitude: -155.9672571

Depth: 26 Bottom Type: Reef

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 20%

Recommendations: Good location mooring for GEC-5.



Site: KLL-9

Latitude: 19.55759629

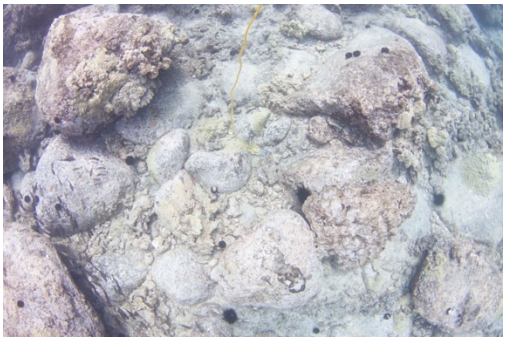
Longitude: -155.9671029

Depth: 28 Bottom Type: Reef

Coral Heads >1 m within 10 m: 0

Percent Coral Cover: 30%

Recommendations: Good location with coral colonies >1m nearby



Site: KLL-10

Latitude: 19.55944354

Longitude: -155.9667344

Depth: 19 Bottom Type: Boulder

Coral Heads > 1 m within 10 m> 1 m within 10 m: 0

Recommendations: Good location, maybe shallow/close to shore

Site: KL-11

Latitude: 19.55912452

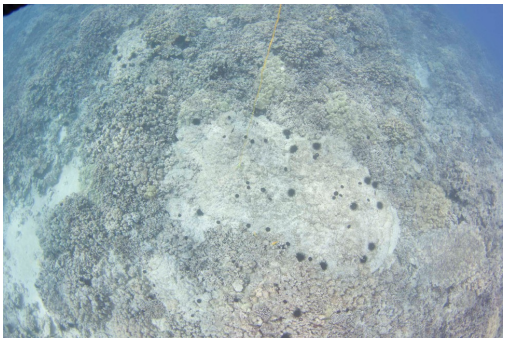
Longitude: -155.9668253

Depth: 21 Bottom Type: Boulder

Coral Heads > 1 m within 10 m: 0

Percent Coral Cover: 15%

Recommendations: Good location, maybe shallow/close to shore here.



Site: KLL-12

Latitude: 19.55981623

Longitude: -155.9670334

Depth: 26

Bottom Type: Reef

Coral Heads > 1 m within 10 m: 5 x P. Lobata

Percent Coral Cover: 50%

Recommendations: Lively coral bed with lots of large corals to south, mantas at active cleaning station and boating channel to the north, no suitable alternative location nearby.

Maintenance & Repair

The condition of the moorings will be maintained through routine inspection and servicing to be performed annually. The nightly use of the project moorings will improve detection of failing components and users will be provided with the resources to report any concerns in a timely fashion. Maintenance and repairs will include (1) tightening or adjusting chains, shackles, swivels, (2) identification markings or replacing identification markings, and (3) replacement of mooring system components, hardware that is cracked, unsuitable, or has over 25% wear, and missing or loose seize wire, cotter pins, or screw pins. The project has procured funding to ensure maintenance for Phase 1 for a minimum five years, and will develop sustainable funding mechanisms through partnership with local dive companies, Mālama Kai Foundation, state contracts, or other means. In the event that maintenance can no longer be provided, the mooring assembly will be removed and the permanent substrate components (ex. pins) will be left in place so that mooring assemblies can be returned once maintenance can resume safely.

During maintenance inspections, the entire mooring assembly will be examined for wear and damage. Worn or damaged moorings shall be repaired on site. Mooring inspections will be rated as follows:

Satisfactory – the condition of the buoy component ranges from new to having minimal wear or damage.

Poor – a buoy component that has 25 percent or more wear or damage. The Contractor shall replace any component that shows a 25 percent or more wear or damage.

Bad – there is 50 percent or more wear or damage to the buoy component. The Contractor shall change out the components immediately while on station for the inspection if there is fifty percent or more wear.

Missing – a component or assembly that is not where it is supposed to be.

Any unused mooring assemblies or materials that would possibly affect in-use mooring assemblies or cause damage to the site will be removed and disposed of at an approved facility. The inspections, maintenance, and repairs will be recorded using a Log form and this information will be entered into a database. Hardware that is other than "satisfactory" will be photographed and submitted along with the Logs.

Site Uses

The most popular use at the site is manta ray viewing tourism. Tours take place nightly from 4:00 PM – 11:00 PM, sometimes running later into the night but typically concluding by midnight. Tour companies primarily include snorkeling and/or Self-Contained Underwater Breathing Apparatus (***SCUBA***) dive boats. These operate from Keauhou Small Boat Harbor, Honokohau Harbor, or private boat launches on the Kona coast. The total number of companies currently offering tours is estimated to be over sixty businesses. Companies run nightly, frequently (a few times a week), or infrequently

(weekly or less). Some companies operate multiple boats or multiple trips in a single night. The majority of companies offering manta ray viewing tours go to either the Kaukalaelae site or the Makako Bay site. However, companies that favor Makako Bay do on occasion go to Kaukalaelae. The triggers for this change in operation vary, but are primarily connected to ocean conditions or manta sightings. The Makako Bay site will occasionally report zero mantas seen by tour groups, causing companies to choose to go south to the Kaukalaelae site in order to provide their customers with a manta sighting. As few as two companies will refrain from going south and will continue to report on the number of mantas observed at Makako Bay. If these no-sighting nights continue for several days, most companies will go south such that Kaukalaelae may have as many as thirty boats at a time.

Tours begin at an agreed-upon location where participants typically receive a briefing on safety and/or environmental guidance, and depart on a boat ranging from Hawaiian wa‘a (canoe) to small 6-person watercraft to 50+ passenger boats. These tours are typically one hour to five hours; a snorkel boat departing from Keauhou may conclude within an hour whereas a SCUBA dive boat departing from Honokohau will do two dives and return to the harbor after several hours.

At the manta ray viewing sites, boats either throw their anchor(s), attach to a mooring, attach to another boat that is on a mooring, or *live-boat* (running their motors and switching their motors into neutral, particularly to load and unload passengers). The boats then send their tours into the water to either snorkel or SCUBA in the areas where mantas are frequently observed. Artificial lighting attracts plankton into thick columns, which the mantas eat in front of tour participants. These lights are either attached to the vessels, to floating boards on the surface, are handheld, or are placed on the ocean bottom and directed upward. It is common to see several small groups of illumination with mantas passing in between the groups as plankton accumulates in these light beams.

Operators at Makako Bay and sometimes at Kaukalaelae will focus their tours around a central “campfire.” The “campfire” model entails groups of divers seated in a circle around a center rock pile and crate with dive lights directed upwards. This “campfire” serves the purpose of containing manta ray viewing activities to an area with low coral cover so as to minimize the impacts of divers on the ocean bottom. The grouped lights also concentrate plankton so that mantas are drawn to a central area and guests may all enjoy the manta ray viewing. Snorkelers hold on to floating surface boards fitted with lights and direct their beam down over the campfire. This top-bottom approach provides a clear space in the water column so that mantas can more easily avoid divers on the bottom or snorkelers on the surface. Most tour operators instruct their participants to either remain seated if on SCUBA or snorkel and float lying flat, sometimes with the assistance of floatation devices, and prohibit free diving or touching the mantas.

In addition to manta tours, both sites have snorkeling, diving, fishing, and boating. Paddling (kayak, canoe, standup paddle board) is common at Keauhou where users can easily launch from the shoreline. The Sheraton Kona Resort & Spa at Keauhou Bay overlooks the Kaukalaelae site, and its restaurant Rays on the Bay overlooks the manta tour boats offshore. The restaurant's spotlights on the water just off their balcony also attract mantas for their guests' enjoyment.

Site Conditions

While carrying capacity was not formally assessed for this document, there is evidence that safe and desirable densities of visitors at the manta ray viewing sites have been exceeded. The term "carrying capacity" refers to the sustainable use level that a particular site can endure. Categorized into three types as defined by Needham (2017): (1) facility, the ability of the provided services to accommodate; (2) social, the level at which crowding becomes unacceptable; and (3) environmental, the threshold beyond which the environmental services begin to degrade, this assessment attempts to address all factors of each type with regards to the operation of manta ray tourism on the island of Hawai'i.

Indicators that a site has exceeded its carrying capacity include perceived crowding, user conflicts, and changes in user and manta behavior. There is little doubt that a person swimming in tight formation with 160 other people will feel crowded, as evidenced by a recent increase in both user conflicts and changes in behavior at the proposed project sites. According to Needham et al.'s 2017 study, 79% of snorkelers reported conflict with other snorkelers and 53% of scuba divers reported conflict with other divers. Universally, users believed the main cause for reckless or disruptive behavior by other participants was lack of education on personal conduct and expectations for conditions during the in-water tours (Needham *et al.* 2017).

The manta sites have seen some unique conflicts amongst operators as well as guests. Two-way conflicts are common between operators and range from disagreements about rafting, anchoring, running a live engine near in-water guests, and best practices with manta interactions (Moy 2020). One example of conflict is around the campfire model where operators disagree on whether to conduct tours close to one another so as to draw nearby manta rays close enough for all guests to enjoy, or whether to separate from the larger group so as to provide an intimate and secluded experience for

guests at the risk of drawing a manta ray away from the larger group. Operators are offering tours in a more dispersed area, anchoring further from the central campfire at Makako Bay or sprawling over a greater area as a result of crowding at Kaukalaelae. Some have altered their tour schedules to avoid peak hours or even maximize the number of trips they can run in a single night. These actions have not reduced crowding or conflict, as well over twenty boats may use the sites concurrently and operators that do not use their lights near the main group are perceived as drawing away manta rays for their guests' exclusive benefit.

These spatial and temporal conflicts peak when operators from Makako Bay run their tours instead to Kaukalaelae Point. The Keauhou operators report feeling overwhelmed and crowded by the "north boats," as commonly described by operators during in-person interviews. While Phase 1 of this project will not address these concerns directly, by providing additional mooring opportunities, the excess of boats at the Kaukalaelae site will have less occasion to drop anchors on Kaukalaelae's coral and live rock habitat. Phase 2 will include a comprehensive suite of regulations to accompany additional moorings, to be determined through rulemaking that includes public hearings. For details of the potential regulations to be further detailed in Phase 2, see the following section ***Site Regulations***.

Site Regulations

Regulations will have direct impacts on the conduct and usage of the site. These are implemented to address safety, liability, and environmental concerns. The project proposes to install and maintain 25 moorings to accompany the upcoming suite of regulations during Phase 2. All regulations apply to the manta viewing sites except in cases of emergency. These regulations are summarized in Table 5 and are provided in their draft form under HAR Chapter 13-256. While detailed here for the purposes of transparency, the regulations are pending public hearing and rulemaking process as detailed under HRS Section 91-3. As such, these rules are subject to change and are only included here to mark progress on the part of the state and local commercial operators to create regulations for these tours.

The draft rules are publicly available through the DLNR DOBOR website:
https://dlnr.hawaii.gov/dobor/files/2018/11/180917-Manta-Rule-Draft-for-Public-Distribution.pdf

Table 5. Regulations at the Kona manta sites proposed by DLNR and scheduled to take effect in Summer 2020 (Source: DLNR, 2018)

- Prohibit anchoring inside site boundaries at all times
- Require a permit for commercial manta activities
- Limit live boating to ingress, egress, and emergencies
- Prohibit all subsurface vessel lighting
- Require 360° white light on non-motorized vessels
- Confine manta activities to designated campfire areas
- Prohibit commercial SCUBA tours within Kaukalaelae
- Moorings will be first come, first served
- There will be a 2.5 hour time limit per use
- The participant to guide ratio shall not exceed 10:1
- There will be no fishing allowed during manta viewing hours (nightly 4:00 pm – 4:00 am)
- Vessels are prohibited from leaving the zone while their passengers are still in the water

These regulations and additional components of the Kona Manta Ray Viewing Operations Management Plan are detailed in this section. Phase 1 Moorings in Kaukalaelae will be installed without the regulations detailed here, but will be regulated under HAR Chapter 13-257 (see page 9).

Proposed Regulations under HAR Chapter 13-257:

> *During manta viewing hours (4:00 pm – 4:00 am), all manta ray viewing operations must be conducted from a commercial mooring. Live boating is limited to ingress, and egress. Rafting will be prohibited. Vessels are prohibited from leaving the zone while their participants and/or crew are still in the water. Anchoring within site boundaries is prohibited at all times.*

Moorings, as discussed previously in this document, provide safe attachment for boats that are preferable to anchoring in areas where sensitive benthic habitats could be impacted. There are documented instances of boat anchors impacting corals (Figure 8)

Figure 8 Footage collected at Kaukalaelae in 2019 shows a boat anchor and chain in corals. The video shows large pieces of the coral boulder becoming dislodged and tumbling into the rubble (Source: Facebook)

Companies that conduct manta ray viewing tours by motorized vessel will be required to use one of the commercial-use moorings at the sites. Vessels will not be permitted to drop off participants in the water and anchor nearby or leave the site. Live boating (running the engine) will be limited strictly to ingress, egress, and emergencies. Boats will furthermore be prohibited from rafting to vessels otherwise secured to a mooring. This will reduce the number of vessels conducting tours simultaneously.

> *Companies will be required to obtain a manta tour permit to conduct manta ray viewing operations at the sites.*

The number of permits available may not be as many as the number of current companies conducting tours. DLNR intends to issue up to 30 permits per site (60 permits total). Permits will be fairly distributed at the discretion of the Division via existing authority (e.g. lottery, first come first served). The Department cannot guarantee that a company will receive a permit. Only companies that hold a commercial permit, issued by the Division, which describe manta ray tours at the time that the rules are implemented will be eligible to apply for the new manta ray viewing operation permits.

> *No tours will be permitted outside of the sites within a 7-mile radius.*

The intention of the 7-mile buffer is to guarantee permitted companies do not compete with unpermitted companies at nearby sites not yet designated for manta viewing tourism operations. The theory at the Kona manta viewing sites is that artificial lighting attracts natural aggregations of plankton, which in turn attract the mantas. By prohibiting manta viewing tours proximate to the designated sites at Makako Bay and Kaukalaelae Point, there is a higher probability that resident mantas will continue to feed at these two sites and not be drawn elsewhere by competing businesses.

> *Each permitted company will be allowed to run tours from one boat only, with permissible substitutions at the discretion of DOBOR.*

Companies with a manta ray viewing operation permit will no longer be allowed to run multiple boats at the same time. Exceptions will be made for emergencies, such as short-notice repairs that prevent

the designated vessel's usage. In such cases, companies will have secondary vessels that they may opt to use for their tours. DOBOR is also considering allowing companies some flexibility in which boat they use for nights when tours are not fully booked and they do not need to run their larger boats. By restricting companies to a single vessel, crowding may be further reduced at these sites.

> *There is a 2.5 hour time limit on moorings*

Snorkel companies reported that 2.5 hours is longer than their average tour. The time limit originates from the HAR Chapter 13-257 Day-Use Mooring Buoys and will apply to the Kona manta sites. SCUBA companies accustomed to running two-tank dives from the moorings will have to change their operations. Dive masters raised concerns that the first dive is useful to assess the skill level of the divers as well as familiarize the participants with the site. To preserve this function, companies could sell the manta SCUBA dives as a two-dive package with one dive outside of the sites, or offer the manta dive as a supplemental add-on to bookings made for their other SCUBA activities. DOBOR is currently consulting with community members on the most appropriate time limit, which may vary by activity and/or site.

> *Permits will be site-specific and will not allow for tours to be conducted at other manta ray viewing sites.*

One of the greatest sources of conflict occur when boats that run their tours at Makako Bay opt to go south to Kaukalaelae instead. This occurs for a number of reasons, but usually occurs when no mantas are observed at the Makako Bay site for several nights consecutively. In public comments submitted to DOBOR, many operators highlighted this as a source of crowding, concern, and/or conflict. On such nights when the majority of manta tours are run at Kaukalaelae Point, more than 30 boats may access the site concurrently. Under this management regulation, companies may be affected differently, as those who use both sites will be restricted, as they will be left without an alternative manta viewing site when conditions for the tours are unfavorable. Those in Kaukalaelae will benefit from reduced crowding and competition.

Several companies offer their customers a "manta guarantee," or some form of assurance that they will see mantas if they book with the company. If they do not see mantas, the customer receives a deal on future bookings or reimbursement. This business strategy may need to be amended and customer expectations adjusted accordingly. Companies that insist on guaranteed sightings would be encouraged to apply for a permit to the Kaukalaelae site where mantas are observed with more regularity. However, this option will not be possible for SCUBA companies:

> *SCUBA diving tours will be prohibited during manta viewing hours at the Kaukalaelae site.*

SCUBA tours will be allowed at the Makako Bay site only due to environmental conditions at the sites. After benthic surveys of coral cover, it was determined that Kaukalaelae Point lacked suitable bottom habitat for high density SCUBA-based manta ray viewing operations. As described in the ***Site Uses*** section of this document, divers are over-weighted, their buoyancy control devices deflated, and they are restricted to the ocean bottom for manta viewing. The campfire at Makako Bay is established in a large sandy bottom area where impacts to the benthic habitat are low. There is no large sandy area suitable for seating multiple groups of divers at Kaukalaelae. High density coral rubble is the current location for SCUBA tours (Figure 9). Support for this measure to prohibit SCUBA at Kaukalaelae was furthermore echoed in community comments and in interviews with stakeholders.

Figure 9. The campfire at Kaukalaelae (left) and Garden Eel Cove (right) where SCUBA divers sit around a central basket. Guides place dive lights in the basket during manta tours.

These regulations described in this section are designed to control the number of vessels in the sites concurrently and to reduce environmental impacts from the tours. The draft rules are available on the DLNR DOBOR website: https://dlnr.hawaii.gov/dobor/draft-rules/ . These rules as described in this document are proposed and have not been finalized through public review (HRS Section 91-3). Currently, DOBOR anticipates that it will resume rulemaking for the Kona manta sites in 2021. Before regulations can go into effect, as written, DOBOR will need to install sufficient moorings to support the permitted manta viewing tour companies. With measures like "no anchoring" and "no live boating," the only other option available to boats will be to use a mooring. Therefore, until the project receives a determination on this Environmental Assessment and can install moorings that comply with regulatory requirements, regulations cannot be finalized and implemented. In Phase 2 of this project, there may be additional details and updates made to the regulations outlined in this section.

Economic Impacts

Marine and coastal tourism are rapidly expanding (Hall, 2001; Hawkins & Roberts, 1994; Mackay & Spencer, 2017) outpacing aquaculture and fisheries in 2006 (Higham, Bejder, Allen, Corkeron, & Lusseau, 2016). The 2018 World Travel & Tourism Council projected ten years of 3.8% annual increase for global travel and tourism (2018). The State of Hawai‘i consistently recorded increasing numbers of visitors, surpassing 9.8 million visitors in 2018 and USD$17.6 billion dollars in spending (Hawai‘i Tourism Authority, 2019). For the most part, Hawai‘i island visitor numbers and tourist spending also increased (with adjustment for inflation) with the exception of 2018 when the Kilauea volcano's lower east Rift Zone and Hurricane Lane stressed the island and its tourism economy (2019).

Yet in 2020 with the spread of the COVID-19 global pandemic, the period of economic expansion for Hawaii's tourism industry stopped dramatically. Travel became restricted and the demand for tours was halted dramatically. On March 21st, the Governor issued a mandatory 14-day quarantine for travelers entering the state, which was extended to interisland travel on March 31st. Social distancing and "stay at home" orders further disrupted tourism, leading to decreased demand for the manta viewing tours, lost opportunity for the entire spectrum of Kona's tourism economy, and many other impacts yet to be fully understood. DOBOR does not currently have an estimate for the number of companies that will continue offering manta viewing tours, nor can the agency predict when and if tours will resume at the same levels as those seen in 2019.

During much of 2020, tours at the manta viewing sites ceased or were reduced to less than five boats on any night. The community of tour providers have maintained a presence at the sites to monitor the number of manta rays using the sites, and some companies have been able to provide tours at reduced capacity. In order to minimize any potential impacts to the tours taking place at these sites, the project proposes to install moorings while site use is diminished. Each installation is expected to require a few hours to complete, so that moorings are ready to be used come nighttime when the tours take place.

Companies, and most importantly, boat captains, will need to adjust to the new moorings and the presence of moored vessels around the site for navigation purposes. With lower crowding and traffic in and on the water, site users will have an easier time familiarizing themselves with the additional moorings. Furthermore, the division can anticipate that as tourism increases in the state, tour traffic will increase and the need for the moorings will resume. With additional moorings in place, that increase will have less of an impact on safety for the tours, mantas and the environment.

There are potential economic benefits for implementing the moorings and, eventually, the regulations. Tourists are increasingly choosing activities based on environmental conscientiousness (Ogonowska & Torre, 2012), a shift that has potentially beneficial implications for Hawai‘i. The Hawai‘i Ecotourism Association's Sustainable Tourism Certification Program certified 49 operators through September 2018 (HTA, 2019). The opportunity for Kona operators offering similar nature-based tourism would be promulgated by regulations as sustainable practices are codified into law. Visitors could be educated on the best practices of their tour provider and the environmental benefits of these rules and the moorings that prevent anchoring on coral reef resources. Given the immersive nature of an in-water manta ray viewing tour, participants are more keenly aware of the environment. Companies should make every effort to integrate sustainable practices into their operations for both customer perceptions and the longevity of the industry.

A 2012 estimate of manta ray watching tourism's direct economic impact was approximately US$4.7 million at three sites in Hawai‘i, with US$3.4 million of that from the Kona sites alone (O'Malley *et al.* 2013). Using Hawai‘i Tourism Authority reported annual spending by visitors to Hawai‘i Island since 2012 and adjusting for annual inflation (US Department of Labor, 2019), a crude estimate of the economic value of Kona manta tourism in 2017 was US$6.2 million. Given the economic value of this specific tourism market combined with other nearshore uses, the consequence of a degraded coastal environment is severe. In interviews with commercial operators, several people alluded to concerns that mantas would stop coming to the sites, particularly at Makako Bay where nights can go by with one or no mantas sighted. This supports a cautionary approach to preserve the environmental integrity as much as possible and improve the resilience of the site to climate change and other stressors, such as the 2015 and 2019 El Niño events. It is therefore imperative that resource managers reconcile the economic dependency of commercial businesses with the pressures of recreational use. The project's

mooring installations will provide more safe attachment points than are presently available and will reduce the need to anchor near reef. The long-term economic returns on a functional resilient ecosystem are immeasurable, but at worst, a degraded reef correlated with declines in zooplankton (Clark 2010; Osada 2010), which may in turn result in less manta sightings for the tours.

The proposed regulations accompanying this project aim to further mitigate potential environmental impacts without significantly impeding commercial tourism and visitor enjoyment. Upon careful consideration, the project identified two possible outcomes for tour operators under the previously described regulations:

1. Tour operator is able to serve fewer guests. If operators are forced to offer fewer or no manta tours and therefore serve fewer customers, there would be a loss of revenue.
2. Tour operator is able to serve more guests. With tour permits capped at a set number, the number of companies and boats offering tours will be constant while the number of potential guests is projected to increase. Tour operators could see an increase in revenue.

DOBOR has recognized the potential economic risk of the former scenario and has taken mitigative measures to reduce potential impact. In its original proposal for regulations, the State would issue permits only to those operators conducting manta tours since 2015. However, the policy was amended to include all currently-operating companies that conduct manta tours.

As discussed previously, operators will be made to choose a single manta site and will no longer be permitted to conduct manta tours at both sites. Operators will be restricted in the number of sites they may access to offer tours, potentially reducing visitor satisfaction. However, there is no evidence that guaranteed manta sightings are necessary to maintain visitor interest in these tours, and operators are encouraged to emphasize the wild nature of their business.

Regulations will furthermore limit companies to a single boat for tours, which may curtail profits for companies currently sending multiple boats out at once. Due to unrestrained growth of the industry to satisfy the increasing demand of Kona's tourism economy, many companies have flourished and expanded over the years. However, it is the opinion of the DLNR that the number of boats at the sites need to be reduced dramatically.

At Kaukalaelae Point, SCUBA will no longer be permissible, and so all operators with a permit for Kaukalaelae manta tours will not be allowed to offer SCUBA diving as part of their tours. This could negatively affect their business, as they will be excluded from a market that they are accustomed to accessing. DOBOR will, therefore, prioritize permits for the Makako Bay site for those operators who intend to offer SCUBA. It is important to acknowledge that generally divers pay more than snorkelers. But it is also true that snorkel tours can be more profitable as they require less in-water time, a manta snorkel guide can guide larger groups with less professional certifications, and the number of potential customers is greater for snorkeling, which does not require certification through an accredited dive association. Operators could increase the price of snorkeling to offset these losses, run additional trips in a night, or otherwise find a means to comply with new limitations that is sufficiently profitable for their business.

With the implementation of the proposed project, there is also a potential for an increase in business as a result of two factors: an increase in ecotourism and the finite number of permits. Permits will be issued upon rule implementation, and no additional permits will become available until target

numbers are reached through attrition, and then only at the discretion of the DLNR. This will limit the previously-unconstrained growth of operators at the manta sites, and therefore reduce competition. Operators are further encouraged to pursue means of promoting ecotourism. Studies such as Honey *et al.* (2013) have shown that with the increase of ecotourism branding and practices, people are willing to pay a premium for the experience. This allows businesses with the eco-certification to charge more per guest, thus mitigating the potential loss of other revenue. A local grassroot effort to certify manta tour companies in Kona provided the proof of concept, and a handful of operators were initially enthusiastic to participate. The number of certified companies has declined, though operators report a willingness to see a successful eco-certification program incorporated into management. Furthermore, various conservation groups and nonprofits operating in the state have voiced concerns for the environmental impacts that the tours are currently having on the mantas and the environment. This negative perception may be a barrier for some potential customers. Under regulation, the tours may receive more business from guests seeking the eco-friendly experience.

IV. ALTERNATIVES

The variations of the proposed project are outlined below and discussed in greater detail, including the preferred alternative.

ALTERNATIVE 1 - 26 MOORINGS TOTAL

The original project proposed to install 13 moorings at each site. This proposed action was not considered, as the sites have existing moorings that are of satisfactory build and could be incorporated into the planned layout, and Kaukalaelae Point has a high coral density that makes placing 13 moorings within swim distance of a central point challenging.

ALTERNATIVE 2 - 25 MOORINGS TOTAL (PREFERRED ALTERNATIVE)

Under this alternative, using a combination of existing and new moorings, the project incorporates satisfactory existing moorings and minimizes the number of drill sites, thus reducing the potential environmental impacts of the project. Furthermore, the lack of suitable locations that meet the site selection criteria at Kaukalaelae Point led the project to select for 12 instead of 13 moorings at that site. This alternative is the preferred alternative and is described in the previous section of this document.

ALTERNATIVE 3 – 4 MOORINGS TOTAL (PHASE 1)

The project acknowledges that under the economic hardship of the 2020 COVID-19 pandemic, it may not be possible to implement Phase 2 as described in this document. Under alternative 3, the project would proceed with the installation of four priority moorings at the Kaukalaelae site only. Additional moorings would not be added to either site. Under Alternative 3, DOBOR will still proceed with manta rulemaking, but the scope of such regulations would reflect the reduced number of available moorings at the sites.

ALTERNATIVE 4 - REMOVE ALL MOORINGS

This alternative was not considered as it would not address the issue of anchor damage to the benthic environment or overcrowding. It would reduce liability to the State but removing all moorings would fail to protect the nearshore marine resources. It could furthermore exacerbate safety concerns as boats are forced to anchor or live boat.

ALTERNATIVE 5 - NO ACTION

The status quo at the manta sites includes a handful of moorings of various construction types and conditions, where operators compete for a limited number of moorings or anchor nearby. The "no action" alternative was not considered as it does not address damage to the nearshore resources from overcrowding and anchoring, safety concerns, or liability for the State and companies using the existing moorings.

V. IMPACTS AND MITIGATION

NEARSHORE WATER QUALITY

Considered data deficient for the purposes of this assessment, the manta ray viewing areas located in Makako Bay and near Keauhou Bay at Kaukalaelae Point are assumed to statistically fall into the 85% of marine water bodies that do not meet state water quality criteria for turbidity and nutrients. Waters within both proposed sites are listed as Class A, while waters offshore of the sites are listed as Class AA. According to HAR Section 11-54-3(c)(2), "It is the objective of Class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife and with recreation in and on these waters."

BASELINE

The State of Hawai'i contains approximately 300 miles of marine recreational shoreline and approximately 40 square miles of bays and harbors. It is estimated that there are 575 marine water bodies established statewide with existing water quality data for only about 160 (28%), of which 136 (85%) do not meet state-mandated water quality standards for pollutants (HIDOH-CWB, 2016). Of all the documented impairments, turbidity criteria are exceeded most frequently in the assessed marine water bodies. On an island-by-island basis, Kaua'i typically has the highest percentage of turbidity impairments in assessed marine water bodies, followed by the islands of Maui, Hawai'i, and Oahu (2016).

Makako Bay

Makako Bay represents an area of approximately 0.24 square miles located to the west of the Kona International Airport near Kalaloa on the Island of Hawai'i. Bordered by a buffer zone of unconsolidated lava flows to the East and North, the South portion of the Bay's shoreline is dominated by Hawai'i Ocean Science and Technology Park (HOST). The HOST site houses a variety of commercial businesses from the aquaculture, maricultural, energy and commercial sectors that all depend on offshore water resources for their operation. Effluent from the business practices in this area is assumed to be disposed of properly, however high rainfall events and stochastic weather patterns could cause effluent to enter the bay.

The area immediately adjacent to the bay consists of pahoehoe and a'a lava formations which do not retain or drastically limit water movement. The majority of the soils near the bay are classified as having a drainage class of "very high" by the Natural Resource Conservation Service (NRCS; Figure 10). This high drainage can lead to excessive amounts of nutrients and sediments entering the nearshore environment during intense rainfall events. Although not directly monitored by the State of Hawai'i, the sediment load from the accompanying watershed is predicted to often exceed state water quality criteria for turbidity and nutrients.

Figure 10 National Resource Conservation Service Soil Drainage Map of the area adjacent to Makako Bay

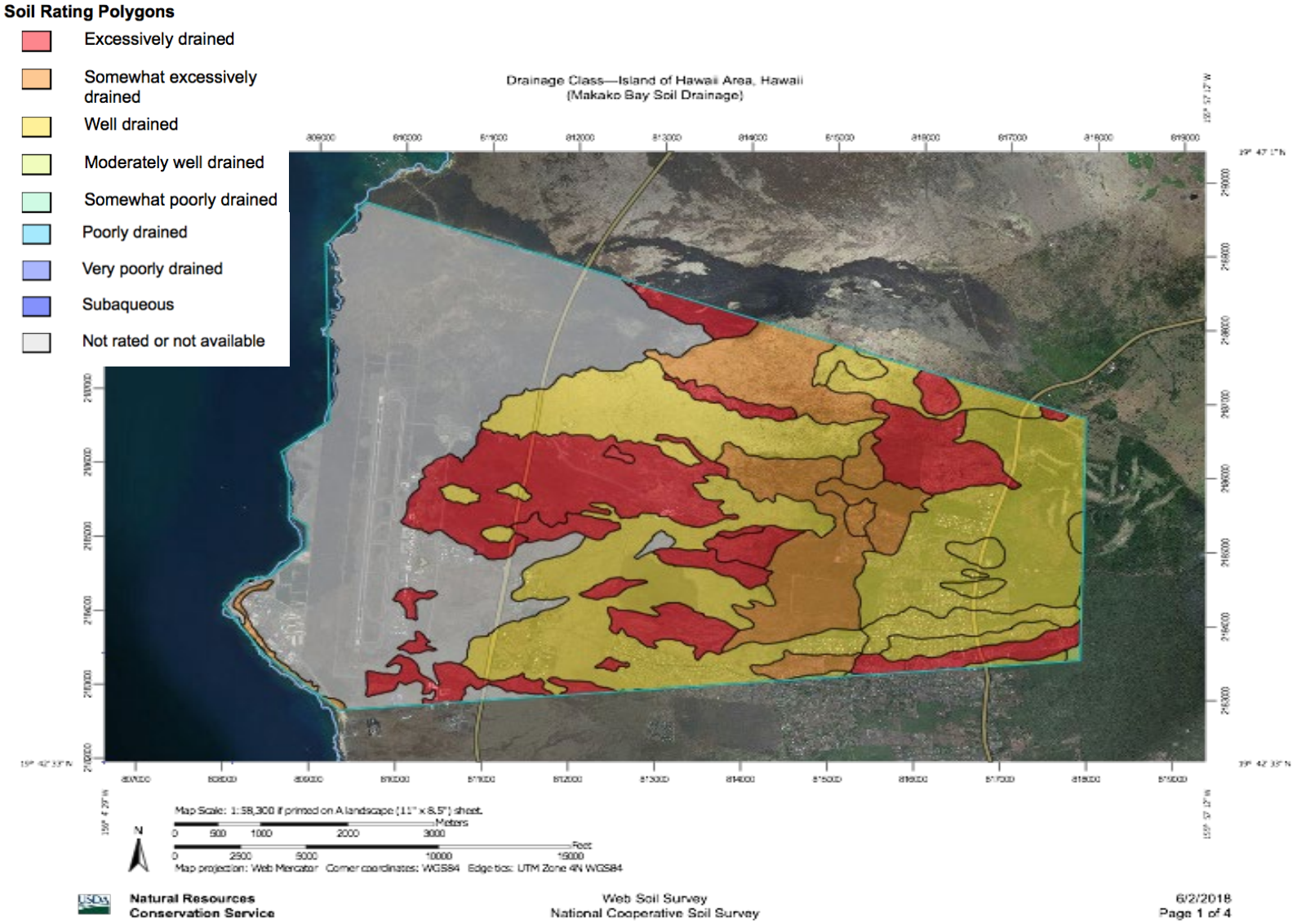
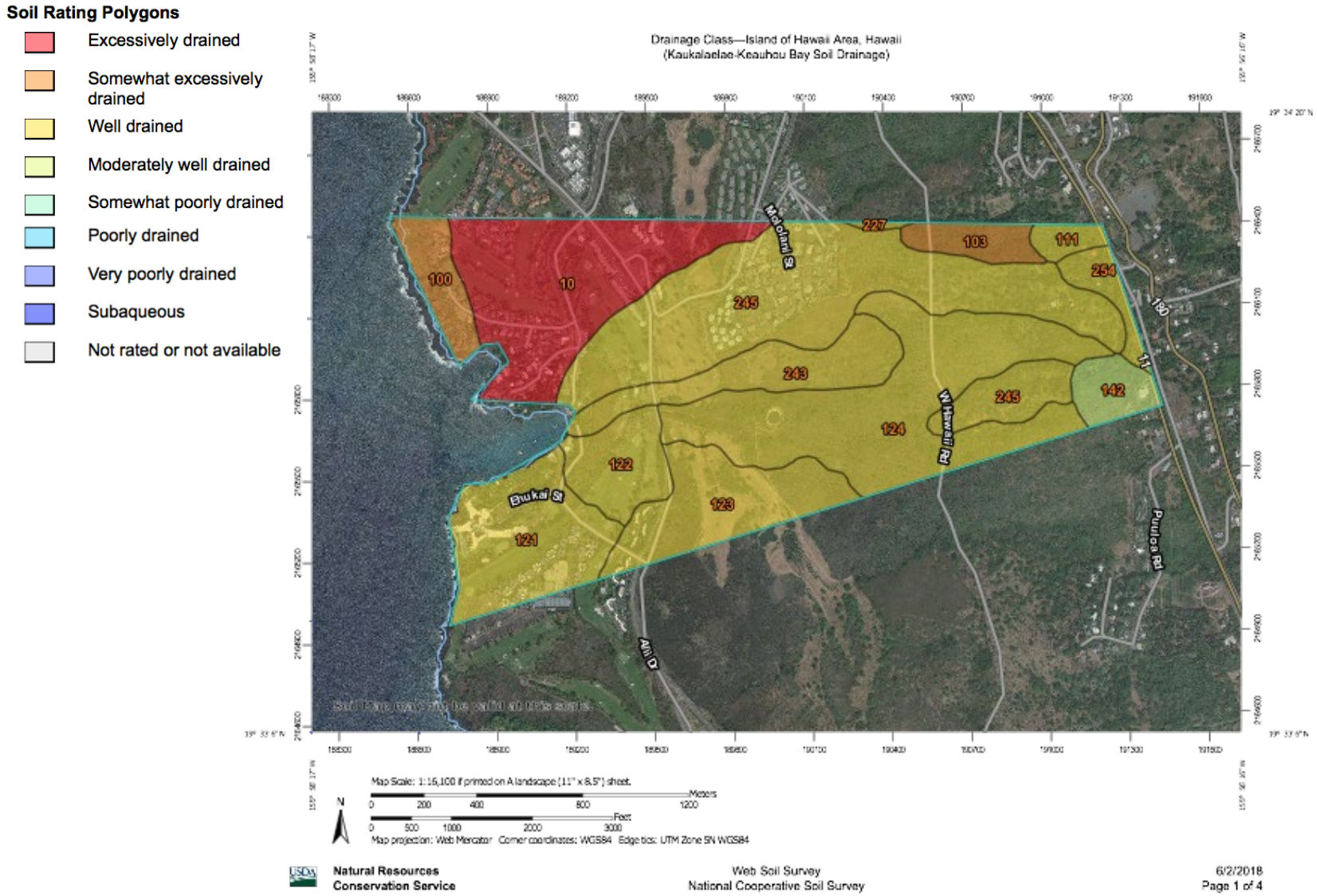


Figure 11 National Resource Conservation Service Soil Drainage Map of the area adjacent to Kaukalaelae Point



Kaukalaelae Point

Keauhou Bay covers an area of approximately 0.05 square miles located south of Kahaluu-Keauhou on the Island of Hawai‘i, with its southern border including Kaukalaelae Point. Currently, a fishery management area, the majority of the bay is surrounded by extensive development including Sheraton and Outrigger resorts, as well as a variety of supporting businesses and homes. Keauhou boat harbor is located in the eastern portion of the bay and used by commercial and recreational users. Due to the geologic makeup of the surrounding area as well as the urbanization of the coastline, sediment in runoff from both natural and anthropogenically-altered sites near the bay are predicted to be excessive. The soil in the surrounding area is classified as “well drained” to “excessively drained” by the Natural Resource Conservation Service (NRCS; Figure 11). This high drainage can lead to excessive amounts of nutrients and sediments entering the nearshore environment during intense rainfall events. Although not directly monitored by the State of Hawai‘i, the sediment load from the accompanying watershed is predicted to often exceed state water quality criteria for turbidity and nutrients

Commercial operations and recreational activities at both sites contribute to the overall degradation of water quality that is associated with boating, benthic contact, chemical additions from cosmetics, discharge of nonpoint source pollutants associated with the adjacent urbanization and use of anchors. Disturbed silt associated with anthropogenic activities such as SCUBA diving and improper use of anchors can increase local turbidity causing damage to the surrounding benthic environment.

IMPACTS

Installation of additional moorings in the manta ray observation areas could decrease the negative effects of boat anchors that increase suspended sediment. Currently, the frequency and regularity of anthropogenic activities in these areas increase the probability that commercial and recreational users are engaging in practices that are detrimental to the surrounding water quality. The additional moorings and the prohibition on anchoring would reduce overcrowding, the total number of participants potentially stirring up sediment, and therefore improve the overall condition of the water quality. Furthermore, the 2010 study on zooplankton and manta densities at Makako Bay found a significant positive correlation between abundances of prey and predators (Osada, 2010). The study author analyzed diver-collected data from Pacific Manta Research Foundation and found that zooplankton density had decreased between 1998 – 2007. Additionally, species abundance and diversity were compared between Makako Bay and a control site, Hoona Bay, nearby. The lower species richness and abundance, as well as the reported decline of zooplankton densities showed that emergent zooplankton of Makako Bay are potentially impacted by high levels of diving. Osada concluded that zooplankton and their associated manta ray predators would decline at the popular dive site without interventions through regulations (2010).

During construction, negligible amounts of sediments will be dispersed as divers contact the benthic environment and drill holes for the mooring line pins. This should be much less than the sediment from one-night worth of improper anchoring practices or benthic contact from divers during commercial operations.

MITIGATION

During Phase 1, the addition of four moorings will provide environmental benefits at Kaukalaelae where the number of boats often exceeds the number of available moorings. The proposed project and accompanying regulations will reduce the concurrent number of operators in the manta ray viewing areas from the reported 30 to a maximum of 13 at each site, restricted to the number of available moorings in Phase 2 once moorings and regulations are implemented together. This should reduce the number of divers present at any given time and minimize benthic disturbances. Additionally, SCUBA will be prohibited from the Kaukalaelae site, further reducing possible impacts to the benthic habitat. Anchoring will be prohibited within the sites at all times, completely avoiding the practice and its consequences with proper enforcement.

Implementation of construction practices that disperse sediments and mitigate benthic contact, including temporal, spatial and material considerations, is described in detail in the ***Day Mooring Installation Best Management Practices document (Appendix C).*** This includes but is not limited to: limiting the number of holes drilled or moorings installed per day, drilling of holes in spatially separated areas to reduce localized sediment build-up, use of quick-setting concrete to limit sedimentation, and avoiding adverse weather conditions.

All installation tasks will follow these Best Management Practices (BMPs), which are approved by the US Army Corps of Engineers (USACE) Honolulu District and the State of Hawai‘i Department of Health (DOH) Clean Water Branch (CWB). Guidance from National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and the 2017 Standard Operating Procedures for Endangered Species in the Central and Western Pacific Region (Pac-SLOPES) are incorporated into construction sequence, duration, and methods so as to minimize environmental impacts. The installation work will comply with conditions of permits from USACE and DOH CWB.

The Project Superintendent and at minimum, two trained alternatives, will be responsible to ensure they comply with all aspects of the BMP Plan. They will conduct a visual inspection of BMPs daily for the duration of the project. A BMP Inspection and Maintenance Form will be submitted along with timestamped photographs to DOH CWB in a timely manner to ensure that the required BMPs are practiced and functioning properly.

All minor repairs and maintenance of the BMPs shall be completed within 24 hours of the inspection or the mooring will be flagged as out of service. Major repairs shall be completed as soon as practical but should be no later that 48 hours after the inspection. Any work that requires the BMPs will be immediately stopped and shall not resume until the BMP has been repaired. Inspections of all BMPs shall be made within 24 hours of any rainfall of 0.25 inch or greater and after periods of prolonged rainfall. Likewise, the in-water BMPs shall be inspected after severe ocean conditions to ensure that they are functioning properly.

The Applicable Monitoring and Assessment Plan (AMAP) for Clean Water Act – section 401 Water Quality Certification for the day-use mooring (DMB) installations have been prepared to accompany the BMP plan. It describes the water quality sampling and analysis plan that will produce representative data to monitor potential project impacts. The construction monitoring data will be transmitted by email to the Clean Water Branch with 24 hours or close of the next business day.

The project shall notify the DOBOR Engineer immediately of any changes to the BMPs, a BMP that is not functioning properly, and if a plume outside of the decision unit is generated by their

construction activity. The activity that is causing the plume shall be stopped immediately and shall not resume until the problem is addressed to the satisfaction of the DOBOR Engineer

Mooring location sites were additionally selected to avoid drilling into living coral colonies and in locations with minimal coral colonies present within a 10-meter radius to protect sensitive benthic features that could be negatively affected by suspended sediment and impaired water quality, or mooring failure. Risk of mooring failure is furthermore minimized through standardized routine inspection, repairs, and maintenance.

The addition of mooring lines at a site with heavy visitation by large reef manta rays is a concern for injury hazards. There have been two documented cases of manta entanglement and death on the leading lines of moorings (slack line attached to the mooring for the purposes of more easily tying a boat to the mooring). Over the years of conducting manta ray viewing tours and installing day-use moorings, the nonprofit Malama Kai Foundation has arrived at a low-impact design adapted for the unique environmental, commercial, and recreational conditions in Hawaii. To further improve on their design, the state will implement a modified design developed by Manta Trust, a UK-registered charity that coordinates research and conservation of mobulid rays. The organization focuses much of its work at the popular manta ray viewing destination in the Maldives and have implemented a style of mooring that has successfully deterred mantas from coming into contact with the mooring components (Figure 12). In their technical report, *Mooring Line Entanglement Mitigation* (2019), they recommend the following mitigation steps, which DOBOR will follow:

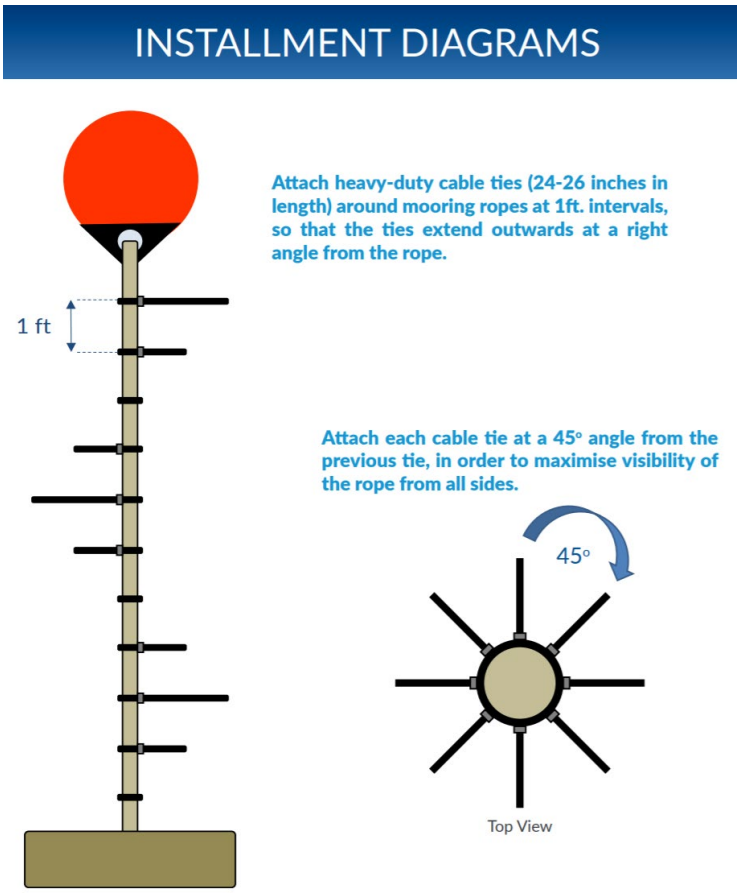


Figure 12 Diagram of recommended mooring line construction from Manta Trust's Mooring Line Entanglement Mitigation guide (2019). © 2020 The Manta Trust

1. Ensure there is no excess (slack) in the lines.
2. Make mooring lines "manta safe" by attaching cable ties as shown in Figure 12.
3. Prioritize lines that are in areas where the most manta ray activity occurs.
4. Educate staff and guests.

In consultations with Kona's Manta Pacific Research Foundation and representatives of Malama Kai Foundation who have also worked in the manta ray viewing industry for many years, the modification should be beneficial for Hawaii's reef mantas.

RESIDUALS

Given the proposed mooring locations, the overall impact of the project should be negligible after mitigation. Installing additional moorings and regulating their usage should benefit the sites by reducing overcrowding and prohibiting anchoring on the nearby coral reef.

FLORA AND FAUNA

UNLISTED SPECIES OF SPECIAL CONCERN

Reef Mantas

Scientific Classification

Family	Myliobatidae
Subfamily	Mobulidae
Genus	*Mobula*
Species	*M. alfredi*
Common	Reef manta ray

Baseline

The reef manta ray (*Mobula alfredi*) has a circumtropical and sub-tropical global distribution, documented as existing in all oceans of the world except the Southern Ocean. Localized populations appear to be highly distributed and extremely fragmented as a result of niche competitions and ecosystem resources available for this species (Marshall *et al.* 2011). Often found existing in resident populations along highly productive near-shore environments, reef mantas are known to be frequent repeat visitors to localized prime feeding grounds. In 2009, the genus *Manta sp.* was re-evaluated and divided into two distinct species, *M. alfredi* and the giant manta, *Mobula birostris* (Marshal *et al.*, 2009). *M. alfredi* is listed as vulnerable by the International Union for the Conservation of Nature (IUCN).

Reef mantas are commonly sighted at both proposed project sites, and SCUBA divers and tour leaders at these locations have documented resident individual mantas via photo identification since the 1970's. Repeated sightings of individual rays occur at feeding aggregation sites often on a daily, weekly, or monthly basis. This is consistent with an IUCN assessment of the species' well-established resident subpopulation(s) in the waters off of the Kona coast of Hawai'i. Each subpopulation should exhibit a relatively small home-range as demonstrated by the repeat sightings of individuals. It is estimated that individual subpopulations may be as many as 1000 individuals, however, this is highly variable (Marshall *et al.* 2011).

Reef manta rays exhibit more communal behavior than the giant manta rays and are often observed aggregating in large numbers. It is common for them to appear in large schools of greater than 30 individuals when feeding, unlike the giant manta (M. birostris), which are more solitary. Due to their habitat preference in coastal waters, they are far more exposed to human activities and are more frequently observed despite a smaller global distribution (Stewart *et al.*, 2016). A highly fragmented species due to the global nature of subpopulation and individual distributions, absolute population sizes will always be difficult to model and to date are at best estimates. At this time, global and local population sizes of this species are unknown (Marshall *et al.* 2011).

Impacts

In Hawai‘i, there have been two recorded incidents of mantas becoming entangled in leading lines off of moorings and dying as a result (Deakos *et al.* 2011). Additionally, mantas are sometimes observed with scars and wounds that appear to be consistent with propeller strikes and net and line entanglements. At the manta ray viewing sites where the project proposes to install permanent moorings and control overcrowding, we anticipate that implementation will decrease these threats.

Mitigation

The project proposes to install moorings that do not have leading lines, the cause of previous entanglement mortalities, and the moorings will reduce anchor lines and potential propeller strikes from live boating in the area. Current conditions at the sites allow for boat operators to run their motors while conducting manta ray viewing tours, which poses a substantial risk to these surface-feeding animals. The accompanying regulations to this manta ray viewing program will prohibit live boating except for ingress and egress in the sites and also prohibit hull lighting, which has previously been employed to draw plankton under boats and thus attract mantas to feed directly underneath these vessels, further increasing their exposure to boat strikes and entanglement on boat lines. Tours and all use of artificial lighting will be concentrated away from boats at a central campfire to further reduce the number of mantas congregating around boats.

Additionally, during construction, the use of a hydraulic drill will be delayed in the event of a manta ray sighting in the area. Drilling will resume once the manta has moved away to minimize possible disturbance.

Residuals

Due to the relative infrequency of recorded incidents involving *M. alfredi* at these sites and considering the small estimated subpopulation size, the overall impact of the project should be negligible after mitigation and should have an overall positive result by reducing the likelihood of entanglement and injury.

LISTED AND/OR PROTECTED SPECIES

The following species are either listed by the International Union for Conservation of Nature (IUCN) as special-status species (i.e. depleted, endangered or threatened, etc.) or protected under the Migratory Bird Treaty Act (MBTA) or the Marine Mammal Protection Act (MMPA), They may be affected by the project's actions in the proposed areas and are discussed in greater detail in this section.

Giant Mantas

Scientific Classification	
Family	Myliobatidae
Subfamily	Mobulidae
Genus	*Mobula*
Species	*M. birostris*
Common	Giant (oceanic) manta ray

Baseline

The giant manta ray (*M. birostris)* occurs in tropical, subtropical and temperate waters of the globes three major ocean basins. Like its cousin, the reef manta ray (*M. alfredi; see the previous section*), *M. birostris* is commonly sighted along productive coastlines and island groups associated with nutrient upwellings. The giant manta ray is most commonly encountered on coastal reefs at cleaning stations or feeding at the surface in offshore productive areas. In 2009, the genus *Manta sp.* was re-evaluated and divided into two distinct species, *A. alfredi* and the giant manta, *M. birostris* (Marshal *et al.*, 2009). *M. birostris* is listed as threatened by the International Union for the Conservation of Nature (IUCN). These manta species were again reclassified into the genus *Mobula*, which includes six species of devil ray and two species of manta ray (White et al., 2018). Both species are protected in the State from take and harm (Act 252(19) – Related to Shark and Ray Protection).

The giant manta ray appears to be a non-residential, stochastic seasonal visitor to coastal sites with various perennial subpopulations frequenting Hawaiian waters. The behavior of this species is much more solitary than reef manta rays and are rarely seen aggregating in large numbers (Marshal *et al.* 2011). Overall, since the giant manta prefers pelagic habitat and does not often appear in large schools (>30 individuals), they are encountered with far less frequency than the smaller reef manta species despite having a larger distribution across the globe (Stewart *et al.*, 2016). A highly fragmented species due to the global nature of subpopulation and individual distributions, absolute population sizes will always be difficult to model and to date are at best estimates. Currently, global and local population sizes of this species are unknown (Marshall *et al.* 2011).

Impacts

There have been no documented injuries, entanglements, or deaths of giant mantas at the manta ray viewing sites. Implementation of the project's sanctioned moorings in the proposed manta ray observation areas could decrease cryptic threats such as mooring line entanglement and boat strikes which can wound manta rays, decrease fitness or contribute to non-natural mortality (Deakos *et al.* 2011). The frequency and regularity of anthropogenic activities in these aggregation areas increase the possibility for boat strikes, line strikes and entanglement in mooring lines, possibly posing a significant impact on *M. birostris.* It is likely that the project's proposed mooring layout and reduction of commercial users to the sites could be beneficial to the species by removing excessive lines, reducing the number of boats at the site, regulating live boating to egress and ingress within the feeding areas, and restricting the usage of hull lighting.

Additionally, during construction, the use of a hydraulic drill will be delayed in the event of a manta ray sighting in the area. Drilling will resume once the manta has moved away to minimize possible disturbance.

Mitigation

The project proposes to install moorings that do not have leading lines, the cause of previous entanglement mortalities for reef mantas, and the moorings will reduce anchor lines and potential propeller strikes from live boating in the area. Current conditions at the sites allow for boat operators to run their motors while conducting manta ray viewing tours, which poses a substantial risk to these surface-feeding animals. The accompanying regulations to this manta ray viewing program will prohibit live boating except for ingress and egress in the sites and also prohibit hull lighting, which has previously been employed to draw plankton under boats and thus attract mantas to feed directly underneath these vessels, further increasing their exposure to boat strikes and entanglement on boat lines. Tours and all use of artificial lighting will be concentrated away from boats at a central campfire to further reduce the number of mantas congregating around boats.

Residuals

Due to the relative infrequency of recorded sightings of *M. birostris* at these sites and considering the small estimated subpopulation size, the overall impact of the project should be negligible after mitigation and could be beneficial by reducing the likelihood of entanglement and injury.

Birds - Migratory Bird Treaty Act (MBTA)

The following species were deemed notable for the purposes of this assessment due to their historical appearance in the surrounding area. It should be noted that various other bird species are anecdotally known to be present in the project area and the below-listed species represents a proxy for impacts to all similarly described species listed as protected under the Migratory Bird Treaty Act.

Scientific Classification	
Family	Hydrobatidae, Procellariidae
Sub Family	-
Genus	*Hydrobates, Pterodroma*
Species	*H. castro, P. sandwichensis*
Common	Band-rumped Storm-petrel, Hawaiian petrel

**Hydrobates castro* was previously placed in the genus *Oceanodroma* and listed as various species including *Oceanodroma castro* (Birdlife International 2016).

Baseline

Hydrobates castro, the band-rumped storm-petrel, is highly pelagic, has an extremely large range, and rarely approaches land except near breeding colonies. Presently listed as of least concern by the IUCN, it mainly feeds during the day on the wing by surface-seizing. With breeding seasons varying based on geographic and geomorphologic stochasticity, *H. castro* prefers undisturbed and unpopulated areas with intact coastal ecosystems and inshore cliffs (Birdlife International 2016). Heavily studied in the late 20th century, Banko *et al.* (1991) estimated the existence of a breeding population of *H. castro* on Hawai‘i island on the western and southwestern slopes of Mauna Loa from calls heard in the surrounding areas, as well as anecdotal evidence presented by kupuna (elder residents).

Pterodroma sandwichensis, the Hawaiian petrel, is found on Hawai‘i Island in small breeding populations on Mauna Kea and on Mauna Loa. It is listed by the IUCN as a vulnerable species. With an extremely limited breeding range, it is only been documented at five locales on the main Hawaiian Islands, two of which assessed to be “in jeopardy” by the IUCN (Mauna Loa and West Maui) (Birdlife International 2016b).

Attraction to lights, especially during new moon periods, can result in collisions with buildings, power lines, vegetation and vehicles for Hawaiian petrels and Band-rumped storm-petrels. Fledglings are extremely susceptible to disorientation from artificial light sources. Once on the ground, these young birds have trouble flying and are most susceptible to traffic, predators, environmental exposure, and injuries on impact (Duffy 2010).

Impacts

Implementation of the project’s sanctioned moorings in the proposed manta ray observation areas could decrease artificial lighting in both sites. Frequency and regularity of anthropogenic activities in

these areas increase the intensity of artificial light and there is little to no regulation on the maximum number of lumens projected. The project's mooring layout and reduction of commercial users to the sites could be beneficial to all the listed species.

Mitigation

Reduction of the current number of operators conducting tours in the manta ray viewing area from a possible 60 (all current operators) in a single area to a maximum of 13 at a time (13 proposed sanctioned moorings in each area). This should reduce the concentration of topside lighting.

Site mooring location selection should mitigate impacts by further reducing the clustering of topside lighting. We do not anticipate any adverse effects as a result of construction and installation of the moorings.

The accompanying rules for operations within the manta ray viewing area will make it illegal to have excessive topside lighting, excessive (>1000 lumen) lighting directed into the water, completely avoiding these practices and their consequences.

Residuals

Due to the relative infrequency of recorded sightings of *H. castro* and *P. sandwichensis* in the vicinity these sites and considering the small estimated subpopulation size of *P. sandwichensis*, the overall impact of the project should be negligible after mitigation and could be beneficial by reducing the overall amount of lights in the proposed areas.

Marine Turtles

Scientific Classification	
Family	Cheloniidae
Sub Family	-
Genus	Chelonia, Eretmochelys
Species	*C. mydas, E. imbricata*
Common	Green sea turtle, Hawksbill sea turtle

Photo: Brocken Inaglory CC

Baseline

The distribution of the Hawaiian green sea turtle (*Chelonia mydas)* subpopulation exists only within the Hawaiian archipelago from the main Hawaiian Islands to the N.W. Hawaiian Islands. While the green turtle is distributed globally and nests in over 80 countries, the Hawaiian green turtle comprises a discrete and genetically distinct population segment (Dutton *et al*. 2008). Recently the Hawaiian subpopulation has been categorized as a Regional Management Unit (RMU), this allows for a unique IUCN Red List assessment (Wallace *et al*. 2010). It is now listed as least concern by the IUCN.

The Hawksbill sea turtle (*Eretmochelys imbricata*) can be found globally in tropical and subtropical regions. A few females have been documented to nest each year on the islands of Maui and Molokai, but the preponderance of hawksbills nesting in the MHI takes place on the Big Island of Hawai‘i. Since the implementation of the 1991 NOAA recovery plan, nesting females have been tagged on many Hawai‘i Island beaches including Keauhou (NOAA 2018), nearby the Kaukalaelae Point manta ray viewing site. Although found nesting predominantly along the eastern shores of Hawai‘i Island, the Hamakua Coast of Hawai‘i has been identified as the most important foraging ground for the Hawaiian subpopulation of *E. imbricata*. *This rare turtle* is listed as critically endangered by the IUCN due to documented and anecdotal evidence of massive declines of subpopulations globally (Mortimer and Donnelly 2008).

Compared to the green sea turtle subpopulations, a relatively small number of hawksbills reside in Hawaiian waters. These individuals are primarily threatened by loss of habitat caused by increased anthropogenic stressors including beach erosion, coastal development and artificial lighting that disorients nesting turtles and hatchlings (NOAA 2018). Nest predation by introduced species such as feral cats, mongoose, and dogs threaten the viability of both turtle species’ nesting beaches.

The foraging habitats of *C. mydas* and *E. imbricata* are highly vulnerable to the effects of coastal development and urbanization in the Hawaiian Islands. Modification of Hawai‘i’s coastal areas has caused shallow-water coral reefs and near coastal foraging grounds to degrade. As coastal populations increase, turtles also face the increased threat of vessel collisions. Although infrequent, collisions with boats are often fatal with small boat collisions accounting for an estimated 2.5% of strandings or approximately 10 to 14 turtles per year (Chaloupka *et al*. 2008). With increased tourism, it is highly

likely there will be elevated threats to turtles through vessel collisions and entanglement. At present, however, the Hawaiian subpopulation of *C. mydas* continues to rebound from years of hunting and locally the population continues to thrive. For now, the population of *E. imbricata* appears to be stable, if not growing at a slow pace since the 1991 implementation of NOAA's recovery plan (NOAA 2018)

Impacts

Implementation of the project's sanctioned moorings in the proposed manta ray observation areas could decrease cryptic threats such as mooring line entanglement and boat strikes which can wound turtles, decrease fitness or contribute to non-natural mortality. Frequency and regularity of anthropogenic activities in these aggregation areas increase the possibility for boat strikes, line strikes and entanglement in mooring lines possibly posing a significant impact on *C. mydas* and *E. imbricata.* The project's proposed mooring layout and reduction of commercial users to the sites could be beneficial to the species by reducing the risk of entanglement and boat strike.

Mitigation

The project proposes to install moorings that do not have leading lines, the cause of previous entanglement mortalities among a similar marine megafauna species, the reef manta (*M. alfredi*), and the moorings will reduce anchor lines and potential propeller strikes from live boating in the area. Current conditions at the sites allow for boat operators to run their motors while conducting manta ray viewing tours, which poses a substantial risk to these surface-resting animals. The accompanying regulations to this manta ray viewing program will prohibit live boating except for ingress and egress in the sites.

Additionally, during construction, the use of a hydraulic drill will be delayed in the event of a marine turtle sighting in the area. Drilling will resume once the turtle has moved away to minimize possible disturbance.

Residuals

With proper enforcement of the proposed mitigation efforts and considering the overall willingness of participants to adhere to proper ethical and conservation-minded actions, the overall impact of the project should be negligible after mitigation and could be beneficial by reducing the possibility for entanglement and boat strikes.

MARINE MAMMALS - MARINE MAMMAL PROTECTION ACT (MMPA)

The following species were deemed notable for the purposes of this assessment due to the frequency of their appearance in proximate waters. It should be noted that various other Marine Mammals are known to frequent Hawaiian waters and the below-listed species represent a proxy for impacts to all similarly-described Marine Mammals listed under the Marine Mammal Protection Act.

Scientific Classification	
Family	Balaenopteridae, Delphinidae
Subfamily	Various
Genus	*Megaptera, Stenella, Globicephala*
Species	*M. novaeangliae, S. longirostris, G. macrorhynchus, N. schauinslandi**
Common	*Various, notable listed only*; humpback whale (seasonal), spinner dolphin, short-finned pilot whale, Hawaiian monk seal*

Photo: Alexander Vasenin CC BY-SA 3.0

**N. schauinslandi* is addressed in its own section due to its uniqueness as the only pinniped among Hawaiian aquatic mammals.

Baseline

Listed as "data deficient" by the IUCN for purposes of conservation management, spinner dolphins (*Stenella longirostris)* and short-finned pilot whales (*Globicephala macrorhynchus*) occur mainly around oceanic islands in the large ocean basins of the world. *G. macrorhynchus* is documented to be the only pilot whale species in the North Pacific, although distribution and taxonomy of pilot whales are highly contested (Dizon *et al.*, 1992). Listed as "of least concern", humpback whales (*Megaptera novaeangliae*), is a cosmopolitan species found in all of the globe's major ocean basins with the majority of subpopulations migrating between polar feeding grounds and calving grounds in tropical waters. This migration usually occurs near continental coastlines or island groups and the productive colder waters in temperate and high latitudes. Each of the three above-listed species is found perennially and seasonally in Hawaiian waters, including waters concurrent with the project's proposed actions.

Around Hawai'i, spinner dolphins depend on the availability of sheltered shallow bays for use as resting areas during the day, many of which are well documented on Hawai'i Island. The local Kona population use Makako Bay as one of four primary resting areas (Tyne et al. 2015). Researchers documented that boating and snorkeler/swimmer activity had a positive correlation with dolphin whistles, suggesting recreation has an impact on resting behavior within the bay (Heenehan et al. 2017). Recently, NOAA NMFS enacted stringent laws regarding the recreational and commercial tour industry conduct associated with the Hawaiian spinner dolphin subpopulation (Federal Register, 2016). Of greatest relevance to these sites is this species' presence in Makako Bay during daylight

hours. To minimize impacts of Phase 2 installation of moorings in Makako Bay, no construction will take place while protected species are using the bay. These measures are further described in the BMPs. There are currently seven moorings in the bay that are infrequently used for commercial tours outside of manta viewing hours, and the use of all seven has not been observed at the sites during spinner dolphin resting hours. The project does not anticipate that additional moorings will cause an increase in boating activity during daylight hours. Phase 2 will include monitoring boating activity in this bay during daylight hours to detect potential impacts to spinner dolphins, and temporal restrictions on use of the moorings during spinner dolphin resting hours will be included in regulations.

Currently, the Hawaiian subpopulation of short-finned pilot whales is estimated to be around 9,000 individuals (Barlow 2006). Although primarily a deep-water species, short-finned pilot whales are frequently sighted near shore on Hawai‘i Island due to the coastal bathymetry of the area (Taylor *et al.* 2011).

Seasonally, a subpopulation of humpback whales ranging from the North Pacific frequents Hawaiian waters to mate and calf. During “whale season” from November to May mothers and their calves can be found in the shallow (occasionally <10m) waters of many protected bays throughout the MHI (Reilly *et al.* 2008).

For *S. longirostris* and *G. macrorhynchus,* the industry has not had a high impact on the overall populations of the species globally. In contrast, the globalization of commercial whaling in the 19th century is thought to have decimated the population of *M. novaeangliae* globally, bringing the species to the brink of extinction (Taylor *et al.* 2011, Reilly *et al.* 2008, Bearzi *et al.* 2012). In U.S. waters the main threats to populations of all three-proxy species remain entanglements, increased noise from anthropogenic activities, potential behavioral changes from human interactions, and ship strikes (Taylor *et al.* 2011, Reilly *et al.* 2008, Bearzi *et al.* 2012).

Impacts

Implementation of the project’s sanctioned moorings in the proposed manta ray observation areas could decrease cryptic threats such as mooring line entanglement and boat strikes which can wound marine mammals, decrease fitness or contribute to non-natural mortality (Taylor *et al.* 2011, Reilly *et al.* 2008, Bearzi *et al.* 2012). As of now, the frequency and regularity of anthropogenic activities in these areas increase the possibility for boat strikes, line strikes and entanglement in mooring lines, possibly posing significant impacts to *M. novaeangliae, S. longirostris,* and *G. macrorhynchus*. The project’s proposed mooring layout and reduction of commercial users to the sites could be beneficial to all the listed species.

Increased noise from drilling during construction may have unknown adverse effects on *S. longirostris* causing a reduction in individual fitness (Federal Register, 2016).

Mitigation

The project proposes to install moorings that do not have leading lines, the cause of previous entanglement mortalities among a similar marine megafauna species, the reef manta (*M. alfredi*), and the moorings will reduce anchor lines and potential propeller strikes from live boating in the area. Current conditions at the sites allow for boat operators to run their motors while conducting manta

ray viewing tours, which poses a substantial risk to all marine wildlife. The accompanying regulations to this manta ray viewing program will prohibit live boating except for ingress and egress in the sites.

Temporal buffers during construction to reduce noise (whale season) and localized monitoring for marine mammals during construction should reduce any negative effects to marine mammals during the construction phase of the project. Additionally, the use of a hydraulic drill will be delayed in the event of a marine mammal sighting in the area. Drilling will resume once the animal has moved away to minimize possible disturbance.

Residuals

Due to the relative infrequency of recorded sightings of *G. macrorhynchus* at these sites and considering the small estimated subpopulation size, the overall impact of the project to this species should be negligible after mitigation.

Given the temporal variation of the "resident" *M. novaeangliae* population, the overall impact of the project to this species should be negligible after mitigation if the temporal separation of construction and their arrival is adhered to.

Due to the relative frequency of recorded sightings of *S. longirostris* at these sites and in concurrent waters, a localized monitoring for marine mammals during construction should deem the overall impact of the project to this species negligible after mitigation.

Overall, the project's proposed mooring layout and reduction of commercial users to the sites could be beneficial to the species by decreasing entanglement risks.

Monk Seal

Scientific Classification	
Family	Phocidae
Subfamily	Monachinae
Genus	*Neomonachus*
Species	*N. schauinslandi*
Common	Hawaiian monk seal

Baseline

Hawaiian monk seals *(N. schauinslandi)* are documented throughout the entire Hawaiian Island chain. While sightings were once rare in the main Hawaiian Islands (MHI), monk seals are now regularly seen and frequently births have been documented on the MHI (Baker and Johanos 2004). Seals in the MHI are now considered to be a single subpopulation separate from the N.W. Hawaiian Islands population. Currently listed as endangered, the status of the Hawaiian monk seal is assessed annually and updated by the US National Marine Fisheries Service's Pacific Islands Fisheries Science Center.

In the MHI, monk seals tend to stay within 50 km of shore and forage almost entirely within the entire nearshore bathymetric contour of the islands. Monk seals prey on benthic fish and invertebrates in coral reefs, sand flats, and on a variety of unconsolidated bottom types (Parish *et al.* 2000). A non-migratory species, Hawaiian monk seals are well documented to remain near their island and even beach of their birth. Only approximately 10% of seals are documented to relocate temporarily or permanently to other sites in the island chain and none are documented to return to the N.W. Hawaiian Islands from the MHI (Littan *et al.* 2015).

In the MHI, threats to *N. Schauinslandi* in order of frequency include 1) interactions with fishing gear; 2) transmission of diseases from feral animals; 3) entanglement in marine debris; and 4) intentional killing and/or harassment (Littan *et al.* 2015).

Impacts

Implementation of the project's sanctioned moorings in the proposed manta ray observation areas could decrease cryptic threats such as mooring line entanglement and boat strikes which can wound monk seals decrease fitness or contribute to non-natural mortality (Littan *et al.* 2015).

Presently, the frequency and regularity of anthropogenic activities in these areas increase the possibility for boat strikes, line strikes and entanglement in mooring and anchor lines in these areas possibly posing a threat to *N. schauinslandi.* the project's proposed mooring layout and reduction of commercial users at the sites could be beneficial to the species.

Mitigation

The project proposes to install moorings that do not have leading lines, the cause of previous entanglement mortalities among a similar marine megafauna species, the reef manta (*M. alfredi*), and the moorings will reduce anchor lines and potential propeller strikes from live boating in the area. Current conditions at the sites allow for boat operators to run their motors while conducting manta ray viewing tours, which poses a substantial risk to all marine wildlife. The accompanying regulations to this manta ray viewing program will prohibit live boating except for ingress and egress in the sites.

Temporal buffers during construction to reduce noise (whale season) and localized monitoring for marine mammals during construction should reduce any negative impacts to marine mammals during the construction phase of the project. Additionally, the use of a hydraulic drill will be delayed in the event of a marine mammal sighting in the area. Drilling will resume once the animal has moved away to minimize possible disturbance

Residuals

Due to the relative infrequency of recorded sightings of *N. schauinslandi* at these sites and considering the small estimated subpopulation size, the overall impact of the project should be negligible after mitigation and could be beneficial by reducing the possibility for entanglement and boat strikes.

CORALS

In June 1998, President Clinton established the U.S. Coral Reef Task Force (CRTF) (Executive Order 13089, 1998), a partnership of federal, state, territorial, and commonwealth governments; the scientific community; the private sector; and other organizations that furthers the goals of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).

The ultimate goals of the CRTF as laid out in the Coral Reef Conservation Act of 2000 (H.R.5821, 2016) are as follows:

(1) to preserve, sustain, and restore the condition of coral reef ecosystems;
(2) to promote the wise management and sustainable use of coral reef ecosystems to benefit local communities and the Nation;
(3) to develop sound scientific information on the condition of coral reef ecosystems and the threats to such ecosystems;
(4) to assist in the preservation of coral reefs by supporting conservation programs, including projects that involve affected local communities and nongovernmental organizations;
(5) to provide financial resources for those programs and projects; and
(6) to establish a formal mechanism for collecting and allocating monetary donations from the private sector to be used for coral reef conservation projects.

This act aims to further strengthen existing efforts to conserve and sustainably manage coral reefs and related ecosystems in U.S. waters and "In cooperation with state, territorial, commonwealth, and local government agencies, nongovernmental organizations, the scientific community, and commercial interests, shall develop, recommend, and seek or secure implementation of measures necessary to reduce and mitigate coral reef ecosystem degradation and to restore damaged coral reefs." (Executive Order 13089, 2018).

Baseline

Coral reefs are a foundation of the economy, identity and natural wealth of the Hawaiian Islands. Stretching for more than 1200 miles (2000 km) in the Central Pacific, Hawaiian coral reefs account for about 85% of all coral reefs in the United States, with the majority of the living reef (70%) located in the N.W. Hawaiian Islands. Today, urbanization, overfishing, marine debris, and recreational overuse cause massive destruction to the reefs in the Main Hawaiian Islands. Anthropogenic stressors such as SCUBA diver-related disturbances and boat anchors pose threats to the resiliency of these fragile ecosystems (Saphier 2005). Furthermore, areas with high concentrations of tourism pressures are exposed to repeated impacts that can impair a reef's ability to recover and survive other stressors.

Human-related disturbances such as SCUBA divers and boats anchors or chains can inflict tissue scarring, breakage, and even dislodge colonies from substrate. Due to the high wave energy environment in Hawai'i, it is estimated that approximately 90% of disturbed coral heads die (Naughton, 2001). These corals then roll across other corals and perpetuate the damage to the reef. Anchors and diver contact can also stir up sediment into suspended plumes, which can "choke" corals, causing them to shed their protective coating and, in extreme cases, can reduce the amount of sunlight reaching their zooxanthellae (Saphier 2005).

Impacts

Implementation of the project's sanctioned moorings in the proposed manta ray observation areas will decrease anchor drops that can damage coral ecosystems, as the accompanying rules for sanctioned mooring use make it illegal to drop anchor in the area. Currently, the frequency and regularity of recreation activities in these areas increase the probability that users are engaging in anchoring with potentially detrimental effects to the surrounding coral colonies. Moorings are well-supported in global studies of their benefit to the marine environment, including seagrass beds (Levrel et al., 2012; Marbà et al., 2002) and corals (Forrester & Flynn, 2015; Jameson, Ammar, Saadalla, Mostafa, & Riegl, 2007; Mcmanus, Rodolfo B. Reyes, & Cleto L. Nañola, 1997; Saphier & Hoffmann, 2005). Additionally, a study of coral health at sites with and without moorings in the Florida Keys National Marine Sanctuary and concluded that moorings conferred greater benefit to the marine environment than harm (Hocevar, 1993).

During construction negligible amounts of sediments will be dispersed as divers work around the benthic environment and drill holes for the mooring line pins, however, this should be less than the sediment from one night's worth of improper anchoring practices. the project's proposed mooring layout and reduction of commercial users to the sites could be beneficial to the overall health of local coral colonies.

Mitigation

There will be immediate benefits for the coral reef ecosystem as a result of the Phase 1 installation of the four moorings at the Kaukalaelae site. Outside of COVID-19 restrictions and impacts on the manta viewing tours, the site is frequently used by more boats than there are available moorings. Site users have observed, photographed, and otherwise reported anchors impacting corals during the tours. Providing four additional moorings before site use increases is a recommended management intervention to reduce impacts from anchors at no adverse impact to recovering businesses' revenue.

During Phase 2, the current number of operators conducting tours in the manta ray viewing area will be reduced from up to 30 (Marine Science Consulting, LLC., 2015) to a maximum of 13 at a time (up to 13 proposed sanctioned moorings in each viewing area, no anchoring, no live boating, and vessels are prohibited from leaving the manta viewing area while their passengers are in the water i.e. companies will not be able to conduct manta viewing tours without attaching to a mooring). These regulations should drastically reduce the number of divers and anchors present at any given time, reducing benthic disturbance. In line with the goals of the Coral Reef Conservation Act of 2000 the accompanying rules for operations within the manta ray viewing area and sanctioned mooring use, it will be illegal to drop anchor in the manta viewing sites. This will completely avoid the practice and its impacts.

Furthermore, the necessary construction and installation of the moorings were minimized by incorporating existing moorings into the layout of the site mooring fields, reducing the total number of holes that need to be drilled. Where drilling is required, only areas that are sandy or hardbottom will be selected for mooring pins. Additional construction guidelines and best practices will be in place to disperse sediments and mitigate benthic contact, including temporal, spatial and material considerations. This includes, but is not limited to limiting the number of holes drilled or moorings installed per day, drilling of holes in spatially separated areas to reduce sediment build-up at any location, use of quick setting concrete to limit sedimentation, and avoiding adverse weather conditions.

These practices are described in the ***Day Mooring Installation Best Management Practices document (Appendix C***)

Residuals

Given the proposed mooring locations and their distance from living coral colonies, the overall impact of the project should be negligible after mitigation and should be beneficial by reducing overcrowding and prohibiting anchoring.

HARBOR FACILITIES

Baseline

Existing harbor facilities in Keauhou Bay include a double-lane 30" wide launch, a 187" long pier, and twelve offshore vessel moorings. Land facilities include vehicle and boat trailer parking areas, a comfort station, and a vessel wash down area. At night, approximately 15 private and commercial vessels from the area bring snorkelers and divers to the mouth of the bay where manta rays can be observed on any given night of the year.

Existing harbor facilities at Honokahau include three ramps (two 30-foot-wide and one double wide), eight piers designated "A" through "H", two "T" piers, a fuel facility, and 262 moorings. Land facilities include vehicle and boat trailer parking areas, two comfort stations, and a vessel wash down area. At night, approximately 30 private and commercial vessels from the area bring snorkelers and divers to Makako Bay where manta rays can be observed on any given night of the year.

Impacts

The proposed project focuses on improvements to offshore vessel moorings only, all of which are located outside of the harbors, and does not include changes to any facilities within either harbor. Therefore, it is predicted that there will be no change on existing harbor conditions.

With the addition of permit use only moorings, the use of landside facilities could show a slight decrease in use due to the temporal separation of commercial manta ray tours. Any increase in use would be nominal, and existing facilities on site have been determined by DOBOR to have sufficient capacity to support an increase.

Mitigation

No mitigation will be needed.

Residuals

There will be no residual impacts.

ARCHAEOLOGICAL AND CULTURAL RESOURCES

The guidelines for assessing cultural impacts as adopted by the State of Hawai'i Environmental Council in 1997 advise preparers of Chapters 343 required cultural resource assessment documents to adhere to Articles IX and XII of the state Constitution requiring government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups.

The National Historic Preservation Act defines historic property as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register" (16 USC 470w). The categories of historic "properties" considered for this EA are archaeological sites and historic structures occurring the proposed project area or in concurrent waters.

Baseline

By the end of the 1800s, land use in the Kona area had undergone substantial alterations from the traditional dryland cultivation and fishing practiced during earlier times. The gradual replacement of a traditional Hawaiian lifestyle in this area is the result of the 1801 eruption of Hualālai. The lava flows from Hualālai claimed the majority of the land which had been used for settlement, agriculture, and fishponds, reducing the fertility of the land surrounding Makako Bay to a shadow of its former condition.

Traditional settlements near Makako Bay were typically concentrated in and around coastal areas, which includes the present area of Kona International Airport (KOA), and in the upland area, which is occupied by Māmalahoa Highway. The last half of the 19th Century saw the development of large-scale commercial ranching and agriculture near the proposed project area as a result of the shift to private land ownership brought about by the Great Mahele (the process used to assign lands to the crown, the Hawaiian government, and residents) and other changes in the laws regarding land rights. Further degraded due to westernized agriculture and cattle ranching and the introduction of novel plants and animals brought about additional changes, as once barren lava fields became home to a plethora of non-native species. Now the coastal area of Makako Bay is home to the HOST site situated near the southern border of the bay. The HOST site houses a variety of coastal aquaculture, maricultural, and other businesses that rely on coastal resources.

Through consultation of historical records and community interviews stored at the Bishop Museum, it appears that prior to the 1801 lava flow the area around Keāhole Point was a more vibrant environment and was much more heavily cultivated than it is today. However, it was the access to, and use of the coastal resources and adjacent areas that appear to be of the primary reason for settling this area.

Interviewees recalled collecting water from anchialine ponds (no longer present), spearfishing, and harvesting limu (seaweed). Several stated that they grew up in a nearby village in Makalawena, which is located along the coast to the north of the proposed project site. The shoreline and waters within the vicinity of the proposed project site were described as highly productive fishing grounds, especially for catching ʻopelu (mackerel scad). Participants further stated that they remembered gathering ʻopihi (limpets) from along the shoreline in the surrounding area. In addition, they also gathered collected salt through traditional methods via solar evaporation ponds (no longer present).

A large fishpond is anecdotally documented to have existed within the general vicinity of the proposed project site. The Fishpond of Paʻaiea is thought to have been approximately 3 miles long and 1.5 miles wide and would have encompassed the proposed Makako Bay project site. According to historical accounts held at the Bishop Museum, the fishpond is estimated to have extended from Kaʻelehuluhulu to as far south as Wawaloli on the boundary of Oʻoma, suggesting that the fishpond spanned the entire ten ahupuaʻa (the Hawaiian term for a large traditional socioeconomic, geologic, and climatic subdivision of land) of the North Kona region (Ulukau 2018). The fishpond was destroyed and completely covered by the 1801 Hualālai lava flow.

A substantial body of archaeological work has been undertaken in the vicinity of the project site, mainly associated with the development of various facilities on KOA land and the adjacent Queen Kaahumanu Highway. The results of these studies support the traditional Kekaha settlement pattern, with evidence of concentrated settlements at the coastline (Shideler 2005). Historic features have been identified on the adjacent lava flows in the general surrounding area including trails and ranching-related infrastructure. However, no existing archaeological features have been documented in the proposed project area. Any pre-Contact archaeological features once present within the proposed project site and the vicinity were most likely destroyed by the 1801 lava flow.

Keauhou Bay is located in the Keauhou ahupua‘a in southern Kona. The shoreline area of the bay once included the residential complexes of the ali‘i (ruling class) and konohiki (ahupua‘a headman), as well as smaller maka‘ainana (commoners) residences. In addition to residences, the shoreline area would have been used for traditional practices following the Kekaha settlement pattern. Associated structures could have included fishing shrines and heiau (places of worship), in addition to more extensive structures related to resource gathering such as fishponds and lo‘i (taro paddies).

Keauhou Bay is well documented as a particularly important cultural area and was the residence of several important ali‘i. Notable people include; Kauikeaouli (Kamehameha III), born near the bay in 1813; Kuakini (the governor of Hawai‘i from 1820 to 1844) grew up in the vicinity of Keauhou Bay; and Kekāuluhoi (the premiere of Hawai‘i from 1839 to 1845) was born and raised on the shores of Keauhou Bay (Cummings 1973). Five heiau have been reported historically in the Keauhou ahupua‘a, one of which (Ho‘okuku or Kaleiopapa) has been mapped near the southeast of Keauhou Bay. (Kuykendall and Day 1961).

In 1848, with the enacting of the Great Mahele, a series of land claims settlement actions took place. Keauhou ahupua‘a was split, with one section given to Victoria Kamāmalu and the other to her brother Lot Kapuāiwa (Kamehameha IV). In the late 19th century the population around Keauhou bay was drastically reduced as people moved to participate in commercial agriculture and ranching operations. Only a few houses, a school, and a store are documented in anecdotal descriptions through the early 20th century when the bay was transformed into a tourist destination.

Resort development began in the 1960s, resulting in the current configuration of the bay. Historical improvements to the bay include a wooden pier built in the early 1900’s (upgraded in the 1970’s) and the concrete boat ramp and harbor facilities currently in use were constructed by the State in the early 1980s. The Hawai‘i Department of Transportation (DOT) managed the harbor until 1992 when it transferred management to DLNR. At the time of the transfer, there was sanctioned moorage for approximately 19 vessels.

Interviews and historical research conducted for the Cultural Impact Assessment indicate that the bay has historical and traditional value to Native Hawaiians and the surrounding area contains a number of important archaeological and historic sites. However, according to the survey performed by Anchor QEA, LLC on behalf of DLNR in 2016, the seafloor in the project area was found to be devoid of historic or culturally significant structures. In summary, no historic structures were located during previous underwater surveys of the proposed areas.

With the resurgence of Hawaiian cultural practices that were demonized by western missionaries and Queen Ka‘ahumanu, King David Kalākaua championed the rebirth of canoe culture naming his birthday to be National Regatta Day in 1875. Shortly thereafter, the establishment of the Outrigger

Canoe Club in 1908 resolidified the cultural importance of canoe racing in the islands. Further bolstered by the creation of the Polynesian Voyaging Society in 1975, the "Second Hawaiian Renaissance" that began in the late 1960's saw traditional sailing and canoe practices launched into the forefront of daily life in Hawai'i.

The Kona Coast is the training ground for two very important races, the Molokai Hoe and the Nā Wāhine O Ke Kai. The Queen Lili'uokalani Canoe race established in 1972, which is run annually over the Labor Day weekend, extends from Kailua Bay to Hōnaunau Bay and is used as a proving ground for paddlers seeking to compete in the aforementioned races. Traditionally the path of this race follows the mouth of Keauhou Bay past Kaukalaelae Point.

Now practiced in almost every bay in the Hawaiian Islands, paddling is used as a means to pass on cultural knowledge to future generations, as well as tourists that frequent the islands. As such, it is important to ensure that the mistakes of the past are not repeated and that all current cultural practices are protected.

Impacts

No historic properties were found during the underwater archaeological survey conducted the Keauhou Bay area in 2013 (AECOS 2013). Due to the 1801 eruption of Hualālai volcano and the subsequent shift in land practices in the Makako Bay site area, there are no known historic properties existing in the proposed project area. Therefore, there will be no direct disturbance to archaeological sites or artifacts at either site.

Cultural resource impacts to the bays could consist of disruption of subsistence activities or could encumber traditional practices of groups situated in Keauhou Bay. However, as there will be no physical alteration to the areas within Keauhou Bay itself which is currently managed as The Keauhou Bay Fisheries Management Area, it is predicted that there will be no adverse effect on subsistence activities in the area. Although the accompanying rules will make it illegal to fish during the nighttime hours, it is highly unlikely to affect any subsistence activities being performed in the area and will not inhibit shoreline collection. As the proposed project areas will not be physically altered, the historic landscape from the proposed project will be maintained. The construction of the subaquatic mooring lines sans tagline (Figures 7 and 12) could be beneficial for the safety of cultural practitioners in the area by reducing the likelihood of paddlers becoming entangled in derelict lines.

Mitigation

No mitigation will be needed.

Residuals

There will be no residual impacts.

VISUAL RESOURCES

Baseline

The proposed project consists of the installation of 18 subaquatic moorings across two sites, two surface moorings (one at each site), and the adoption of 5 existing moorings into the mooring plan. As such, the proposed project will have little or no impact on visual resources in the proposed sites either in the

terrestrial or coastal area. The proposed areas are used on a nightly basis by up to 60 commercial operators who are engaged in the manta ray viewing industry. Each vessel is fitted with some form of artificial lighting that is either deployed at the sites from the boat hull, from a snorkeling group, or from a dive group. Each participant in SCUBA has a dive light, and each dive leader contributes his or her dive light of the highest lumens to a central campfire to attract plankton and feeding mantas. The result is sometimes over 100-point sources of illumination focused at the sites and numerous vessels crowded in around the glowing waters.

The nighttime scenery around Makako bay is dominated by The National Energy Laboratory of Hawai‘i Authority (NELHA) facilities located in the HOST park on the southern side of the bay, NELHA along with KOA are the major producers of light emissions on the Kona coast. Lighting structures of both these operations reach well into the bay.

The surrounding scenery of Keauhou includes various resorts, businesses, and residences that abut the coast of the bay. For reasons of safety and associated coastal access demand by tourists, the Sheraton Kona and Holua Resort at Mauna Loa Village both excessively light their grounds immediately adjacent to the proposed project site. Both of these structures and their associated lighting dominate the immediate vicinity.

Currently, both proposed project sites are heavily used by commercial and recreational manta ray viewing operations. As such, due to an increase in demand for these activities and little management of the activities, both sites have sustained heavy benthic damage from operators and users of the sites. The proposed subaquatic moorings will be visible only to subaquatic users of the sites. However, the use of the proposed moorings should help dramatically improve the health of the surround benthic habitat, ultimately increasing the inherent beauty and visual resources of the subaquatic environment in the proposed project areas.

Impacts

The proposed project and accompanying regulations will reduce crowding and regulate lighting so as to reduce the current impacts. No views will be hindered by construction or implementation of the proposed project. It is not anticipated to result in significant additional light emissions and may reduce total artificial lighting at the sites.

Mitigation

No mitigation is needed.

Residuals

There will be no residual impacts.

AIR QUALITY

Baseline & Impacts

The air quality at the Kona manta sites is similar to that of the Kailua-Kona coastline with regular motor-powered boat traffic.

Mitigation & Residuals

There are no anticipated impacts to air quality resulting from installation of the mooring buoys. Management is anticipated to ultimately reduce the number of vessels at the sites each night, therefore reducing the only source of air pollution at the sites.

NOISE

Baseline & Impacts

The noise at the Kona manta sites is similar to that of the Kailua-Kona coastline with regular motor-powered boat traffic. The Kaukalaelae site has a nearby resort and Keauhou harbor and boat launch. The sites are regularly attended by many boats nightly in addition to natural wind and wave noise.

Mitigation & Residuals

There are no anticipated impacts to noise resulting from installation of the mooring buoys. Management is anticipated to ultimately reduce the number of vessels at the sites in any one moment, reducing the cumulative level of noises from boats and users.

VI. SUMMARY OF FINDINGS

The proposed project does not appear to involve any significant impacts. While there are anticipated changes in several environmental and social categories, as noted previously, these uses are consistent with prior uses in the area and have the potential to be beneficial with regards to environmental health. These changes have been considered and are predicted to be less than significant. Furthermore, the proposed project is expected to have fewer cumulative impacts.

The following information is provided here for reference purposes;

The proposed action is to install permanent and day use dive moorings along the west coast of Hawai‘i.

The project will not affect scenic vistas or view planes, nor contribute to light pollution in the proposed areas.

The proposed project will not involve serious alteration of the existing topographic character of the site and will not affect public access to the site area or along the shoreline.

Compliance with existing requirements and the implementation of any necessary mitigation measures as described in this Environmental Assessment will help ensure that minimal to no impacts are expected.

The project will have little negative impact to or from any land-based resources.

The project is not predicted to have a negative effect on the coastal resources in the area, nor will it negatively affect the facilities used to access those resources.

The project is not expected to negatively impact cultural practices in the surrounding area or disturb, harm or destroy archaeological resources in the area.

The project is expected to not have a significant negative impact on the flora and fauna of the area.

VII. CONCLUSIONS

This environmental assessment has examined the environmental and socio-economic impact associated with Hawai‘i Island day-use moorings. Pursuant to Section 11-200-12, HAR, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria listed below.

A) Involves an irrevocable commitment to the loss or destruction of any natural or cultural resources;

The proposed project will not cause any irrevocable loss of natural or cultural resources. Anchor damage is a key threat to coral reefs. Day-use moorings are an effective tool to help prevent coral damage from boat anchors around the world to protect coral ecosystems at popular dive and snorkel sites.

B) Curtail the range of beneficial uses of the environment;

The proposed project will not curtail the range of beneficial uses of the environment.

This project is not adjacent to, abutting, or affecting any beaches in the region. The proposed moorings will not interfere with the current harbor activities, subsistence activities or cultural practices adjacent to Keauhou Bay. Moreover, permanent moorings eliminate the need to place an anchor on the seafloor each time a vessel intends to station itself within proposed sites greatly benefiting the near coastal ecosystem.

C) Conflicts with the State's long-term environmental policies and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions or executive orders;

The stated purpose of Chapter 344 is to establish a state policy that will encourage productive and enjoyable harmony between people and the environment, promote efforts which that will prevent or eliminate damage to the environment and stimulate health and welfare, and enrich the understanding of the natural resources important to the people of Hawai‘i.

The proposed project will comply with the policies, goals, and guidelines of Chapter 344.

Environmental construction requirements have been formulated to protect marine resources, including water quality, benthic flora and fauna, corals, fishes, and endangered species.

Additionally, the proposed moorings are consistent with Chapter 344, HRS in that;

- The project is focused on serving the visitor industry as well as the existing population and is not a factor in the potential increase in the island's population.
- The project is consistent with existing day use dive site moorings
- The project will provide recreational opportunities

D) Substantially affects the economy or social welfare of the community and/or state;

The implementation of the proposed project will not negatively affect the economy or social welfare of the community and/or state. In fact, it could have a positive benefit in providing jobs (as boat handlers, dive guidesetc.tc). The proposed use is similar to a neighboring dive site mooring. The proposed project will provide recreational opportunities for both residents and visitors.

E) Substantially affects public health

The proposed project will improve public safety at a popular ocean recreation site and is not anticipated to pose a threat to public health.

F) Involves substantial secondary impacts, such as population changes or effects on public facilities; the proposed project does not involve substantial secondary impacts, such as substantial population changes or substantial effects on public facilities;

The project is focused on serving the visitor industry as well as the existing population and is not a factor in the potential increase in the island's population.

G) Involves a substantial degradation of environmental quality;

The proposed project will not involve a substantial degradation of environmental quality. The proposed use is similar to existing use dive site moorings. Based on site investigations and analysis, no significant short-term (during mooring system installation) or long-term consequences to marine resources are anticipated to result from the proposed project.

H) Is individually limited but cumulatively (defined above) has a considerable effect upon the environment or involves a commitment for larger actions;

The proposed project will not cumulatively have a considerable effect on the environment or involve a commitment for larger actions.

I) Substantially affects a rare, threatened or endangered species or its habitat;

The proposed project will not substantially affect rare, threatened or endangered

species or habitat. The project will follow all applicable rules and regulation and adhere to the mitigation measures as described in the Environmental Assessment. Furthermore, the proposed snorkel and SCUBA activities do not have any likelihood of changing the present situation with respect to rare, threatened or endangered species. As noted previously, a number of existing public moorings are available along this coastline. Any additional activity by people using the proposed private moorings will not qualitatively change usage by humans and there are no physical factors that are likely to result in modification of animal behavior.

Boaters and ocean recreation users will follow all County, state and Federal regulations related to endangered species. In addition, boaters and ocean recreation users will follow guidelines noted on the DOBOR website.

J) Detrimentally affects air or water quality or ambient noise level;

The proposed project will not detrimentally affect air or water quality or ambient noise levels.

K) Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as floodplain, tsunami zone, beach, erosion-prone areas, geologically hazardous land, estuary, freshwater, or coastal areas;

The proposed project will conform to all relevant installation requirements and the approved construction set forth by the Army Corps of Engineers.

L) Substantially affects scenic vistas and view planes identified in the county or state plans or studies;

The proposed project will not substantially affect scenic vistas and view planes. This project does not affect the shoreline or shoreline activities.

M) Requires substantial energy consumption;

The proposed project will not require substantial energy consumption. Boats will carry passengers to the dive sites, just like operations by others in the area.

For the reasons above, the proposed project will not have any significant effect in the context of Chapter 343, Hawai‘i Revised Statutes and section 11-200-12 of the state Administrative Rules. We anticipate a finding of no significant impact.

VIII. PLANS, PERMITS, LAWS, & APPROVALS

RELEVANT POLICIES & PLANS

HAR Chapter 13-256 Ocean Recreation Management Areas

The project will be located within the West Hawai‘i ORMA under HAR Chapter 13-256. The ORMA program was established in 1988 by the Department of Transportation, Harbors Division and is currently implemented under the authority of DLNR DOBOR in accordance with Act 272, SLH 1991. The purpose of the rules is to reduce conflict among ocean water users with a focus on high-use areas. The project will support updates to HAR Chapter 13-256, specifically proposed Section 26, Manta Ray Viewing.

Modernizing Ocean Recreation Management in Hawai‘i Strategic Action Plan 2019, DLNR DOBOR

The Strategic Action Plan outlines the shift towards Public Private Partnerships as a management tool for DOBOR harbors and facilities. DOBOR will prioritize the exclusive government functions of ocean recreation management, rulemaking, oversight, and enforcement and reduce the invested resources in direct harbor management. This project and the Strategic Action Plan propose to:

1. Develop an effective management model, sustainably managing the State’s assets, and protecting natural resources in the face of a growing visitor economy and changing environment.
2. Adopt a critical shift in management practices and philosophy that will help DOBOR fulfill its intended purpose.
3. Expand ocean recreation management to meet DOBOR’s statutory mandate.
4. Provide world-class boating facilities and services.

Ocean Resource Management Plan 2013, Office of Planning CZM

The Ocean Resource Management Plan (ORMP) was originally developed in 1985. It is a comprehensive framework for marine management in Hawai‘i and addresses economic, ecological, and cultural priorities. The Office of Planning (OP) implements the ORMP under the authority of Hawai‘i’s Coastal Zone Management Act (CZMA) of 1997, which “provide[s] for the effective management, beneficial use, protection, and development of the coastal zone.”

The ORMP 2013 and the project propose to:

1. Implement place-based projects that demonstrate effective stewardship practices that can be applied to other areas.
2. Implement an effective day-use mooring program that minimizes impacts to coral reef ecosystems and user conflicts.
3. Ensure a healthy tourism industry that uses ocean and coastal resources sustainably.
4. Promote protection and sustainable use of marine resources.

Coastal Zone Management Act (CZMA), OP CZM

The CZMA was implemented in 1972 and the State CZM Program was established soon after to "provide for the beneficial use, protection, and development of the coastal (L. 1977, c 188, § 1)". The project will be reviewed for Federal Consistency with the CZMA as further discussed in the ***Permits*** section of this document.

Coral Bleaching Recovery Plan

The goal of the Coral Bleaching Recovery Plan is to promote coral reef recovery following the 2014-2015 global coral bleaching event. Spatial management and particularly, herbivore management, were judged as the top ranked actions for the State by experts. Kona suffered some of the greatest coral area losses (10% – 15%) in the State and is a Priority Area as part of West Hawai'i. Preventing additional damage to corals was the most prevalent action in a literature review of interventions. The project will address this goal directly.

The County of Hawai'i General Plan, Hawai'i Planning Department

Finalized in February 2005, the County of Hawai'i's General Plan is the guiding policy document for the long term development of the Island of Hawai'i. This plan is currently under review (2040 Draft). The purpose of the 2005 (and 2040) plan is to:

- Guide the pattern of future development in this County based on long-term goals;
- Identify the visions, values, and priorities important to the people of this County;
- Provide the framework for regulatory decisions, capital improvement priorities, acquisition strategies, and other pertinent government programs within the County organization and coordinated with State and Federal programs;
- Improve the physical environment of the County as a setting for human activities; to make it more functional, beautiful, healthful, interesting, and efficient;
- Promote and safeguard the public interest and the interest of the County as a whole;
- Facilitate the democratic determination of community policies concerning the utilization of its natural, man-made, and human resources;
- Effect political and technical coordination in community improvement and development;
- Inject long-range considerations into the determination of short-range actions and implementation.

The plan outlines goals for tourism to continue developing a strong multi-market base for the visitor industry. This includes supporting community development of local products and offerings to generate

a thriving small business economy. The project area falls within the principal visitor destination area of the Big Island in the South Kohala-North Kona region in West Hawai‘i.

The shared goals of the project and the County of Hawai‘i General Plans include:

Economic

a) Provide residents with opportunities to improve their quality of life through economic development that enhances the County's natural and social environments.
b) Economic development and improvement shall be in balance with the physical, social, and cultural environments of the Island of Hawai‘i.
c) Provide an economic environment that allows new, expanded, or improved economic opportunities that are compatible with the County's cultural, natural and social environment.

Natural Beauty

d) Protect, preserve, and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.
e) Protect scenic vistas and view planes from becoming obstructed.
f) Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.

Natural Resources and Shoreline

g) Protect and conserve the natural resources from undue exploitation, encroachment and damage.
h) Provide opportunities for recreational, economic, and educational needs without despoiling or endangering natural resources.
i) Protect and promote the prudent use of Hawai‘i's unique, fragile, and significant environmental and natural resources.
j) Protect rare or endangered species and habitats native to Hawai‘i.
k) Protect and effectively manage Hawai‘i's open space, watersheds, shoreline, and natural areas.
l) Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake.

Recreation

m) Provide a wide variety of recreational opportunities for the residents and visitors of the County.
n) Maintain the natural beauty of recreation areas.
o) Provide a diversity of environments for active and passive pursuits

Comprehensive Zoning Ordinance

As the project area is offshore in state waters, these areas are not subject to County Zoning.

PERMITS

The following section discusses the permitting for this project as well as relevant laws and consulted parties. Compliance with existing regulations and requirements is necessary to ensure the proposed project has no significant impacts on current conditions at these sites.

DOBOR has applied for the following permits and approvals for the project:

- United States Army Corps of Engineers (USACE) Section 10 Nationwide Permit
- State of Hawai‘i Department of Health Clean Water Branch Section 401 Water Quality Certification Application
- Department of Planning Coastal Zone Management (CZM) Program Federal Consistency Review

In previous applications to the USACE for the installation of state day-use mooring buoys (DMBs), all applications were approved for various sites across the state using an approved set of Best Management Practices that are applied and improved upon in this project. These installations include General Permit PODCO GP 95-1 (1995), Letter of Permission POH-2004-1150 (2005), and Letter of Permission POH-2009-00063 (2010). Common guidance, stipulations, and conditions were incorporated into this project, such as engineering standards, best practices around protected species, and monitoring and maintenance following installation. All pending permit decisions will similarly be incorporated once the final determinations are made by the relevant regulatory authority.

Permits were obtained from the regulatory authorities mentioned above (Table 6)

Table 6. Permits Review

Authority	Permit Name	Status
USACE	POH-2019-00099	Issued 12/13/2019
CWB	WQC1012	Issued 1/10/2019
CZM	Letter of Concurrence TBD	Issued 12/4/19

This project will furthermore include preparation of this Draft EA and a Final EA pursuant to the State's Environmental Assessment process (HRS Chapter 343) and its implementing regulation, HAR Title 11, Chapter 200. This document will address significance determinations and pending final approval of a Finding of No Significance Impact (FONSI) by DLNR, the project will proceed to implementation following procurement of all listed permits and approvals.

Although a Conservation District Use Permit was issued for the installation of the first increment of day-use moorings installed along the west coast of Hawaii Island, the revision to chapter 13-5, HAR, effective December 1994 no longer requires a CDUP for the installation of moorings, as long as they are installed in accordance with the provisions of Chapter 200, HRS. The provisions of the USACE permit are in accordance with the provisions of Chapter 200, and the locations of the mooring pin installations are coordinated with DAR. Installations follow approved Best Management Practices

developed in consultation with representatives of the Malama Kai Foundation, USACE, and DOBOR engineers.

APPLICABLE FEDERAL LAWS, REGULATIONS, AND EXECUTIVE ORDERS

Laws and regulations requiring analysis, or approvals from, or consultations with federal agencies other than the USACE are as follows:

- National Historic Preservation Act of 1966 (16 United States Code [USC] Section 470[F])
- Clean Air Act (42 USC Section 7506[C])
- CZMA (16 USC Section 1456[C][1])
- Endangered Species Act (16 USC Section 1536[A] [2] and [4])
- Fish and Wildlife Coordination Act of 1934, as amended (16 USC Section 661-666[C] et seq.)
- Magnuson Stevens Fishery Conservation and Management Act (16 USC Section 1801 et seq.)
- MMPA of 1972, as amended (16 USC Section 1361-1421[H] et seq.)
- Migratory Bird Treaty Act of 1918, as amended (16 USC Section 703 et seq.)
- Executive Order 13089, Coral Reef Protection (63 Federal Regulation 32701)

The Honolulu District of the USACE will be the lead federal agency ensuring compliance with these statutes. Additionally, the State accepting agency (DLNR) will review the analyses and conclusions drawn in this Draft EA and will decide whether to issue the necessary permits and approvals that the applicant has requested, to issue the permits and approvals with special conditions, or to deny the permits and approvals.

CONSULTED PARTIES

Early consultation with agencies, organizations, and individuals was a critical component to the project's development and during the preparation of the Draft EA. Initial recommendations for moorings and regulations at the project sites were made to DLNR in 2012 – 2013 when DOBOR hosted thirteen key stakeholders from the manta ray viewing tourism sector to develop industry best practices. From these recommendations, regulations were devised to guide management at the Kona manta sites.

In 2016, 66 members of the public met with DLNR to consult on the Kona manta site regulations. In 2017, that number increased to 242 total consultations (in-person and written informal testimony). DOCARE, DAR, U.S. Coast Guard (USCG), and Hawai'i Fire Department Ocean Safety were included in consultation with the management program. Public comments are compiled in ***Appendix B***. Additionally, the project consulted with fifteen international mooring buoy programs and their managers, discussing mooring buoy engineering and management in Chicago, IL, Egypt and the Red Sea, Palau, the U.S. Virgin Islands, Cayman Islands, Florida and Florida Keys National Marine Sanctuary, Bonaire, Papua New Guinea, Australia and Great Barrier Reef, Hong Kong, and Kosre.

Public Participation

Further public participation is encouraged through the environmental review process. The inclusion of many perspectives and concerns will help DOBOR to improve its planned management program around the mooring installation project. All agencies, organizations, and individual members of the public are welcome to participate in the decision-making process.

Public meetings began in 2014 and have continued in the form of DLNR DOBOR informal meetings, public comment periods, workshops, informal conversations, one-on-one meetings, emails, and calls. Hundreds of comments, questions, and suggestions have been reviewed and integrated into the project. Mooring configurations, site conduct, and the draft rules (available on the DLNR DOBOR website at *https://dlnr.hawaii.gov/dobor/draft-rules/*) were thoroughly reviewed by members of the public over the course of four years. A final public hearing in 2020 will be scheduled for the upcoming administrative rule changes for the two Kona sites, that include the installation and maintenance of the moorings at each site, and there will be public consultation during the Environmental Assessment process.

Draft EA Recipients

The following agencies were sent a copy of this EA:

Federal Agencies

- U.S. Army Corps of Engineers (USACE)
- U.S. Coast Guard (USCG)
- U.S. Department of the Interior, Fish & Wildlife Services (USFWS)
- National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Services

State Agencies

- Hawai‘i State Office of Planning
- Department of Health (DOH)
    - Environmental Health Administration
    - Office of Environmental Quality Control (OEQC)
- Department of Land & Natural Resources (DLNR)
    - Division of Aquatic Resources (DAR)
    - Division of Conservation and Resources Enforcement (DOCARE)
    - State Historic Preservation Division (SHPD)
    - Chair’s Office
- Office of Hawaiian Affairs (OHA)

Other Parties

- Statewide Regional Libraries
- Manta Pacific Research Foundation
- Manta Ray Advocates
- Malama Kai Foundation

IX. Environmental Assessment Preparation Information

This environmental Assessment was prepared by:

State Department of Land and Natural Resources
Division of Boating and Ocean Recreation
4 Sand Island Access Road
Honolulu, HI 96819

Prepared by:
HCRI
Saunders Hall #718
2424 Maile Way
Honolulu, HI 96822
http://blog.hawaii.edu/hcri/
hcri@hawaii.edu

X. REFERENCES

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XI. APPENDICES

Appendix A	Public Comments
Appendix B	Marine Science Consulting, 2015 – *Manta Ray Viewing Boating Operations and Safety Assessment*
Appendix C	Day Use Mooring Buoy Installation Best Management Practices

Correspondence and comments 2017 - 2018

Jonathan Droge 9/6/18

Howard Hofelich 7/8/18

Robert Hudson 7/2/18

Derrick Iko Balanga / Holly Crane 6/30/18

Teri Leicher 6/30/18

Hawaii Island and Ocean Tours (Johnathan Droge) 6/30/18

Seth & Jessica Conae 4/10/18

Bill Murtagh 4/10/18

Manu Powers 4/10/18

Nicholas Yanagi 4/10/18

Holly Crane 4/10/18

Manu Powers 4/10/18

Alexia Benrezkellah 4/10/18

Terri Leicher 4/9/18

Jeff Leicher 4/9/18

Dan Hill 4/9/18

Mendy Dent 4/9/18

Elizabeth Leinbach 3/15/18

Rick Gaffney 4/2/18

Keller Laros 3/20/18

Facebook Manta Tour Guides & Operators Group

USCG Lt. Steve Macias,

Sarah Matye 3/14/18

Martina Wing 3/13/18

Annonymous Operator 3/13

Jonathan Droge 3/12/18

Keller Laros, 11/20/17

Howard Hofelich, 11/1/17

Howard Hofelich, 10/8/17

Claudia & Kevin Merill, 10/5/17

Capt. Eric Hayden. 10/15/17

Ballanga, Derrick 'Iko'. 10/20/17

Dant, Mendy. 10/19/17

Kate Mink, 10/1/17

2017 Phone Call Interviews

USCG Lt. Kaaua 4/11/17

Byron Kay 4/19/17

Katie Key 4/20/17

Rob Hemsher: 4/25/17

My Kona Adventures, LLC

My Kona Adventures 4/20/17

John Swanson April 6, 2017

John Swanson: 4/6/17

Claudia Merill, April 03, 2017

Claudia Merill: 4/17/17

Bambi Worst April 6, 2017

Kona Ocean Experience 4/6/17

Melissa Bambi Worst 4/11/17

Splasher's Ocean Adventures: 4/26/17

Coral Reef Snorkel Adventures: 4/24/17

Bo Pardau: 5/4/17

Tom Carey: 5/4/17

Doug Perrine: 5/4/17

Ocean Spirit Diving 4/10/17

Geoff Hand 4/5/17

Geoff Hand 5/3/17

Lisa Christensen 4/19/17

Pono Lealao: 7/3/17

Seth and Jessica Conae: 4/10/17

Seth Conae May 25 2017

Keller Laros: 5/2/17

DOCARE meeting 6/15/17

Name: Luna Kekoa

Patrice Heller: 4/25

Timothy Driedger: 4/17/17

Dan Hill: 4/11/17

DOBOR meeting 6/15/17

DAR meeting 6/15/17

Sea Paradise n/d

Rich Kersten 4/25/17

Miss Mojo- 3/23/17

Evin Cotter 4/5/17

Derrick Balanaga 4/12/17

Anelakai 4/10/7

Mariko Lurbiecki 4/17/17

Mendy Dant 4/24/17

Mendy Dant n.d.

Jason Thurber 4/10/17

Jason Thurber 4/7/17

Kalani Nakoa 4/13/17

Kalani Nakoa 3/15/17

Teri Leicher 4/19/17

John Senn 4/19/17

Nobu Furuta 4/3/17

Danny Scott 5/4/17

Martina Wing n.d.

Ryan Leibach and Martina Wing 6/21/17

Deneen 4/25/17

Manu 4/13/17

Mike Yee Melainah 4/26/17

Mike Miligan 4/26/17

Chief Kosaki 1/8/17

Kara D'Avella 5/8/17

Dr. Mark Deakos n.d.

Summary of Public Comments and Questions from Public Scoping Meetings

Jonathan Droge 9/6/18

Sent: Thursday, September 6, 2018 9:21 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: New manta operators

Aloha, it has been a while since I have heard anything from the state or anyone for that matter about the proposals for new laws and protections/permits. Since the list of operators has been published a handful of companies that are not on that approved list have began running tours and more companies announcing that they will begun soon. Just curious is this going to be allowed?
Meaning If I aquire 2 other companies I can run mantas with all the boats I can obtain commercial permits for?

I was hoping for some regulation not attached to a massive mooring plan which is stifling the rules becoming laws. There are 3 new companies not on approved list operating out of Keauhou alone and with it's popularity among tourists what's to stop every charter boat from beginning to do manta tours?

Jonathan Droge
Hawaii Island and Ocean Tours

Aloha Mr. Droge,

The rules that were shared with the public in June 2018 have been sent to the Attorney General's Office for legal review. DOBOR then plans to proceed with the formal rulemaking process, which includes public hearings, approval by the Board of Land and Natural Resources, and approval by the Governor.

Permit eligibility is one of the most important areas we attempted to address in the rules because the vast majority of input indicated that there needs to be a cutoff date where commercial operators attempting to enter the market would be prevented from doing so. Based on discussions with stakeholders, DOBOR decided on a cutoff date of June 2015: assuming the rule proposal is implemented as drafted, any commercial operator who did not regularly engage in manta ray viewing tours before June 2015 would be unable to apply for a permit. This permit eligibility could change if DOBOR revisits the rules at a later date, but that possibility is currently undetermined.

An individual who acquires multiple companies would be able to obtain a permit for each of those companies so long as the companies are eligible. The proposal limits permits to one per business entity, but there is no limitation on an individual acquiring multiple eligible companies and obtaining a permit for each of those companies.

We are anticipating DOCARE enforcing the restrictions, as DOCARE is currently unable to enforce violations related to manta ray dive operations without rules specifying the violations. DOCARE is only able to enforce general boating violations at the manta ray viewing sites at this point.

Howard Hofelich 7/8/18

Sent: Sunday, July 8, 2018 9:59 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Re: Manta Ray Viewing Rules June 2018 Update

I suppose the State of Hawaii is going to assume all the liability for this. This ball was right next to the BODY GLOVE mooring on Pawai Bay. Seems they rot out every two years routinely. Can you only imagine the catastrophe and the news reach that the Body Glove would elicit if it went up on the reef and there were 50 heart attacks on board??

I say make the individual companies provide the liability insurance. I am a disabled citizen and not commercial at all, but I am a user..




Robert Hudson 7/2/18

On Behalf Of Robert Hudson
Sent: Saturday, June 30, 2018 5:12 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Re: Manta Ray Viewing Rules June 2018 Update

How much will the fees be Do you think

Much aloha and God Bless

Robert
When you feel like you're drowning in life,don't worry--
your lifeguard walks on water!

***On** Jul 2, 2018, at 8:07 AM, DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov> wrote:*

Our latest estimate for permit fees is $200 per month.

Please note that this amount may change depending on funding needs.

Thank you,

DOBOR staff

From: Robert Hudson
Sent: Monday, July 2, 2018 9:41 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Re: Manta Ray Viewing Rules June 2018 Update

With the kind of money they make. You should be charging 3 percent of manta revenue. Or 500 a month. What ever the greatest amount is.

Much Aloha and God Bless
Robert
When you feel like you're drowning in life,don't worry--
your lifeguard walks on water!!

Derrick Iko Balanga / Holly Crane 6/30/18

Sent: Saturday, June 30, 2018 12:45 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Re: Manta Ray Viewing Rules June 2018 Update

Aloha,

I have the following questions with regards to this:

1. Will the Pilot Program begin only after receiving the $500,000 from the legislature?

2. What are the Manta Viewing rules that will be implemented in the Pilot Program?
The manta ray viewing rules that will be implemented will be the rules that have been developed

3. What were the Senate and House Bills introduced in the 2018 Legislative Session seeking the money to implement the Pilot Program?

4. What is the projected cost to run the Program after the initial $500,000 is spent? What will be the cost of a Manta Viewing Permit?

Mahalo,

Derrick Iko Balanga
Anelakai Adventures

DOBOR Response

1. Will the Pilot Program begin only after receiving the $500,000 from the legislature?
DOBOR will seek alternative sources of funding to supplement the startup costs of the program if needed.

2. What are the Manta Viewing rules that will be implemented in the Pilot Program?
The manta ray viewing rules that will be implemented will be the rules that have been developed from the various stakeholder meetings over the past four years. A public hearing will be scheduled following regulatory review and there will be additional opportunity to comment at that time.
The previous public draft is available here: https://dlnr.hawaii.gov/dobor/files/2018/03/180312-Manta-Rule-Draft-for-Distribution.pdf
Please note that this draft is the same document that key stakeholders received in early 2018, and that some changes have been made according to informal comments submitted to DOBOR.

3. What were the Senate and House Bills introduced in the 2018 Legislative Session seeking the money to implement the Pilot Program?
There was only a Senate bill to appropriate money for the pilot program: SB2223
https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=SB&billnumber=2223&year=2018

4. What is the projected cost to run the Program after the initial $500,000 is spent? What will be the cost of a Manta Viewing Permit?
After the initial expense of installing the moorings, the lowest annual cost of the pilot program is expected to be $130,000. The latest estimate for permit fees is $200 per month, based on the estimated number of operators that are eligible for permits and the lowest cost version of the pilot program.

Thank you,
DOBOR staff

Teri Leicher 6/30/18

Sent: Saturday, June 30, 2018 2:17 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Re: Manta Ray Viewing Rules June 2018 Update

To: DLNR.BD.DMB STAFF
Thank you for this disappointing information. You are quite late in sending this to me as I received this early in the week from another operator. Your local DOBOR office had not received this information either as of yesterday mid afternoon. That is shameful.
I find the way you've all been handling this process with the Day Use Moorings at the very least, extremely disturbing.
You are turning what should be a great opportunity to protect our reefs and make DLNR-DOBOR look really good, into what will become an embarrassment to DLNR.
I will be sending a more formal email in the next few days including Ed and Suzanne as Malama Kai Foundation's former liaison to the State for the Statewide Day Use Mooring Buoy Program. I say former now, as at one time it was a recognized position that DOBOR has refused to acknowledge in recent years.
I am disappointed in you folks. Who are you now anyway? There is no name attached to your email. You've lost Emma, Maria, Jeff, and so many others. Is Rissa still there?
You've refused to communicate with Malama Kai Foundation ... even though we are the folks who can help you and who have carried this project for over three decades...in spite of every hurdle DOBOR has put in our way.
Do you have any idea how much good publicity is out there about Day Use Moorings at this time?
The pathetic email you just sent to everyone will not do DOBOR any good. Especially since DOBOR has deliberately refused to work in a public/private cooperative relationship with Malama Kai Foundation as was directed well over two years ago.
I will send a formal email in the next couple of days addressing several issues. As you can see, I need to cool down a bit more from the disgrace and embarrassment I feel at your lack of concern for our environment and unwillingness to work together.
Teri Leicher
PS
I am writing this email in frustration, representing myself...not the organizations I am affiliated with below.
VIce President: Malama Kai Foundation
Board member of OTC
Board member of the Kona Kohala Chamber of Commerce and Vice Chair of the sustainability committee
Day Use Mooring working group for MKF and HIRSA
HOST
CEO of Jacks Diving Locker

Teri Leicher
Jack's Diving Locker

Teri Leicher, along with Malama Kai's leadership Carolyn Stewart and Victoria Martocci, requested a meeting with DOBOR in December 2018. They provided excellent insight and advice on how to proceed with the Kona moorings and discussed the future of state moorings at DOBOR.

Hawaii Island and Ocean Tours (Johnathan Droge) 6/30/18

Sent: Saturday, June 30, 2018 9:09 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>

Subject: Re: Manta Ray Viewing Rules June 2018 Update

I don't understand why you folks keep pushing to create more fees for a tour that I already am paying for. You say it's to put moorings in nobody wants them and we have documented our responses for years now to prove it. These moorings will not be installed in Keauhou Bay because there are multiple groups such as Keauhou canoe club and Defender's of Hawaii's resources that will make you follow mandatory laws regarding cultural impacts and environmental impacts. I will go public with this information well before I begin paying for something the tax payers don't want and we the Keauhou operators do not want. It is a gross waste of money and it is completely unfair to say hey we know we already make a cut of your income in multiple ways but we want to charge you more now and ruin your business.

Get all your ducks in a row before you impose any new rules or fees or you will find yourselves in court losing taxpayers money.

Seth & Jessica Conae 4/10/18

Sent: Tuesday, April 10, 2018 10:50 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Manta Viewing Proposal considerations

Aloha DLNR,

Attached you will find some concerns we have for the current draft rules. We do believe in protecting our natural resources and we have some ideas that are not mentioned in the current draft rules. We also struck through rules that we feel are unjust or don't serve the purpose of the draft rules. The blue text are explanations and suggestions. The red text are adjustments to rules.

Manta Permit Proposal 4-4-18 [pasted below]

Thank you very much for your consideration,
Mahalo,
Seth & Jessica Conae
Owners / Operators
Manta Ray Dives of Hawaii, Kona Diving Eco Adventures &
Neptune Charlie's Ocean Safaris
www.mantaraydiveshawaii.com
www.konadivingecoadventures.com

*CONTENT OF GOOGLE DOC "Manta Permit Proposal 4-4-18" SUBMISSION:
For the record I am opposed to this proposal. I do however agree with protecting manta rays from injury and humans as well. I do believe the purpose of this proposal is trying to figure out how to protect mantas, humans, and coral. However it still falls short in doing so. Propeller guards make the most sense in protecting manta rays and humans alike. No anchoring makes sense for protecting our coral life however there still needs to be provisions allowing anchoring in certain circumstances and in certain areas. The rules about where people should be anchoring is technically already in place with coast guard regulations.

If the purposed mooring ball placement is something that has already been decided I have a few suggestions. I believe we need more large vessel rating mooring balls to allow more options for boats of our size due to changing conditions. Also there is already a coast guard regulation for day use moorings for 2 and ½ hour limits. I believe there is a better solution to this huge problem of a first come first serve idea to get to the moorings.
Every month of the year has an average sunset time which all operators adjust to for the manta viewing timing. I suggest to have two time slots to accommodate more operators to still be able to operate and still provide the reduction of people operating at any given time. This will be able to accommodate 24 individual commercial boats

at each site fairly. If you could increase to 14 moorings then you could accommodate 56 individual boats. Most operators get in and start the manta viewing on average about 10 minutes after sunset. The experience last about 45 minutes in water. Then allowing time for guest to get out and situated last about 15 minutes. So I suggest that group 1 must be off the mooring balls 1 hour and 10 minutes after the average sunset time for each month then group 2 can come in and start their experience. When issued the permit it can be mapped out that every other day the 2 groups must switch time slots. This will ensure fairness to all operators. It also allows companies that are known for a 2-tank dive to still be able to do 2 dives. If they are on the early time slot then they can choose to dive at the manta site or at one of many other sites before their manta viewing experience starts. When they are on the late time slot the next day they can choose to dive at any other dive site not in the purposed orma zone and come to the site when its their time. I would be happy to explain all scenarios regarding this proposed idea.
Examples of average sunset times throughout the year:
Jan 6:10pm, Feb 6:29pm, Mar 6:41pm, Apr 6:51pm, May 7:03pm, Jun 7:15pm, Jul 7:17pm, Aug 7:02pm, Sep 6:34pm, Oct 6:07pm, Nov 5:50pm and Dec 5:52pm.
"Wildlife" means any member of any non-domesticated species of the animal kingdom, and game mammals and game birds living in a wild and non-domesticated state, whether reared in captivity or not, including any mammal, fish, bird, amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate, and includes any part, product, egg, or offspring thereof, or the dead body or parts thereof. [Eff 2/24/94; am 4/27/02; am 6/16/03; am and comp 12/7/13; am ; am] (Auth: HRS §§200-2, 200-4, 200-10, 200-22, 200-24)(Imp: HRS §§200-2, 200-4, 200-9, 200-10, 200-22, 200-24) 2. Chapter 13-256, Hawaii Administrative Rules, is amended by adding a new section, 13-256-26, to read as follows: "§13-256-26 Manta Ray Viewing. (a) The department shall establish moorings at each manta viewing zone.

(1) At each manta viewing zone, one mooring shall be permanently designated for non-commercial use only. The non-commercial mooring shall be available to all non-commercial users on a first come, first served basis.

(2) Use of any commercial moorings shall require a valid permit issued by the department.

(3) The department shall maintain a list of current day use mooring buoys within each manta viewing zone, which shall include GPS coordinates for the locations of individual mooring buoys. The department shall make a reasonable effort to ensure that the GPS coordinates on the list provide an accurate location for day use mooring buoys.

(4) The department shall have the responsibility for installation and maintenance of moorings at manta viewing sites. Any mooring not installed by the department shall be considered unsanctioned and may be removed by the department at any time.

(5) For all types of moorings, restrictions regarding the time limit for mooring use shall be two and one half hours during manta viewing hours and shall take precedence over the day use mooring buoy time limit specified in chapter 13-257, subchapter 1. Calculation of the time limit shall begin once the vessel attaches to a mooring. A vessel that has reached the mooring time limit must leave both the mooring and the boundaries of the manta viewing zone for at least thirty minutes before returning.

(b) Manta viewing zones shall be designated as swimming, snorkeling, and diving zones.

~~(c) Manta tours shall be prohibited:~~

~~(1) At times other than during manta viewing hours; and~~

~~(2) In areas outside of designated manta viewing zones.~~

(I provide snorkeling and diving during daytime hours to see Manta Rays feeding in current lines and when they frequent known cleaning stations along the coast as well as the two locations mentioned in this draft. So I am opposed to this rule as these rules should not pertain to my current activities.)

(d) The following shall apply to all manta viewing zones:

(1) At all times:

(i) No person shall operate a vessel at a speed in excess of slow-no-wake.

(ii) Persons may use manta boards when engaged in manta viewing activities. Manta boards may include point sources of illumination.

(iii) Permittees shall not moor at a mooring rated for a vessel length less than their vessel's length. ~~Permittees may moor at a mooring rated for a larger vessel only if the difference between the mooring length rating and their vessel length is ten feet or less.~~ (I am opposed to this rule due to the size of my boat and several other companies that have similar sized boats. There are only a few moorings planned to support our sized boats and if the smaller boat companies are able to take whatever mooring they want they would inadvertently impose on my ability to moor at the only moorings rated for our size boat.)

(iv) Each mooring shall be used by only one vessel at a time. In the event that a mooring is already in use by a vessel, it shall be prohibited for any vessel other than a kayak, canoe, or paddleboard to tie-off or otherwise secure to the vessel currently using the mooring (also known as "rafting" or "daisy-chaining").

(2) During manta viewing hours only:

(i) Manta tour operators shall only moor at State-sanctioned moorings and shall not moor at non-commercial moorings. Non-commercial operators may moor at any moorings, if available.

(ii) No person shall operate any vessel, including, but not limited to, a motorboat, kayak, or canoe, within one hundred feet of any manta viewing zone campfire except for ingress and egress purposes. When operating a vessel for ingress or egress purposes, no person shall exceed a speed of slow-no-wake.

(iii) All non-motorized vessels including, but not limited to, kayaks, canoes, and paddleboards, shall display a white light on-board, visible three hundred sixty degrees from a distance of at least two hundred feet away, to indicate the presence of the vessel.

(iv) Persons within a manta viewing zone but more than one hundred 50 feet from any manta viewing zone campfire shall not use any point source of illumination for the purpose of attracting plankton or manta rays.

(v) Commercial SCUBA diving operations shall be prohibited except in the Makako Bay Manta Viewing Zone.

(vi) Use of additional motorized and non-motorized vessels and equipment not authorized by the department on the effective date of this section shall be prohibited in manta viewing zones.

(e) The following shall apply to all manta viewing zones and within five hundred yards of all manta viewing zones:

(1) ~~At all times,~~ no person shall anchor any vessel. Unless conditions require an anchor to be used for safety reasons and designated in sand in about 60' or more of depth. (Not being able to anchor in anchorable places is contradictory to coast guard regulations regarding anchoring. To say "at all times" is too definitive. USCG Masters need to have the ability to anchor when necessary due to numerous situations.)

(2) During manta viewing hours only, no person shall:

(i) Use a pole, net, spear, or any variation thereof to engage in fishing in order to ensure the safety of persons and the protection of property as related to the use of the waters. This shall not restrict the ability of persons to lawfully gather marine life by hand without the use of such
equipment;

(ii) Use subsurface vessel lighting;

(iii) Use excessive topside lighting; and

(iv) Engage in live boating except for ingress and egress purposes, to pick up passengers in the water, or in emergency situations; provided that operators engaged in allowed types of live boating shall not exceed a speed of slow-no-wake.

(v) If permiting is a must then requiring propeller guards during night manta viewing areas would make the most sense to protect against propeller strikes. If a permit is issued to a company then that company has within one calendar year to install a prop guard.

(f) Permitting Requirements. Conducting manta tours in manta viewing zones shall be prohibited unless the operator obtains a commercial permit ~~from the department specifically authorizing manta tours.~~

(1) Eligibility to apply for and receive a permit authorizing manta tours in manta viewing zones shall be subject to the following requirements:

(Any company that has obtained a commercial permit in the state of Hawaii shall have equal opportunity to be issued a "Manta Permit". Having an arbitrary date to try an exclude companies that have obtained permits after the said date or have started doing manta trips after said date is not constitutional. Companies that have had a commercial permit before these draft rules get officially adopted have every right to operate during the manta viewing times and ormas.)

~~(i) An operator must provide to the department records showing use of the applicable manta viewing zone specifically for manta tours. Accepted records include, but are not limited to, booking software records, gross receipts, passenger manifests, vessel logs, and dive logs.~~

~~(ii) Documents submitted to show site usage for manta tours must show that an operator has conducted continuous manta operations from before June 1, 2015. If an operator could not maintain continuous manta operations due to unforeseen circumstances, the break in continuous manta operations must not have been longer than thirty calendar days.~~

~~(iii) An operator who cannot or refuses to provide a valid accepted form of documentation to show site usage shall not be eligible to apply for a manta tour permit; provided that the department shall have the discretion to determine that an operator meets manta tour permit eligibility requirements without valid accepted documentation only if the operator's records that would have been used to establish continuous manta operations were lost or destroyed through no fault of the operator.~~

(iv) An operator that has ~~two~~ four or more documented violations ~~or pending alleged violations~~ of any of the rules of the department within two calendar years of the date of application for a manta tour permit shall be ineligible to obtain a manta tour permit.

(2) Each manta tour permit shall be connected to a valid vessel certificate of number and shall only be connected to one vessel certificate of number; provided that:

(i) Replacement or substitution of any permitted vessels or equipment shall require prior written approval by the department. The department shall have the discretion to permit vessel replacement or substitution with a similar length vessel provided that at each manta site, the ratio of permitted vessels larger than forty feet in length to sufficiently rated moorings shall not exceed three to one.

(ii) An operator shall only be allowed to replace or substitute their vessel once in a ninety calendar day period.

~~(iii) The maximum number of permits that may be issued to authorize manta tours in a manta viewing zone is one per corporation or other business entity registered to do business in the State.~~

(This rule is absolutely unfair to companies who have multiple boats. Food for thought: A company started doing Manta Ray dives over 30 years ago and has laid the groundwork on providing what we have today. They built up their company and expanded to multiple boats. They even came up with Standards and Guidelines for new operators to adopt and follow. Now because there are supposedly too many operators they get penalized and are reduced to one boat. That is absolutely absurd.

~~(3) Manta tour permit fees shall be $200 per month.~~

(We pay 3% gross receipts which is outrageous in itself for the State of Hawaii to take. So I am opposed to paying $2,400 more a year.)

(4) Each manta tour permit shall only authorize operation of manta tours in one specific manta viewing zone and shall not authorize operation of manta tours in any other areas.

~~(5) The number of valid manta tour permits shall be reduced by attrition for reasons including, but not limited to, operators ceasing commercial operations, permit revocation, and denying permit renewal.~~

(g) Manta Tour Restrictions. In addition to the permitting requirements of this section, all manta tour operators shall be subject to the following restrictions:

(1) Manta tour operators shall keep participants and guides within one hundred 50 feet of a manta viewing zone campfire when engaged in manta ray viewing activities in manta viewing zones.

~~(2) The maximum manta tour participant to guide ratio shall be six participants per guide at any given time.~~

Currently our Scuba Diving ratio is 6:1. However we have designed a floating raft for guest to hold on to and our current snorkeling guide to participant ratio is 10:1. We screen our participants and make sure they can swim unassisted for 50 yards. We have never had an issue with these ratios and our company has been operating since 1994.)

(3) A vessel conducting a manta tour shall not leave the manta viewing zone when participants or guides of that vessel are in the water.

(4) The manta tour vessel identification number shall consist of the letter "M" added as a suffix in addition to one of the following vessel identification types:

(i) A valid vessel identification number issued by the department and displayed pursuant to chapter 13-241;

(ii) A valid U.S Coast Guard vessel documentation number issued pursuant to 46 CFR section 67; or

(iii) Any other such identification approved by the department.

(iv) If none of the vessel identification types in this part are required to be displayed, the vessel identification and the capital letter "M" shall be displayed so as to be clearly visible on both sides of the vessel, near the top of the gunwales.

(5) Unless otherwise specified, all characters in the manta tour vessel identification number required by this section shall be no less than six inches high by three inches wide in black or a contrasting solid color to the background.

~~(h) Manta Observer Program. Upon request by the department, any vessel conducting manta tours shall carry aboard an observer approved by the department.~~

~~(1) Details for the manta observer program shall be included in the terms of each manta tour permit.~~

~~(2) Observers shall have the ability to gather data and record instances of violations of this section and convey such violations to the department for appropriate action.~~

(For liability purposes this is out of the question. This could be an option if the "Observer" pays like every other participant that comes out.)

(i) Penalties. In addition to any relevant fines or imprisonment imposed, the following penalties shall apply to all commercial operators when within manta viewing zones:

(1) For violations of the provisions of this section or any conditions set forth in the applicable manta viewing permit:

(i) An operator shall be assessed an administrative fine of not less than $250 for a first violation~~. A first violation may also constitute grounds for denying manta tour permit renewal,~~ if the operator holds a manta tour permit with the department;

(ii) An operator shall be assessed an administrative fine of not less than $500 for a second violation within one year of the previous violation. A second violation occurring within one year of the previous violation shall also constitute grounds for manta tour permit suspension for fifteen business days ~~and may constitute grounds for denying manta tour permit renewal,~~ if the operator holds a manta tour permit with the department;

(iii) An operator shall be assessed an administrative fine of not less than $750 for a third violation within one year of the previous violation. A third violation within one year of the previous violation shall also constitute grounds for manta tour permit suspension for ninety business days ~~and shall also constitute grounds for denying manta tour permit renewal~~, if the operator holds a manta tour permit with the department; and

(iv) An operator shall be assessed an administrative fine of not less than $1,000 for a fourth and subsequent violations within one year of the previous violation. A fourth violation within one year of the previous violation shall also constitute grounds for revocation of a manta tour permit, pursuant to section 13-256-10(b), and denying manta tour permit renewal, if the operator holds a manta tour permit with the department.

~~(v) For any alleged violation of this section, any and all of the allegedly offending operator's commercial permits with the division may be suspended pending the outcome of any criminal, administrative, or investigative proceedings.~~

(The biggest issue in the struck out portion is the "alleged" terminology. Innocent until proven guilty should apply in these terms.)

(2) Commercial use of the non-commercial moorings within manta viewing zones is subject to mooring penalties in accordance with the sanctions and penalties listed in the civil resource violations penalty schedule for unauthorized mooring. Unless conditions require the vessel to moor for safety reasons.

(j) In addition to the exceptions cited in section 13-256-14, the restrictions cited in this section shall not apply to employees and vessels of the department performing official duties. The department shall have the discretion to authorize an exemption from the restrictions cited in this section, provided that:

(1) The exemption will be for research activities only. "Research activities" shall only include basic data collection, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource; and

(2) The operator submits a written request for exemption to the department not less than thirty days and not more than ninety days before the intended date of research activities." [Eff] (Auth: HRS §§ 200-2, 200-3, 200-4, 200-14) (Imp:HRS §§ 200-2, 200-3, 200-4, 200-14) 3. Chapter 13-256, Hawaii Administrative Rules, is amended by adding a new section, 13-256-165, to read as follows: "§13-256-165 Makako Bay Manta Viewing Zone. (a) "Makako Bay Manta Viewing Zone" means the area confined by the boundaries shown on exhibit "XX", dated xx, 201x, located at the end of this subchapter and incorporated herein. The boundaries are as follows: Beginning at 19°44'21.6636"N, 156°3'16.0452"W; then in a clockwise direction along a path five feet seaward of the shoreline to 19°43'55.5924"N, 156°3'27.108"W; then to the point of beginning. The Makako Bay Manta Viewing Zone campfire, shown on exhibit "XX" shall be located at [coord], [coord]. (b) The maximum total number of permits that the department may issue to authorize manta tours in the Makako Bay Manta Viewing Zone shall be thirty, provided that after one year from the effective date of this section, the department shall not issue any additional permits unless the total number of valid permits decreases to less than twenty-four, at which point the department may issue additional permits by public auction, pursuant to the requirements of sections 13-256-5(b) through (k)." [Eff] (Auth: HRS §§ 200-2, 200-3, 200-4) (Imp: HRS §§200-2, 200-3, 200-4) 4. Chapter 13-256, Hawaii Administrative Rules, is amended by adding a new section, 13-256-166, to read as follows: "§13-256-166 Kaukalaelae Point Manta Viewing Zone. (a) "Kaukalaelae Point Manta Viewing Zone" means the area confined by the boundaries shown on exhibit "XX", dated xx, 201x, located at the end of this subchapter and incorporated herein. The boundaries are as follows: Beginning at 19°33'35.6436"N, 155°57'57.8448"W; then in a clockwise direction along a path five feet seaward of the shoreline to 19°33'27.2448"N, 155°57'58.8816"W; then in a clockwise direction to 19°33'27.2952"N, 155°58'6.7548"W; then in a clockwise direction to 19°33'35.3592"N, 155°58'6.0888"W; then to the point of beginning. The Kaukalaelae Point Manta Viewing Zone campfire, shown on exhibit "XX" shall be located at [coord], [coord]. (b) The maximum total number of permits that the department may issue to authorize manta tours in the Kaukalaelae Point Manta Viewing Zone shall be thirty, provided that after one year from the effective date of this section, the department shall not issue any additional permits unless the total number of valid permits decreases to less than twenty-four, at which point the department may issue additional permits by public auction, pursuant to the requirements of sections 13-256-5(b) through (k)." [Eff] (Auth: HRS §§ 200-2, 200-3, 200-4) (Imp: HRS §§200-2, 200-3, 200-4)

5. New material is underscored.

6. The amendments to and compilation of chapters 13-230 and 13-256, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor. I certify that the foregoing are copies of the rules, drafted in the Ramseyer format pursuant to the requirements of section 91-4.1, Hawaii Revised Statutes, which were adopted on by the Board of Land and Natural Resources, and filed with the Office of the Lieutenant Governor.

Bill Murtagh 4/10/18

From: NAINOA SPORTFISHING Li'i Makau, Inc. [
Sent: Tuesday, April 10, 2018 5:56 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>

Subject: Manta Viewing

Aloha

Please find attached a very quick document regarding Manta proposed rules.

Mahalo

Bill Murtagh
Li'i Makau Inc
640-1016

[Manta Testimony.pdf]
Aloha

Unfortunately, due to my schedule, I have had very limited time the past weeks to put together propower written testimony regarding this matter. However, for purposes of being on the record, I will say that most of the suggested rules the division is proposing are nmot well thought of and require a lot of fine tuning.

With the proposed rules being as they are now, I am respectfgully going on the record saying it would be best if DOBOR reevaluated this matter at a later date and truly listened to the voice of every operator versus those who seem to be calling the shots in this game.

Bill

Manu Powers 4/10/18

[pdf letter submitted]
Text from Letter:
Aloha,

This letter is in response to the proposed draft rules made public March 12, 2018. Sea Quest has been operating a commercial tour business based in Keauhou since 1987. Due to our long- standing history in Keauhou and the Bay itself, we feel we have a unique perspective on the proposed rules that not every operator has the luxury of. For that reason, we would like to share our feedback regarding the operating procedures proposed.

Our primary take-away regarding the draft rules is that they are based upon the existing nightly operations at Garden Eel Cove (GEC) and therefore apply to that particular manta viewing site only. This creates multiple unintended problems in Keauhou that primarily involve the safety of guests that pay to participate each night, as well as the health and stability of Keauhou Bay and the benthos at the entrance of the Bay. The latter is of great concern considering the environmental irresponsibility of the proposed mooring balls and weighs very heavily on us as patrons of the Bay. However it is the former that is of greatest concern as it is entirely realistic and unfortunately likely that there will be unintended consequences resulting in grave injuries to individuals that choose to participate.

As an operator that has a very detailed safety protocol in place, the proximity of the mooring balls to the coastline factors in heavily to our safety concerns. The company(s) assigned a mooring ball that is situated next to the coastline would be forced to cancel operations based on tides and surf with regularity. Although this is a daily concern monitored and decided upon by each individual operator, the number of cancellations due to the placement of those particular mooring balls will be exponential. Should an operator perhaps misjudge the conditions or should an operator on a smaller scale feel self-imposed financial pressure to operate in questionable conditions, the results could be disastrous for the individuals involved, the industry as a whole, and the State.

On the opposite end of the spectrum, any company(s) assigned an outside mooring ball faces another set of challenges that put both the crew and the guests at risk. It has been our experience that despite our best efforts and

clear policies requiring our guests have swimming and snorkeling experience, the desire to participate in the tour is too great and we regularly have people onboard that cannot swim, nor snorkel. To put individuals into the water at night who have limited experience that they have not disclosed to the operator, and to ask them to swim from the outside mooring ball to the campfire and back is contrary to the premise of the implementation of the rules. I believe any other operator would agree with this sentiment. Sea Quest provides our employees with every possible tool and certification in order to ensure the safety of our guests. Yet we believe that despite that, artificially creating a campfire and mandating that companies such as ourselves standardize their operating procedures based on a model designed for an entirely different configuration of vessels, coastline, and geological features, would have disastrous consequences.

Another factor that has us concerned is the moratorium on live boating. It is our belief that this particular line item would result in the compounding of these ill fated proposed policies. There have been many an occasion when Sea Quest alone has returned a distressed independent individual or group of individuals to shore who believed they were capable of swimming out to the viewing site on their own. Not to mention countless instances in which we have returned one of our own guests or that of another company to shore due to medical emergency ranging from heart attacks, shortness of breath, panic attacks, fire worm stings, seasickness, etc. If you run through a theoretical timeline of an emergency situation where the campfire scenario is applied, the response time is dramatically slowed which would ultimately result in the individual needing medical attention not receiving it until it is potentially too late.

The one matter left to address is the safety of the manta rays which is obviously of equal importance. Protection of the resource is at the heart of the Sea Quest business model and does not contradict our philosophy that live boating is the safest policy in our experience for both the resource and the participants. Our standard operating policies and procedures regarding our vessels and light boards have succeeded in ensuring a clean and consistent record where the safety and health of the manta rays is concerned, therefore proving that live boating does not automatically mean a danger is posed to the manta rays. Both instances where harm was done to a manta ray in recent weeks occurred at GEC, not in Keauhou where live boating is how the majority of the operators conduct their tours. After the crew, guests, and light boards are in the water, the vessel is positioned away from the snorkelers in the dark but within range for a quick response due to emergency if necessary. At the completion of the tour, the lights in the board are turned off and sufficient time is provided for the manta rays to disperse before the vessel returns for extraction. This has proven to be an all around effective method.

In summary, Keauhou and GEC are entirely different animals. Due to but not limited to the widely varying nature of the benthos, the vessels operated in both viewing locations, and the geological structure of the Keauhou Bay coastline to start, the proposed draft rules are much better suited for the GEC operators than they are for those in Keauhou Bay. We do not oppose the implementation of structure to ensure the safety of all involved, man & animal, but the rules must be pertinent and relevant to those they seek to regulate. These do not.

I thank you sincerely for your time and your efforts where this matter is concerned. I cannot imagine this is an easy task, but that does not mean it is not worth taking the time to do it right. I look forward to your response and any input that we may provide.

Sincerely,

Manu Powers
Sea Quest Rafting Adventures

Nicholas Yanagi 4/10/18

Sent: Tuesday, April 10, 2018 3:35 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: West Hawaii Manta Ray Viewing Site Management Proposal Concerns

Aloha,

Along with many others I, Nicholas Yanagi, Owner of My Kona Adventures object to the proposals listed.

Let me first start by saying that more moorings being placed at the Keauhou location is unwise. I will go into a few details below:

If there were DLNR surveillance at the Keauhou site nightly, DLNR would surely see that it is the North side boats who arrive, drop anchors, attach to moorings, and create unsafe conditions for the ocean life. I, along with many other smaller companies do our very best to protect not only the Manta Ray's by enforcing strict rules to our customers (no free swimming, no touching, etc) but by also educating our guests on the Manta Rays and other ocean life, as well as the importance of sustaining the coral below.

Adding additional moorings would add more boats, adding more boats would add more anchoring, and adding more anchoring will ultimately result in the increase and enhance the destruction of our ocean life and the coral below.

I urge you to do further research as to why the Keauhou location has seen an increase in boats; it is indeed that the North boats are coming to the Keauhou location due to their behavior and treatment of the ocean and wildlife at their location; by anchoring down and destroying the coral below, they destroy our ocean life as well. For that simple reason, I object to additional moorings and the anchoring of boats from any service provider. Not only does anchoring harm the coral but it also puts the Manta Rays in danger as the Manta Rays may and have run into an anchor line e.i. the two reported injury and deaths of Manta Rays recorded were due entanglement in mooring lines.

There should indeed, be a law, limiting each operation to one location site that they operate out of. If a location does not produce Manta Rays for ones customers, it is unfortunate; however, if we all further learn the importance of taking care of the ocean life; Manta Rays, Coral, and other species below, I am certain that we could avoid these types of protests and work in harmony with one another.

On another note, Permits for recreational users are needed as there are many shoreline swimmers that are in the water at night; it is unsafe for those doing so as they are uneducated on this activity and often are bothersome to the Manta Rays; The companies that operate out of Keauhou are very protective of the Manta Rays and on a nightly basis you will hear Captain and Crew members advising shoreline swimmers of their carelessness. These recreational users should be assessed a fee and also be required to attend a mandatory educational class on this activity and to educate them on the Manta Rays.

There are Kayaks that depart from Keauhou (both licensed businesses and recreational use) who drop anchors and I urge you to take action with this matter as I have witnessed a commercial company taking Ten kayaks out of which each kayak will drop anchor. This is extremely unsafe to the Manta Rays as they can easily become entangled in those drop lines.

We beg and urge you to take a look into the activities on the North end instead of focusing on Keauhou as mentioned by many others, the North boats all head to the Keauhou location due to the Manta Rays no longer wanting to be in their vicinity; It is no secret, and if one has educated themselves on how Manta Rays behave, when they feel threatened they will seek safety or shelter. Thus, the reason why the Manta Rays are rarely wanting to be in the Northern locations.

Established companies such as mine are advocates for the Manta Rays; we truly care about them and our ocean life.

In closing, more moorings equal more problems. Assess Fees for educational purposes. Enforce the limit of location sites to one. Assess the way the Kayak and offshore swimmers are adding to this problem.

Mahalo,

Nicholas Yanagi

Owner of My Kona Adventures

Holly Crane 4/10/18

Sent: Tuesday, April 10, 2018 8:38 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Cc: Mersburgh, Daniel K <daniel.k.mersburgh@hawaii.gov>; Tashima, Todd H <todd.h.tashima@hawaii.gov>; Underwood, Ed R <ed.r.underwood@hawaii.gov>; Schmelz, Stephen C <stephen.c.schmelz@hawaii.gov>
Subject: Comments and Feedback for Manta Ray Viewing Site Management Proposal

Anelakai Adventures is a permitted operator of Manta Tours at Kaukalaelae. We request exemption from the proposed rules, if implemented. The proposed rules do not consider the difference between our operation, and the motorized operation of all other permit holders. A comprehensive review of the rules by those informed of actual operation of the tour operators at Kaukalaelae clearly establishes this. We do not support being subjected to these rules. Mahalo for your effort.

Derrick Balanga
Owner
Anelakai Adventures

Thank you for contacting us. We respectfully deny your request for exemption from the proposed rules. In an effort to accommodate non-motorized vessels at the manta sites, the latest version of the rules provides an exemption from the rafting prohibition for non-motorized vessels. This is intended to give non-motorized vessels the ability to get as close as possible to a campfire while still complying with the prohibition on operating a vessel within 100 feet from a campfire, unless for ingress and egress purposes or emergencies. Based on discussions with the Hawaii County Fire Department, DOBOR has determined that a campfire is necessary to ensure that persons in the water do not drift unpredictably throughout the manta viewing sites.

Additionally, an exemption from the entirety of the rules for certain operators is unfair to the other operators. DOBOR's concerns are for the safety of persons in the water, and prohibiting vessel operation within 100 feet of a campfire will help to ensure that both people and mantas are safe from being injured. We welcome any suggestions you have on how the rules can be revised to better accommodate non-motorized vessels at the manta sites.

Thank you,
DOBOR staff

Manu Powers 4/10/18

Sent: Tuesday, April 10, 2018 9:11 AM
To: Tashima, Todd H <todd.h.tashima@hawaii.gov>
Subject: Keauhou Bay Company Meeting

Aloha Todd,

My name is Manu Powers and I, along with my husband, own and operate Sea Quest in Keauhou Bay. As a community, a handful of manta tour operators in Keauhou have concerns regarding the proposed draft rules. We have attended each tour operator meeting held regarding the rules from the time of inception, but the lion's share of the discussion tends to focus on the operators at GEC. Due to the sheer volume that exists there and out of Honokohau Harbor, the ratio is unsurprising. However, our concerns are obviously Keauhou specific and we are therefore hoping to schedule a time to discuss Keauhou and how the application of the proposed rules would impact our operations. This is something that can be done at your convenience.

As I am sure you are very busy, thank you for your time. I look forward to hearing from you and hopefully meeting you in the not too distant future.

Mahalo,

Manu Powers
Sea Quest Rafting & Snorkeling Adventures
"Small groups, big fun!"
SeaQuestHawaii.com

Alexia Benrezkellah 4/10/18

Sent: Monday, April 9, 2018 7:15 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Re: Manta Viewing Sites Prepared Rules Change

Dear DOBOR,
I participated in manta ray activities primarily at the Makako Bay location for over six years an average of three nights weekly as a dive guide and boat captain for Jack's Diving Locker from August 2011 to December 2017. Over those six years I've seen the site get more and more crowded and practices that were exceptions or even unheard of six/seven years ago are now commonplace - not all for the better. The zoo that Makako Bay has become and the lack of community responsibility are but two of the reasons why I now work for an operator who does not run manta trips.

As evidenced over the last month with an astonishing two boat strikes on manta rays, the dangers are compounding and a strike on a human is imminent. The manta strikes were most likely due to subsurface lights being used to attract manta rays to specific boats. There are operators who rather than using the campfire are towing their boards of snorkelers while underway, essentially "trolling" for mantas. I believe this behavior should be equalled to fishing for manta rays, punishable by a $10,000 fine, forfeiture of the vessel, commercial license, etc. The current proposed regulations are a grossly watered down version of the original proposal and, in my opinion, will do little to improve the safety of humans and mantas.
Most notably the problems I see:
Limit liveboating to ingress/egress/emergencies. I believe that liveboating should be limited to emergencies. Allowing boats to approach the campfire area to ingress and egress increases the likelihood of a propeller strike on humans and mantas. Additionally, to protect the safety of humans, a boat will need to have deck lights on during ingress and egress which draws plankton which in turn draws mantas increasing the likelihood of a propeller strike. Additionally, natural currents often drift snorkelers towards stationary boats. Purposefully placing live boats in the vicinity of moored boats increases the likelihood of unavoidable collision if a boat in a live situation is unable to maneuver away. All boats at all sites should be moored except in the event of an emergency.
Permits: As quoted in West Hawaii Today, "Ward said DOBOR believes the "ideal" number of permits is 24 at each of the two manta viewing sites, Keauhou Bay and Makako Bay near Keahole Point. Each site will support 12 commercial moorings and allow for manta ray viewing between the hours of 4 p.m.-4 a.m." I don't believe that there is anything ideal about this number. If each site is to only have 12 commercial use moorings, then each site should only have 12 operators. If you issue more permits than moorings, you encourage live boating and rafting/daisy-chaining, both of which are inherently unsafe practices. You also encourage anchoring in violation of both existing regulations surrounding day use moorings and your own proposed regulations. The proposed hours are ridiculous with regards to manta ray viewing activities. While identifying peak manta ray feeding times as it relates to the "no fishing in the zones" component of the proposed regulations has merit; as it applies to viewing manta rays it does nothing to help alleviate traffic at the sites which should be of primary concern. Nobody is running manta charters at midnight. What needs to be addressed is the timeframe that occurs 2 to 3 hours after dusk when manta viewing activities are at their peak. And however you arrange them, 24 vessels at any given site is too many. If you issue this many permits per site, you then need to regulate how those 24 vessels are going to operate on only 12 moorings. One solution would be to also assign and permit time allotments. If companies wish to run multiple trips, they may apply for two time allotments. I strongly support the one vessel per company regulation. This will create a fair amount of attrition as it will limit operators who are currently sending 2, 3 and sometimes even 4 boats to any given manta site on any given night.

I assume, maybe wrongly, that the number of permits issued is based on an estimate of how much money the state feels it needs to adequately manage the sites with mooring maintenance, policing, educational outreach, etc. (Please understand that as a community we expect the state to be accountable for doing just that.) There is nothing wrong with less permits costing more money. The operator can well absorb the cost and pass it on to its guests, especially if this once again becomes a premium experience rather than the zoo-like madness it has turned into over the last few years. Increasingly, the public perception of this activity is that that the manta rays are cool, but there's way too many people and too many boats.

I've heard arguments against the 6:1 ratio of participants to guide for a variety of mostly illegitimate reasons. I personally can not think of a situation where more supervision is a bad thing. Over the years, the number of people participating in this activity has increased dramatically. This activity is being billed as something anyone can do regardless of experience or physical fitness or condition. I frequently witnessed panics and lack of inwater comfort ruin somebody's experience. I also witnessed somebody die. The odds dictate that the more people we take to this activity, the more the potential for drowning, heart attack or other serious incident increases An increase in supervision by trained professionals holding basic lifeguarding skills can only help increase the safety as well as the likelihood of a positive outcome in the event of an incident.

The primary focus of the guidelines and permitting process should be the sustainability of this industry and the safety of the mantas and guests. Currently it is obvious that some operators are only in this for the money and not the sharing of manta ray education in an effort to preserve – which should be the fundamental goal of any ecotourism. Ecotourism can only work if it primarily benefits the conservation of the animals being exploited. A couple of years ago I overheard two guys talking at Costco. One said to the other, "I'm having a boat built so I can get in on this manta shit." That guy's out there now. As it becomes more and more evident that money is the driving motivation, this activity becomes less and less sustainable. At a rate of two strikes a month, it won't be long before we have no mantas left to view.
Best regards,
Alexia Benrezkellah
USCG Captain/PADI Master Scuba Diver Trainer

Terri Leicher 4/9/18

Sent: Monday, April 9, 2018 10:31 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>; Underwood, Ed R <ed.r.underwood@hawaii.gov>; Schmelz, Stephen C <stephen.c.schmelz@hawaii.gov>; Mersburgh, Daniel K <daniel.k.mersburgh@hawaii.gov>
Subject: Manta rule comments

Aloha,
Please see below for an assortment of comments regarding the proposed manta rules.
These comments have been put together with a small group of folks who have been doing this dive for the last 8 to 34 years.
We run between 1-4 boats most nights during the week.
We will get something better to you that is not so jumbled asap...maybe even tonight.
Mahalo, Teri

A couple of comments to start.

1. There was not enough time to comment. 3 weeks is not enough time considering we have been working on these guidelines and asking for help since 2012. I personally was on out of the country when this came out and am just now able to comment. Many folks were totally unaware of this comment period or that a draft existed.
2. Before final decision making is done, please meet with our community again and explain some of the rules you are proposing. There are many proposals that have gray areas and are absolutely not clear. Such as who is eligible for a permit? Rick Gaffney had many questions that you answered, but there are more and most folks don't understand these rules.
*This info also needs to go out to more people as it is precedent setting. We want to work together with DOBOR so that we can have a more united front supporting and not fighting.these proposals.
3.. This does not take into account that there are other manta zones in north Kohala that need to be included

4. It does not address the fact that the guides at the very least should have proof of current life guard, rescue diver, Divemaster, instructor or skin diving leader training. This would reduce the liability to the State as well.
5. We have concerns that even when this does get sorted out, it will take too long to Implement. Getting permits for new Moorings alone could take 2 years even with DOBOR pushing them through, not to mention the installation which can be subject to weather.
We need some sort of an emergency measure NOW disallowing hull lights on boats. More and more boats are lighting their vessels and now we have two more mantas with injuries.
6. There is no education component for commercial operations or non commercial. Folks should not be at these sites unless they have signed something that states they understand the rules.
7. It does not address people coming in from shore.

8. Below are changes we would like to see.

§13-256-26 (b) [pg 26]; should read "Manta viewing zones shall be designated as swimming, snorkeling, and ***SCUBA*** diving zones."

§13-256-26 (d) (2) (i) [pg 27]; strike the last sentence, reading "Non-commercial operators may moor at any moorings, if available." (The commercial Moorings should be left available for commercial operations)

§13-256-26 (d) (2) (vi) [pg 27]; this one ought to be struck from the rules. Disallowing any type of non-motorized vessel or equipment not explicitly identified in the proposed rules may hold the industry back down the road from continuing to evolve and enhance the guest experience while still adhering and staying true to the intent of the proposed rules.

13-256-26 (5) (e) (2) (iv). Too open: this leaves it so that an operator in Keauhou can continue to drop off passengers in the water and leave the area to get more passengers who will then be swapped out. This is occurring now and is dangerous.
Take out...to pick up passengers in the water. Needs more discussion

§13-256-26 (f) (1) (ii) [pg 29]; amend last sentence to read "If an operator could not maintain continuous manta operations due to unforeseen circumstances, the break in continuous manta operations must not have been longer than thirty ninety (90) calendar days.(Major Drydocks ***could conceivably take longer than 30 days. There should be flexibility here.***

§13-256-26 (f) (2) (i) [pg 29]; add clause stating that each manta tour permit holder may submit a list of alternative vessels for department approval. The manta tour permit holder may substitute a vessel from their list should unforeseen circumstances occur where prior written approval for substitution is no longer reasonably viable to immediately continue operations." (A vessel could have a last minute engine issue and need a substitute vessel. This can happen without notice or on a night or weekend. We don't want folks running unsafely. Currently we can use any other permitted vessel in an emergency. That should not change.)

§13-256-26 (f) (2) (iii) [pg 30]; amend to read "The maximum number of permits that may be issued to authorize manta tours in a manta viewing zone is one per corporation or other business entity registered to do business in the State commercial use permit issued by department., if business qualifies in other areas regarding history with manta viewing.

§13-256-26 (g) (2) [pg 30]; amend to read "The maximum manta tour participant to guide ratio shall be six ten participants per guide at any given time during manta tours." (10 per snorkel guide is the current number already established by the RSTC, the Diving and snorkeling industry world wide. Don't confuse things)

13-256-26 (2) (iii) (4) (pg. 30) numbers are too confusing!!!
Strike for safety reasons: "each manta tour permit shall only authorize operation of manta tours in one specific manta viewing zone and shall not authorize operation of manta tours in any other areas". (There are many nights that strong trade winds can make it unsafe at Makako Bay...year Keauhou is calm. The same can happen with southerly winds and swell, when Keauhou may not be safe but Makako is. People will need to wait their turn or cancel their charter. But it is

not good to tell people that they can't do their dream trip due to safety when the second location is beautiful. I think folks may be tempted to go out in unsafe conditions.)

§13-256-26 (g) (3) [pg 30]; add clause to allow for vessels to leave manta viewing zone with participants in the water if there is a medical emergency

§13-256-26 (i) (1) (i-iv) [pgs 31-32]; more aggressive penalties for infractions, i.e. $500 / $1,000 / $2,500 fine scale and revocation of manta permit after 3rd infraction)

§13-256-26 (i) (1) (v) [pg 33]; strike entire paragraph

§13-256-165 (b) [pg 34]; change to read "The maximum total number of permits that the department may issue to authorize manta tours in the Makako Bay Manta Viewing Zone shall be thirty, provided that after one year from the effective date of this section, the department shall not issue any additional permits unless the total number of valid permits decreases to less than twenty-four fifteen, at which point the department may issue additional permits by public auction wait list, pursuant to the requirements of sections 13-256-5 (b) through (k)." (We feel that 30 per site is too many. A more ideal number would be 15-20. Let the numbers dwindle lower or at the very least reevaluate before issuing more permits. Start low and go higher if warranted. Also...there should be a wait list for folks wanting a manta permit. No public auction!!)

§13-256-166 (b) [pg 35]; change to read "The maximum total number of permits that the department may issue to authorize manta tours in the Kaukalaelae point (Keauhou) Manta Viewing Zone shall be thirty, provided that after one year from the effective date of this section, the department shall not issue any additional permits unless the total number of valid permits decreases to less than twenty-four fifteen, at which point the department may issue additional permits by public auction wait list, pursuant to the requirements of sections 13-256-5 (b) through (k)."

(See 13-256-165 (b). Same/same)

Jeff Leicher 4/9/18

Sent: Monday, April 9, 2018 10:44 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>; Underwood, Ed R <ed.r.underwood@hawaii.gov>; Schmelz, Stephen C <stephen.c.schmelz@hawaii.gov>; Mersburgh, Daniel K <daniel.k.mersburgh@hawaii.gov>
Subject: Re: Manta rule comments

Please see attached PDF for proposed Manta Rules with Jeff Leicher (Jack's Diving Locker) comments.
*Jeff's annotations inserted in brackets [], rules quoted below
[Jeff: Only if all other moorings are in use and a boat is waiting] "(5) For all types of moorings, restrictions regarding the time limit for mooring use shall be two and one half hours during manta viewing hours and shall take precedence over the day use mooring buoy time limit
specified in chapter 13-257, subchapter 1. Calculation of the time limit shall begin once the vessel attaches to a mooring. A vessel that has reached the mooring time limit must leave both the mooring and the boundaries of the manta viewing zone for at least thirty minutes before returning. (b) Manta viewing zones shall be designated as swimming, snorkeling, and [SCUBA] diving zones."

"(2) During manta viewing hours only: (i) Manta tour operators shall only moor at State-sanctioned moorings and shall not moor at non-commercial moorings. ~~Non-commercial operators may moor at any moorings, if available."~~

[Jeff: Would like clarification, intent, and what types of vessels and equipment department plans to authorize prior to effective date] re: (2)(vi) pg 27

[Jeff:Allows live boating for the purpose of picking up passengers? This will be abused. For example, a boat that reaches its time limit on a mooring will simply pick up passengers as live boat] re: (e)(2)(iv) pg 28

[Jeff:Break in continuous manta operations (resulting in loss of permit) due to boat maintenance or similar situations need further clarification and longer allowable time] re: (f)(1)(ii) pg 29

[Jeff: Manta tour permitee should be allowed to substitute an approved vessel on short (or no) notice for reasonable cause. Situations such as a boat needing maintenance can arise with little or no notice, and the department should not give permitee cause to use an unsafe vessel. This wouldn't change # of boats at site.] re: (f)(2)(i) pg 29

(iii) The maximum number of permits that may be issued to authorize manta tours in a manta viewing zone is one per ~~corporation or other business entity registered to do business in the State.~~ [Jeff: amend to read "...one per commercial permit having history of manta tours"

Pg 30 (g)(2) The maximum manta tour participant to guide ratio shall be ~~six~~ [ten]participants per guide at any given time.
(3) A vessel conducting a manta tour shall not leave the manta viewing zone when participants or guides of that vessel are in the water [except in cases of medical emergency].

Re: (i) Penalties (i) $500, (ii) $1000, (iii) $2500, (v)~~For any alleged violation of this section, any and all of the allegedly offending operator's commercial permits with the division may be suspended pending the outcome of any criminal, administrative, or investigative proceedings.~~[strike paragraph, too vague]
(3)(b) The maximum total number of permits that the department may issue to authorize manta tours in the Makako Bay Manta Viewing Zone shall be thirty, provided that after one year from the effective date of this section, the department shall not issue any additional permits unless the total number of valid permits decreases to less than 15, at which point the department may issue additional permits by ~~public auction~~waiting list, pursuant to the requirements of sections 13-256-5(b) through (k)."
(4)(b) The maximum total number of permits that the department may issue to authorize manta tours in the Kaukalaelae Point Manta Viewing Zone shall be thirty, provided that after one year from the effective date of this section, the department shall not issue any additional permits unless the total number of valid permits decreases to less than 15, at which point the department may issue additional permits by ~~public auction~~waiting list, pursuant to the requirements of sections 13-256-5(b) through (k)."

Dan Hill 4/9/18

Sent: Monday, April 9, 2018 7:45 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Re: MANTA VIEWING

hi thank you for the current information regarding Manta Viewing, my comments are as follows:

eligibility: i think to make it feasible and as fair as possible to all operators, as all boats go in and out of service from operations, sometimes for short periods and/or longer periods of time depending on circumstances, repairs, rework, coi inspection etc: we also operate in a seasonal business that fluctuates with reservations and bookings from month to month. some months are busier than others. i propose that every operator with a current valid manta viewing commercial permit as issued by the DLNR and it is good standing with the DLNR regarding reporting and payments etc be offered a new Manta viewing permit. simple and fair enough. we attach a copy of our permit with the new

application and submit. these are the operators that are current and are in service and have considerable investments and their operations.

mahalo
daniel hill
manta adventures, inc

Mendy Dent 4/9/18

Topics: Many new entrants playing poorly; more enforcement presence; limit recreation to the one mooring

DLNR.BD.DMB@hawaii.gov
Manta Proposed Administrative Rules
Dated 3/12/18
April 8, 2018
Thank you for the opportunity to comment on these proposed rules to manage the manta viewing commercial use. This has taken so long to get to this point, that there are many more vessels starting up in 2017. Many of these are run in a "renegade" manner, with little to no regard for the manta community and agreed manta etiquette. Snorkeler safety and safe boat maneuvering are crucial at the manta sites. We are in desperate need for DOCARE to be actively monitoring this activity.

Our company Kona Sunrise Charters Inc. is actually our correct company name for the vessel Hula Kai that has been running the commercial manta tours since 2007. The company name on the list should therefore be Kona Sunrise Charters Inc., not Fair Wind Cruises for vessel Hula Kai.
PAGE 27: (OPPOSE AS WRITTEN)
2) i, Non-commercial operators should only be able to moor on the non-commercial mooring, not ANY available commercial mooring. As stated there are more commercial vessels wanting permits than are moorings, so this would only cause a tight situation tighter and more stressed.
2) iv, (SUPPORT)
The "campfire" lighting rule in Keauhou will be a very different process for all of the current vessels. Currently each individual vessel has their own floats that contain lights and is a flotation device for the participants. As the ocean current changes each night and often throughout the night, this allows for some adjustments to where the mantas are actually feeding. Once vessels are no longer drifting this will be a safer area for snorkelers as they are at fixed moorings
PAGE 28: (SUPPORT)
2) iii, During manta viewing times, no person shall: Use excessive lighting. Who will enforce these rules during the manta cruises, such as the excessive topside lighting? Enforcement is the critical part in this plan; we already have rules that are not followed. We need DOCARE to be scheduled for this nightly activity. DOCARE officer expenses need to be included to be covered by the monthly income.

PAGE 29: (SUPPORT)
iv, If an operator has two or more documented violations they should not be eligible to obtain a manta permit.
4) ; SUPPORT
Set locationpermit each vessel to either the north site, Makako Bay or south, Kaukalaelae. Too many vessels at each location per number of proposed moorings and south vessels never go to the north site. If there are no mantas for days and days we still do not go north. When there is rough weather we cancel and reschedule as best we can, just as we do for daytime cruises when weather restricts safety.
PAGE 30
g) 2, (OPPOSE)
The new rule on maximum manta tour participants to guide ratio shall be six participants per guide at any given time is not necessary or the best ratio. As lifeguards are important to have in the water during a nighttime

Kona Sunrise Charters, Inc.

manta tour, many times the lifeguards placed on board have a better view of all of the participants, whereas, the lifeguards in the water do not have the best views of participants unless they are right in close arms length. A ratio based on insurance underwriters or USCG regulations are already enforced and cover each company's liability. PADI has a 10 or 12 participant ratio to guide for teaching snorkeling; we at KSC are designating and confirming "advanced, experienced snorkelers" before booking on our manta cruise. We are not teaching snorkeling on this cruise.

PAGE 31 OPPOSE AS WRITTEN

1) iii, A third violation within one year should constitute grounds for denying manta tour permits all together permanently. Too lenient as written, make the third violation a definite loss of manta permit.

QUALIFICATONS:

We still do not believe the cut off date should be from June 2015, as we were already getting over populated in 2012. So it was 36 operators, now you are allowing up to 51? 2012 is when we as a community started the initial meetings. By moving the date back to 2012 there will be fewer businesses that meet this requirement therefore an easier time handing out these permits. Even back at this earlier date there were so many businesses that were requiring state management and control of the manta tours. The previous Big Island Regional DOBOR Manager, Nancy Murphy had issued more ramp permits than had ever been issued without requiring parking for these new companies, when all of us have to provide parking for our customers use. Many of these newer companies do not actually provide parking when the State and County government requires businesses have customer parking.

All permitted vessels should have Certified Lifeguards, Certified CPR, First Aid trained Captains and crew. Oxygen, AED's on board are even better but most will not have space or budget. All should be required to have the approved Certified Manta Naturalist Course trained crew.

We still prefer a crescent shaped layout for Keauhou site, Pa'akai Point, with some alterations to the exact layout of the 13 moorings suggested. We suggest making a crescent formation with smaller vessels in the more shallow water at both ends of the crescent and the larger vessels in the center of the arc shape. This would create the area from the shore to the vessels the "swim zone". Most north mooring GPS coordinate N 19 33.570, W 155 58.021 and center most deep water area N 19 33.536, W 155 58.081 and then most southern mooring N 19 33.463, W 155 58.026. With our plan the vessels can safely egress and ingress without ever needing to go through swimmers making this crescent formation safer than the previously proposed design.

A map with this draft would have been helpful for clarity, allowing us to see these GPS numbers and the current design proposed. We would appreciate the consideration of a 2- point mooring for the larger vessels in Keauhou and we are willing to pay the costs incurred for the additional mooring we would be assigned if we were to receive one (or two point).

VARIETY OF ISSUES:

If vessels are not allowed to drift, then the kayaks should not be allowed to either. They are a vessel, and if allowed to drift could bump into the swimmers, they also bump and bounce off of one another. Possibly they have a mooring for their vessels and can raft from one another. The kayaks lights should be higher than deck level and a 360-degree light.

Kona Sunrise Charters, Inc.

We should be as proactive as possible to prevent the unpermitted boaters to come onto a designated manta mooring. Through a strong education program and consistent enforcement for at least the first 45-60 days, and then randomly DOCARE checking on the sites and the permittees we should have a no-excuse policy for broken rules.

Again, thank you for drafting these management rules. We are hopeful for quick movement in managing these important sites to make safe viewing for the mantas as well as the public.

Sincerely,
Mendy Dant
Executive Vice President
Fair Wind Cruises
Kona Sunrise Charters

Elizabeth Leinbach 3/15/18

From: Elizabeth Leinbach [mailto:]
Sent: Thursday, March 15, 2018 12:38 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Questions and Comments about proposed Manta Rules

To whom it may concern;

These rules are outstanding! They take into account many of the issues facing the manta community and help bring the experience back to a win-win for the manta rays and the participants.

I have a couple of questions regarding the rules as written.

1- These rules read as if they apply to all of the Big Island/State of Hawaii not just the Kona Coast. Will there be any stipulations as to where these rules are applied such as "West coast of Big Island" or "Boats with commercial permits out of Honokohau and Keauhou Marinas?"

2-
(f) subsection (2) (i) reads:

```
Each manta tour permit shall be connected to a valid vessel certificate of number and shall
only be connected to one vessel certificate of number; provided that:
(i) Replacement or substitution of any permitted vessels or equipment shall require prior
written approval by the department. The department shall have the discretion to permit
vessel replacement or substitution with a similar length vessel provided that at each manta
site, the ratio of permitted vessels larger than forty feet in length to sufficiently rated
moorings shall not exceed three to one.
```

Do I understand it correctly in that if a Corporation A obtains a permit for vessel 123 to run manta tours. and two years from now corporation A wishes to purchase another vessel with a larger COI to replace vessel 123 for manta tours, they would need to obtain written approval before their permit could be transferred to the new vessel? Or is that considered attrition u, do they simply loose the permit?

With Aloha,

E. Ryan Leinbach

DOBOR RESPONSE

1- These rules read as if they apply to all of the Big Island/State of Hawaii not just the Kona Coast. Will there be any stipulations as to where these rules are applied such as "West coast of Big Island" or "Boats with commercial permits out of Honokohau and Keauhou Marinas?"

The restrictions are written so that they can be applied statewide but will only apply to manta viewing zones that are designated in rule. DOBOR currently only has plans to designate the two popular Kona manta sites at this time (Kaukalaelae Point/Keauhou and Makako Bay). DOBOR does not have plans to restrict application of the rules to certain regions of the State or vessels originating from particular sites. If new manta ray dive sites develop in the future, DOBOR may designate those zones in rule, and the restrictions would then apply to the newly designated zones.

Based on feedback received, DOBOR is planning to revise the previous rule draft so that manta tour operations will be allowed: (1) in designated manta viewing zones and (2) at least 7 nautical miles from the boundaries of a designated manta viewing zone. The intent of the 7 nautical mile buffer distance is to ensure that there will not be an inadvertent prohibition on conducting manta tours in any future manta viewing sites while still ensuring that operators cannot circumvent the manta viewing zone restrictions by moving a short distance outside the boundary lines.

2-
(f) subsection (2) (i) reads:

```
Each manta tour permit shall be connected to a valid vessel certificate of number and shall
only be connected to one vessel certificate of number; provided that:
(i) Replacement or substitution of any permitted vessels or equipment shall require prior
written approval by the department. The department shall have the discretion to permit
```

vessel replacement or substitution with a similar length vessel provided that at each manta site, the ratio of permitted vessels larger than forty feet in length to sufficiently rated moorings shall not exceed three to one.

Do I understand it correctly in that if a Corporation A obtains a permit for vessel 123 to run manta tours. and two years from now corporation A wishes to purchase another vessel with a larger COI to replace vessel 123 for manta tours, they would need to obtain written approval before their permit could be transferred to the new vessel? Or is that considered attrition u, do they simply loose the permit?

Yes, you are correct. DOBOR recognizes that operators may need to make multiple replacements or substitutions. The manta rules do not impose restrictions on vessel type or length and will allow companies to replace their vessels as they increase the size of their operations. However, DOBOR must be able to review any requests for replacement or substitution to ensure that there is sufficient capacity among the moorings at the manta dive sites in the case an operator wishes to replace their vessel with a larger one.

DOBOR will not consider substitution or replacement as attrition as long as the operator substitutes or replaces their vessel in accordance with §13-256-26(f)(2)(i). If this intent needs to be clarified in the rules, please let us know. Examples of attrition include: an operator losing their permit for failing to pay their permit fees on time, an operator intentionally giving up their permit, and an operator losing their permit for committing too many violations of the manta rules.

Rick Gaffney 4/2/18

Topics:

From: Rick Gaffney [mailto]
Sent: Monday, April 2, 2018 4:43 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Manta rules

Thanks for the opportunity to comment further on the proposed new Manta rules.

1. It appears that many of the suggestions for rule changes that were presented in testimony at the last public meeting on this subject in Kona, were not incorporated. Why not?

2. Page 28, item, f. Permitting Requirements: Refers to a "commercial permit from the department specifically authorizing manta tours." Later in that section the rules refer to a "manta tour permit." Which is it? The first requirement would suggest DOBOR is going to issue a new commercial permit authorizing manta tours, to all those qualified. The second would suggest that there is going to be a new "manta tour permit," presumably issued as a separate permit that is not directly associated with an operators required commercial permit. There is precedence in Hawaii for issuing multiple permits to an entity. For instance, on Maui, you can have a commercial permit but to qualify to take passengers to Molokini you also need to have a Molokini Permit. Moreover, the Molokini permit is issued to the entity.

3. Later in this section (page 29 item 2.) the rules tie the "manta tour permit" to a "valid certificate of number" which refers to HA (State) registration, not to a USCG vessel's documentation which is legally described as a "certificate of documentation." If that language is not changed, the new "manta tour permit" system would only allow the use of HA numbered (effectively less than 25') boats. Tying the manta permit to an HA number ignores the fact that virtually all commercial vessels in Hawaii over 25' are US Documented and can not also carry an HA registration number. Moreover, DOBOR will not issue HA….CP (commercial passenger registration) for any boat over 5 net tons (roughly 25'). Limiting manta permits to HA registered boats will effectively eliminate all large boats from manta viewing charters, including many that have been these tours for years.

4. The proposed new "manta tour permits (or "commercial permit from the department specifically authorizing manta tours") should be issued to the commercially permitted entity which has the required track record (time) as a manta tour operator, not to the boat.

5. This Permitting Requirements rule goes on to suggest that an operator can only replace the vessel with DOBORs permission, and only if it meets various other requirements that would seem to be at the very least, unconstitutional restrictions on business, and even at that, a vessel may only be replaced once. Criteria for DOBOR's granting of permission must be specified in detail in the rule, not dictated by whimsy. Where would older companies be today if they had been required to use the same boats they were founded with, to carry all of today's clients? Tourism is growing and the industry must be allowed to grow to accommodate it, and not restricted in the size or type of vessel used.

These are just some of the significant issues we've noted with the current draft and we reserve the right to comment further.

Aloha,

Rick

Rick Gaffney, President
Hawaii Fishing & Boating Association

> **From:** Rep. Cindy Evans [mailto:repevans@capitol.hawaii.gov]
> **Sent:** Tuesday, April 3, 2018 12:35 PM
> **To:** Rick Gaffney < >; DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
> **Subject:** RE: Manta rules
>
> Aloha:
>
> The comments by Rick Gaffney are insightful and help because application of the rules is critical.
> Why? Staff changes so clarity of intent in the rules is important.
> Please review Mr. Gaffney's comments and address them accordingly.
>
> I hope to hear back your response on the suggestions.
>
> Regards,
> Rep. Cindy Evans
> Ofc. 586-8510

> Dear Rick,
>
> Thank you for your thoughtful and well-composed email. We are grateful when we hear from members of the public because every comment helps us understand the many opinions within the community.
>
> You've taken care to numerate your comments, so we will address your concerns one at a time.
>
> 1. Regarding the changes between the last public meeting (April 2016) and this present version, there have been many submitted comments and greater scrutiny given to the logistics of implementation and enforcement. If you have specific concerns about these changes, we will try to answer those.
> 2. Regarding the manta tour permit, we will more explicitly define the permit and use consistent language. The permit will be much like the Molokini permit, which you mention. Operators will still be required to obtain a commercial permit from the department.

3. Thank you for noting the HA number language. We will ensure that this includes non-HA-registered vessels. (§13-256-26 e.2)
4. The manta tour permit will be issued based on an applicant's ability to prove eligibility. These eligibility criteria are outlined in §13-256-26 e.1 and specify the operator, not the vessel, must prove eligibility. They will not be required to show consistent tours from the boat they intend to link to their manta permit.
5. Regarding boat replacements and substitutions, §13-256-26 e.2, we will take your concerns into consideration and improve transparency. We recognize that companies must make replacements and substitutions. The provisions do not read that operators may do this only once, but instead reads that they may make a replacement or substitution once in a 90 calendar day period. Furthermore, the department has determined that tourism at the manta site should not be allowed to grow indeterminately, and while we encourage growth for the state's businesses, we must all take care in how we use these marine resources. Our restrictions on size are meant to prevent a proliferation of the largest vessels at the site and provide concurrent usage of the site for more operators with smaller boats than fewer operators with larger boats out of respect for smaller vessels and businesses.

We recognize the sensitivity surrounding the manta viewing sites and we hope to preserve this common resource while maintaining DOBOR's responsibilities to ocean recreation, safety, and protection of the marine environment. We welcome further comments from you and appreciate the level of attention and detail that you gave the proposed rule changes.

Please contact us with any additional concerns,

Keller Laros 3/20/18

Hi Todd.
I'm at Chamber of Commerce meeting. Any idea when public meetings on manta site management mwill take place?
Please let me know.
Thanks
Keller

Hi Keller,
We do not have a precise date but estimate that public hearings will take place in late 2018 or early 2019.
Todd

Thanks Todd.

Sooner is better. It's cover of West Hawaii Today news paper today. People are asking me. Also new problems are arising. Several operators now drive boat w lights boards in water w lights on. Sometimes they are even towing w people on the boards. If a scuba diver or snorkeler gets propped like the manta they'd probably dive.

Unfortunately, that estimate is probably the earliest we can hold public hearings because of the other steps in the process we need to fulfill first.
We are hoping that we do not run into any hurdles at each of the steps in the approval process so that we can streamline implementation.
Todd

Thanks Todd.
I really appreciate your hard work on this.
Just let me know how I can help.
Please keep me posted.

Facebook Manta Tour Guides & Operators Group

Summary of comments:

- Jason Thurber - 6:1 ratio is unfair to small businesses. Should use USCG COI. 12:1 best for larger and smaller boats. If 10 passengers on a small boat, now need to staff one more person; 10/12 COI vessels reduced to running like smaller 6
- Sarah Matye - 6:1 ratio is a good concept. 8:1 is better. 1/company restriction = decommissioned boats for big companies and reliance on scuba instead of snorkel = increased market share for others. Must be capable of maintaining control over participants and a person having an emergency.
- Shelby Lynnjoh - Increase price, decrease number of participants, increase enjoyment, decrease amount of work, maintain profit, improve environmental conditions.
- Jaush Boulding - noted live boating, towing manta board at surface
- Ian Roussopoulos - noted live boating, towing manta board at surface
- Keller Laros - Keauhou boat ran over and killed a manta years back
-

DOBOR reconsidered 6:1 ratio and readjusted this restriction to 10:1, citing safety as the primary concern and also stakeholder requests for a participant : guide ratio regulation.

USCG Lt. Steve Macias,

domestic vessel inspections
Date: 3/13/18
Phone conversation
A vessel's COI rating is based on the document 46cfr. In short, the COI crew/manning requirements are determined by the local officer based on the recommendations of a marine inspector. The rating will include a captain and maybe a deckhand for the safety of the vessel. This requirement in no way regulates in-water activities except providing that a crew member may enter the water if certain provisions are met.

Sarah Matye 3/14/18

Sent: Tuesday, March 13, 2018 12:01 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Manta regulations

Aloha DLNR management,

I wanted to voice my opinions about the Manta viewing site regulations, below.

I work as a dive guide and snorkel guide for Jack's Diving Locker and have been guiding Manta dives and snorkels since 2014.

I am a strong supporter of enforcement and permitting at the Manta viewing sites. For years the industry has just been expanding, and with no other regulations other than a "gentleman's agreement" upon operators, things have gotten greedy. Our Manta rays and our customers suffer in our current situation, and even our inept customers can notice this.

A 6:1 customer:crew ratio is appropriate and safer for everyone aboard. I would guess that most of our customers *average* about 200lbs each. I am often at the mercy of currents and winds if I have a "heavy load" of snorkelers that night, with 8 total snorkelers on my board. I am young, in good shape, with strong legs and long blades and I still swim my hardest to get them back to the boat. Most of our customers are old, inexperienced and/or nervous, and do NOT swim well. A higher ratio than 6:1 is dangerous in an emergency or in any current, and snorkel guides are often far older, out of shape, and less experienced than I am, setting emergencies up to be disastrous situations.

Other than ratios, common problems are mostly associated with anchoring at both sites, and I 100% agree that divers at Keauhou are unacceptable (there is no safe sandy bottom to put them and hovering for most of these divers is non-existent) and enforcement of rules is necessary. One permit per company and only 1 vessel assigned to said company will be helpful to keep crowding down, and insure that standards are being met from all companies.

Please let me know if you have any questions about my statements or need any further information.

I am speaking on behalf of myself only and not my company. I am speaking based on my experiences and the guest experiences I see on a daily basis.

Thank you for your time,
Sarah Matye

Dear Ms. Matye,

Thank you for your clear and well-reasoned email. We are grateful when we hear from members of the public because every comment helps us understand the many opinions within the community. We recognize the sensitivity surrounding the manta viewing sites and we hope to preserve this common resource while maintaining DOBOR's commitment to ocean recreation, safety, and protection of the marine environment.

We appreciate your careful consideration of the proposed rule changes, the evidence you give for your positions, and the clarification of your opinion being your own and not representative of your company. We are compiling the positions of the community to gauge support for the current draft regulations and for their alternatives. Please encourage people within your network to reach out to us with any opinions they have regarding management of the manta viewing sites. We will continue to compile informal comments until April 11th.

Mahalo nui loa,

- *DOBOR Manta Team*

Martina Wing 3/13/18

Martina: “Hi, hope this finds you well! Great work on regulations!! Especially the 6:1 ratio, came out of nowhere but definitely appreciated. One question: Is it still possible for a boat operator to do mantas outside the ORMAs? Or thru the permit will it be only specific operators that can do it along the whole coast?”

Me: “Thanks Martina! I’ve already taken a call today taking issue with the ratio, I’m glad I’m not the only one who agrees with it. Operators without a permit will be allowed to conduct manta operations elsewhere as long as it is outside of the 500 yard exclusion zone. This is meant to keep operators from distracting mantas away from the permitted activities, and most importantly, out of the navigation channels at Keauhou Bay."

Martina: “Ha, 7 miles is awesome. Thanks."

Annonymous Operator 3/13

from: Jeffrey Milisen <>
to: "DLNR.BD.DMB" <dlnr.bd.dmb@hawaii.gov>
date: Tue, Mar 13, 2018 at 8:29 AM
subject: Phone call comment

I [Jeff M.] am currently taking a call from an operator (CC’ed here) that is concerned that the 1:6 passenger ratio will disadvantage the smaller companies more than larger vessels. His vessel allows for 12 passengers, so with 2 crew, he will never be able to max out the 6-person light boards and it will make his business unprofitable. His vessel is COI’ed based on the visibility of the guests in the water, so he feels that we should follow the COI requirements as set forth by the USCG. Furthermore, he feels that more light-boards in the water will be disadvantageous to the overall safety of the site. I am hoping he will reply to this to flesh it out with more details.

Jonathan Droge 3/12/18

Topics: more moorings, campfire, rec users, conservation fee

From: Hawaii Island and Ocean Tours
Sent: Monday, March 12, 2018 9:12 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Objection to a couple of these proposals

1, I sincerely object to any new moorings being placed at the Keauhou site for multiple reasons.
A, we see a severe decline in the activity of the manta rays every time it gets crowded by north boats with the moorings and anchor lines.
B, I have observed for the last 5 years daisy chaining and anchor dropping within 25 ft of moorings. I am 100% opposed to sharing the Keauhou site with flagrant law breakers and resource damagers. North boats need to stay north. They have destroyed their dive site and have been destroying ours for the last 5 plus yrs.

The operators need to be limited to operating to 1 site.

2, I oppose the severely uneducated proposal of designating a campfire spot for multiple reasons.

A, scuba divers have been killing coral at both dive sites by instructing their passengers to cling to boulders that house coral thus killing coral with hands, fins, and tanks clanking into the coral.

B, current not lights dictate where the plankton and mantas feed. Saying 1 place is the site and that's it is beyond ignorant it's stifling our ability to guarantee manta sightings which leads to bad reviews and disgruntled passengers. You can't charge us extra money and then ruin our ability to perform our jobs by assuming that you know best. Plain and simple the ocean isn't a pool and mantas are wild telling us where to see them is absurd.

3, permits for recreational users is a absolute must for multiple reasons.

A, you can't manage an area or users if you don't know who's doing what and where.

B, shoreline divers are a hazard and risk to the mantas 99% of the time I have observed them in past 5 years. They come out without proper lights.
They dive down under our light boards and passengers chasing and harassing the mantas and our passengers.
A simple online registration process allows the state to effectively manage and hold recreational users accountable. It also will curb the unpermitted commercial users from moonlighting and reaking havoc due to lack of respect for the resources and lack of knowledge of safety regulations.

4, if we are to pay an additional fee the money should go to protecting the longevity of this activity by creating sanctions and policies that further protect this already protected species, and ensuring that we the users will have a future in this for the long haul.

C, mantas are very intelligent animals.
When they become fearful due to abundance of lines in water and numbers of people they commonly retreat to adjacent areas to avoid the crowd.

I love and honor the manta rays.
I respect and vow to protect these resources until my last breath.
I will defend my rights to continue my already well established business, and the rights to use the area for the purpose of commercial/ educational reasons.
I will hold the Department of land and natural resources accountable to protect the resources and not exploit them for profit.
I expect a certain level of respect and dignity by the department towards the permitted users as we are paying the majority of the department's funding in our ramp/mooring/commercial use permits.

Thank you for respecting my concerns and wishes regarding these proposed guidelines.

Jonathan Droge

Dear Mr. Droge,

Thank you for your thoughtful and well-composed email. We are grateful when we hear from members of the public because every comment helps us understand the many opinions within the community. We recognize the sensitivity surrounding the manta viewing sites and we hope to preserve this common resource while maintaining DOBOR's responsibilities to ocean recreation, safety, and protection of the marine environment.

You've taken care to lay out a very organized and well-supported defense of your position, so we will address your concerns one at a time.

"1. I sincerely object to any new moorings being placed at the Keauhou site for multiple reasons."
We have taken similar objections into consideration and are restricting access to one site. Companies will belong to either Kaukalaelae or Makako Bay site, and will not be allowed to go to other sites. This is to

prevent the overcrowding that you've observed. Furthermore, daisy-chaining, rafting, and anchoring within the manta viewing zone will no longer be permitted, and violations will invoke fines and possible permit-nonrenewal.

Many stakeholders expressed concern over enforcement, so the department will not only task DOCARE officers to these sites but will also contract an Observer who will ride along with operators, provide outreach, document violations, and provide evidence to DOCARE and DOBOR to take appropriate action and/or issue citations. We will also equip the general public with knowledge and tools to report violations directly to DLNR or through the DLNR TipApp.

Regarding the number of moorings, we have determined that a 2:1 ratio of permits to moorings is the best option to reconcile access and business operations with overcrowding, safety, and protecting the resource. At the initial meetings in 2014 when DOBOR determined that it would regulate the manta sites, there were approximately 50 operators conducting tours. It is not our intention to introduce new regulations that will exclude existing businesses; we can only enforce future conduct and that is why we qualified permit eligibility as those who have conducted consistent manta tours since June 2015. This threshold is the date that was given back in 2014, and provided sufficient prior notice to operators to begin keeping records. We must treat businesses fairly and equally, and we cannot retroactively punish operators for perceived bad behavior. In the future, should operators continue to defy regulatory standards, there will be consequences.

"2, I oppose the severely uneducated proposal of designating a campfire spot for multiple reasons"

First, there will be no commercial scuba diving permitted during manta viewing times (4:00 pm - 4:00 am) at Kaukalaelae, due to concern for the bottom habitat. The campfire is intended to focus snorkel activity and will not resemble the benthic campfire at Makako Bay. Fractionation makes the location of swimmers less predictable to vessels and also requires more motor traffic that is a hazard to in-water participants and mantas. We consider risk avoidance as the regulatory best option, followed by minimization. We have received a handful of comments that echo your concern, but we need an alternative that is safe, fair, and enforceable. Please provide more information on this issue and encourage others to contact us. We are truly grateful for the engagement and want to arrive at the best solution.

"3, permits for recreational users is a absolute must for multiple reasons."
We are supportive of your concern regarding recreational users and will consider a simple required educational program and permitting process. At this time, we do not intend to regulate recreational SCUBA, as our understanding is that dive groups sitting divers in coral reef and as you pointed out, instructing them to cling to live rock, was the issue that needed to be regulated. The department wishes to regulate access but not restrict it unless absolutely necessary. A good compromise would be the registration process you proposed.

"4, if we are to pay an additional fee the money should go to protecting the longevity of this activity by creating sanctions and policies that further protect this already protected species, and ensuring that we the users will have a future in this for the long haul. "
You have our utmost respect for this sentiment, and it will be our stakeholders who determine the way funds are spent. While the mandatory maintenance and repair of moorings takes precedence, we have eliminated internal expenses such as a coordinator position in order to hire an enforcement contract (the Manta Observer) and will consider adding advocacy to the mission of the education budget.

We sincerely appreciate your dedication to this special place and are grateful for your engagement. Communications between resource managers and stakeholders is absolutely critical, and we cannot thank those of you taking the time and making the effort enough. You are correct that your fees support these programs, and the amount we're requesting for the manta sites will be the bare minimum to run the program that the community is demanding. We will gladly lower the fees if we determine that there is any profit margin. Our priority is to improve safety, protect the resource, and facilitate recreation and enjoyment within the state.

Thank you sincerely for your comments,
DOBOR Manta Team

Keller Laros, 11/20/17

Topics: Economic impact analysis, geography, permits, moorings, more involvement

Aloha,
I sent the email below on October 27 but I've still not received a response.
We are having a Kona Kohala Chamber Of Commerce Economic Development Committee meeting tomorrow at noon and I'd like to be able to report that the DLNR responded to our questions.
Can you please reply?
Thanks.
Sincerely,
Keller Laros

Aloha,
My name is Keller Laros and I'm the Founder and President of the Manta Pacific Research Foundation a 501(c)3 established in Kailua-Kona in 2002. I'm also a member of the Economic Development Committee of the Kona Kohala Chamber of Commerce.

I am hoping that you can answer some questions that our committee had regarding possible state management of commercial manta ray tour operators.

Will DLNR-BOR undertake an economic impact analysis detailing the impact of the new rules on the manta industry and the ocean recreation community?

Will management of commercial manta tour businesses be site specific or will management encompass all manta tour operators regardless of where the activity takes place?

What is the timeline for the next public meeting (if there will be one) where the community can weigh in on the most current draft of the manta viewing rules?

Is the September 9, 2016 draft the most current version and if not, where is the most current version accessible?

If there will be no further public meetings, what is the latest timeline for the final public hearing on the proposed rules?

Will the new manta permits be tied to an operator's commercial permit so that both permits can be transferred as a package in the event the operator wants to sell or transfer the entities permits to a family member?

If an entity with a manta permit chooses to buy a newer and/or larger vessel to expand their manta viewing business, will the manta permit allow for that?

Will everyone currently operating manta tours be granted a permit under the new rules? If not what are the criteria for DLNR-BOR to grant a manta viewing permit?

Will additional moorings be created at the Keauhou and Garden Eel Cove manta viewing sites at the same time the new rules are implemented?

Will additional moorings be placed at the other manta viewing sites when the rules are implemented?

How are interested individuals, community groups and businesses being kept informed during the manta rule making process?

How can an interested party access the third part safety assessment commissioned by the DLNR in 2015?

Thanks very much for your time.

Sincerely,

Keller Laros
Manta Pacific Research Foundation

Mr. Laros,

Again, we apologize for the delay in responding to your questions.
Please see below for our responses:

-Will DLNR-BOR undertake an economic impact analysis detailing the impact of the new rules on the manta industry and the ocean recreation community?
It is unlikely that DOBOR will undertake an economic impact analysis because of costs involved in such an assessment. DOBOR believes safety is paramount and prefers to reach out to stakeholders to gather information and feedback to determine proposed fee amounts.

-Will management of commercial manta tour businesses be site specific or will management encompass all manta tour operators regardless of where the activity takes place?
Current plans are for site-specific management of manta tour operations at Keauhou Bay and Garden Eel Cove. However, our plan is for rules to be written so that if new manta sites develop, the rules can be applied to those new sites. There are currently no plans for manta rules that encompass all state waters.

-What is the timeline for the next public meeting (if there will be one) where the community can weigh in on the most current draft of the manta viewing rules?
Once the draft manta viewing rules are finalized, all those on the manta email notification list will be sent a link to the document, and DOBOR may hold informal meetings to gather input. DOBOR will also accept email comments on the draft. Our projected timeline is to develop a draft in January 2018. We are currently considering how to handle implementing the manta viewing rules and have two approaches: (1) implement the DMB rules first, then implement the manta viewing rules with the DMB rules as the underlying structure for the manta viewing rules or (2) implement the manta viewing rules as a pilot program for the DMB rules, then use information gathered from the pilot program to craft the DMB rules. In either case, we anticipate holding formal public hearings in late 2018. Prior to the formal public hearings, DOBOR plans to continually engage in informal discussions with stakeholders to gather input.

-Is the September 9, 2016 draft the most current version and if not, where is the most current version accessible?
We have not released any subsequent drafts. Please refer to the attached flyer for the latest plans for the manta viewing rules.
Once the updated draft is ready for public release, it will be sent to everyone on the manta notification list and also posted to the DOBOR website at: http://dlnr.hawaii.gov/dobor/draft-rules

-If there will be no further public meetings, what is the latest timeline for the final public hearing on the proposed rules?
There will likely be additional informal meetings before the formal process begins. As to the formal public hearings, we estimate that public hearings on manta viewing and DMB rules will take place in mid-2018.

-Will the new manta permits be tied to an operator's commercial permit so that both permits can be transferred as a package in the event the operator wants to sell or transfer the entities permits to a family member?
We are considering how to handle this matter.

-If an entity with a manta permit chooses to buy a newer and/or larger vessel to expand their manta viewing business, will the manta permit allow for that?
We are considering how to handle this matter.

-Will everyone currently operating manta tours be granted a permit under the new rules? If not what are the criteria for DLNR-BOR to grant a manta viewing permit?
Based on input at previous meetings, DOBOR decided on a cutoff date of June 1, 2015 – under the current proposal, any operator who had not been conducting regular manta viewing operations from before June 1, 2015 would not be eligible to obtain a manta viewing permit. Our plans are also to allow only one permit per company, associated with one HA number.

-Will additional moorings be created at the Keauhou and Garden Eel Cove manta viewing sites at the same time the new rules are implemented?
We intend to follow the plan to make the most efficient use of the space at the manta viewing sites, but plans may change.

-Will additional moorings be placed at the other manta viewing sites when the rules are implemented?
Available funding will determine when and how many moorings we will be able to install at the manta viewing sites. We are pursuing numerous avenues for funding at this time.

-How are interested individuals, community groups and businesses being kept informed during the manta rule making process?
Interested parties will be informed of any informal meetings DOBOR plans to hold and will also be able to view the updated draft manta viewing rules when available. The updated draft manta viewing rules will also be posted to the DOBOR website for any member of the public to view and provide feedback.
DOBOR invites involved stakeholders to provide input and to sign up for the manta rules notification list. For those interested, please ask them to email dlnr.bd.dmb@hawaii.gov requesting to be added to the list.

-How can an interested party access the third part safety assessment commissioned by the DLNR in 2015?
The safety assessment is available here: http://dlnr.hawaii.gov/dobor/files/2013/04/Manta-Ray-Viewing-Boating-Operations-and-Safety-Assessment_final.pdf

Thank you,
DOBOR staff

Howard Hofelich, 11/1/17

From: howard hofelich [
Sent: Wednesday, November 1, 2017 9:37 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: RE: October 2017 DMB Informational Meetings

THANK YOU SO MUCH for replacing the Eel Cove mooring and the Body Glove Buoy at Pawai Bay..

Howard Hofelich, 10/8/17

From: howard hofelich [
Sent: Sunday, October 8, 2017 3:18 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>; cindy evans < >; cindy evans <repevans@capitol.hawaii.gov>; ag@hawaii.state.gov
Subject: Re: October 2017 DMB Informational Meetings
questions:

Is the system referred to as the West Hawaii Mooring Ball (conglomeration) sponsored (officially) by the State of Hawaii and is it for the use of residents??? exclusively??? , or is it being prioritized for the use by commercial big boys (commercial DLNR permittees) who use it to take out BIG groups of tourists? Or both? or is it prioritized for the really big operators (Body Glove, Jacks, Fairwinds, Big Island divers, etc) to make money for the State of Hawaii DLNR (10% of the take) ? Since every winter.... Body Glove shreds the mooring line over at Queen K Childrens Park (wind and waves) , and then removes it (the remnants) for the summer, and then puts it back up again when the winter swell is coming into season?? If Hawaii is claiming the MANDATE to put in subsurface moorings, will it maintain them?? regulate them??fund them?? parcel them out to the big boys?? get insurance to cover their liability the day a big boat goes up on the rocks??

I'm just a resident (65) . I try to dive everyday. My wife (68) has to dive the mooring ball every time (15 feet underwater is hard for her) since I'm driving the boat and its kinda dangerous to do both. I think YOU should reconsider and put in mooring balls for the general public to use that are not 15 feet underwater. I know that keeps the pesky fishermen out of the already depleted reefs, but seriously, you should think about a real mooring system that is (1) in the federal register(2) insurable (3) safe (4) easy to use for us disabled people. Also... DO YOU HAVE>>>> an Environmental Impact Statement (EIS) on whats been done to the beautiful reef over my Honokahau Harbor with all the tour boats taking divers to see the resident tiger shark?? Its a BOAT CHANNEL. Eventually.. those jackass Marlin Fishermen who come in at Mach 7 in a no wake zone are EVENTALLY gonna kill a diver. I hope you are prepared for that..it happened in Oahu and its a miracle it has not happened here.
see you Monday.
Howard

From: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>;
To: howard hofelich
Sent: October 31, 2017

Dear Howard,

Thank you for your thoughtful and thorough email. We are grateful when we hear from members of the public because every comment helps us understand the many opinions within the community. We do not intend to neglect stakeholders who have felt pushed out of the manta site, and we hope to preserve this common resource while maintaining DOBOR's responsibility to ocean recreation, safety, and protection of the marine environment.
Regarding your questions about the state program and all it entails, we'd encourage you to read over the FAQs posted at https://dlnr.hawaii.gov/dobor/day-use-moorings/ or you can access the pdf FAQ document directly at https://dlnr.hawaii.gov/dobor/files/2017/09/170925-DMB-FAQs.pdf

Your concerns about subsurface moorings are echoed by other members of the community and it's something we are looking at. We hope to have a combination of surface and subsurface moorings, but it will be on a case-by-case basis and requires careful consideration of the pros and cons of each.

In reference to an EIS, an Environmental Assessment is not required for routine buoy maintenance and repairs, but in 1994 an EA was completed and we will work with regulatory authorities to determine if another EA is necessary. We recognize the value and necessity of this process under both the Hawaii and National Environmental Policy Acts. We will conduct a thorough assessment for installations, as required by both these documents and the Army Corps of Engineers and the Department of Health's Clean Water Branch. Part of the state's role taking over a mooring program is to ensure installations are done to a high standard with respect to any potentially significant environmental impacts.

Thank you for your concern and your attention to this matter. We're always encouraged to see public engagement. Any additional thoughts or concerns you may have, please do not hesitate to contact us again.

Claudia & Kevin Merill, 10/5/17

From: Claudia Merill Sent: Thursday, October 5, 2017 1:24 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: manta ray permits

Aloha,
Mahalo for taking much needed action on control of the number of vessels and the way in which Manta viewing tours are conducted.

We would like to ask you to please reconsider how you decide who will be eligible for the permits.

We have run a successful and safe snorkel business out of Keauhou Bay since 1997. For years we conducted manta ray snorkel tours but over time became more and more frustrated with the number of boats and concern for safety of the tours. When the large number of commercial ramp permits were issued the sites became so crowded and unsafe that we decided not to participate for that very reason. Over the past few years we have run only special charter requests so as not to contribute to the problem and considering the safety of our guests.

We would like to see the companies that have been in business the longest, with good business, safety and seamanship practices, be eligible for the permits before the brand new businesses that have just recently gotten permits and have pretty much caused the problems that we are experiencing now.

Mahalo for your consideration,
Claudia & Kevin Merrill

Claudia Merill VP
Dolphin Discoveries

Dear Mr. & Mrs. Merrill,

Thank you for your thoughtful and well-composed email. We are grateful when we hear from members of the public because every comment helps us understand the many opinions within the community. We do not intend to neglect stakeholders who have felt pushed out of the manta tours, and we hope to preserve this common resource while maintaining DOBOR's responsabilities to ocean recreation, safety, and protection of the marine environment.

In regards to your concerns over the permitting process, we must be fair to all operators. The rules that you and other stakeholders help us create would eliminate the problematic conduct that you refer to. We cannot retroactively punish operators for what we judge to be poor practice without a legal platform to stand on; the manta rules will give the state the ability to regulate company conduct.

Eligibility for a manta permit is limited for the very reasons you allude to: overcrowding. We would have provisions allowing DOBOR to consider companies on a case-by-case basis, and we will consider your comments and work out how best to serve the larger community where responsible companies have exercised self-restraint for the sake of the resource, and do our best not to unintentionally discriminate against these companies like yourselves.

If there are fellow operators who share your concern, please ask them to contact us. We are compiling all of the feedback and reevaluating the program as we go along. There will be further opportunities to shape these rule changes via email, public meetings, or by contacting our island rep, Jeff Milisen () directly.

Thank you for raising your concerns and we will do our best to address them. If you have any further questions or comments, please do not hesitate to write to us again.

Capt. Eric Hayden. 10/15/17

Dear Sirs,

According to our observations over the years, we believe it would be safer to have **SURFACE MOORINGS** located at both Garden Eel and Sheraton sites! Surface moorings would be the safest and most effective way to secure and accommodate the amount of boats permitted at these sites every night. This would also decrease the risk of long lines in the water which have often caused entanglement with the manta rays and swimmers. The mooring floats could be an original Hawaiian creation with a pleasant style or shape and be painted with highly visible colors for safe and easy night time locating which could also look nice in the daytime. Both sites are out of the way of heavy traffic and therefore, exceptions should be made for surface moorings for these 2 locations only.

Assignment of particular moorings and maximum time of occupancy would also help to enhance this experience for participants and operators alike as there would be less of a frantic scramble when boats arrive to these sites and would also avoid the "live" boating we see every night which is extremely dangerous. Many MANY times we have seen spinning propellers within 10 feet of swimmers as operators are trying to maneuver around other boats AND stay within eyesight of their swimmers. The danger of propping a swimmer alone warrants mooring assignments but we should also consider keeping some "open" moorings for operators who do not do manta adventures every night and even have them available for personal craft who could apply for a mooring usage and enjoy this experience from time to time.

We appreciate your consideration,
With sincere Aloha,
Capt. Eric
Hawaiian Boating Adventures LLC

Dear Capt. Eric,

Thank you for your thoughtful and insightful email. We are grateful when we hear from members of the public because every comment helps us understand the many opinions within the community.

Your concerns about subsurface moorings are echoed by other members of the community and it's something we are looking at. We hope to have a combination of surface and subsurface moorings, but it will be on a case-by-case basis and requires careful consideration of the pros and cons of each. We agree that these seem to be particularly appropriate at the manta sites, and we will do our best to figure them into the final equation.

In regards to your recommendations, thank you! We are so grateful anytime someone has a constructive and thoughtful suggestion, and we will give yours some serious thought. The idea of assigned moorings and maximum time occupancy have been kicked around in the past, and currently we are looking at 2.5 hour maximum and potentially coordinating shifts among permit holders, but we could look into a designated buoy share program where two or three operators are assigned one or a few particular moorings in order to reduce conflict. This idea will require further vetting, but we're happy to look into it.

Please encourage others with similar thoughts to reach out to us. The more opinions we have, the better we can consider all options and select the most favorable and agreeable one.

We look forward to working out the details of these rule changes in the near future. There will be further opportunities to contribute via email, public meetings, or by contacting our island rep, Jeff Milisen () directly.

Thank you for raising your concerns and we will do our best to address them. If you have any further questions or comments, please do not hesitate to write to us again.

Ballanga, Derrick 'Iko'. 10/20/17

Sent: Friday, October 20, 2017 2:11 PM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Subject: Manta Viewing Sites Proposed Rule Changes

Aloha,

This document reflects our concerns and comments regarding the West Hawaii Ocean Recreation Management Area, Manta Viewing Sites Proposed Rules Changes. These Changes as proposed by DOBOR directly affects our ability to effectively function as Operators within the Ocean Recreation Management Area.

We are Anelakai. We have been licensed and permitted since June 8, 2012 to conduct tours and activities, primarily within the waters of Kaukalaelae. We have safely and successfully introduced the waters and marine life of Kaukalaelae with thousands of visitors, and residents of our island. Amongst those we have transported and guided have been clients with physical disabilities who could not have this experience without us. We have done this without incident or injury. We have received emotional expressions of gratitude for our ability to provide for those who would not have this experience without us. Your proposed rule changes would prevent us from continuing this service.

It is a challenge to address the five proposed rules changes without an explanation for them. We have repeatedly attempted to seek that by contact with persons within DOBOR, and Jeffery Milisen. Our documented efforts are established in emails dating over the past six months to DOBOR and Mr. Milisen. A summary of those efforts are evident in an email response from Mr. Milisen dated Sept. 27, 2017 at 1:33 PM. We sent him an email that day seeking guidance in obtaining answers to questions. These were questions pertaining to the Proposed Rules Changes. Those questions were asked of him months earlier in two emails. Mr. Milisen had not responded to those emails. Unfortunately, we would again find him unavailable to assist in our need to address the rule changes. His response to our Sept. 27, 2017 email was: "I have been distracted with field work on other islands and thus answering burning questions during the only free moments I can find. I will be back tonight and will be better able to respond then". His follow up to that email was a phone call, (could have been made from "other island" in a timely manner?), in which he informed us he did not have the time to completely provide information for us.

We are definitely opposed to this package of Proposed Rule Changes. We cannot have another position because to do so would be to support the process, the limited input and discussion, and the subsequent danger these changes would introduce to the experience of people at Kaukalaelae. To support these changes would be to accept Rule changes which specifically targets and impacts our Operation. We have sought and have been unable to have a discussion with Mr. Milisen on these specific issues. We cannot support a less than comprehensive process which has a large and uninformed negative impact on the entire group of Tour

Operators who coexist, support and effectively work together to create the magical experience at Kaukalaelae, in a safe and incident free nightly experience.

We object to Proposed Rule #1. Our Wa'a Kaulua is non-motorized. Its presence in any location does not present the possible hazards a motorized propeller driven vessel does. Our presence within the viewing area at Kaukalaelae serves as a secure and safe haven for anyone in the waters. This is true of all of the vessels that operate tours there. The scattered presence of these vessels are an asset to safety. Historically, there have not been any incidents we know of to explain the need for this rule. If in fact, there is a justifiable concern of the presence of vessels, it can only be supported by the intrusion of sound of combustible engines, and movement of propellers. Our Wa'a Kaulua does not have either of those. Should Rule #1 be adopted, we ask our vessel, and any vessel being powered and controlled by physical human effort (paddling, not sails) be exempt from this rule.

We object to Proposed Rule #2. Simply, why does this rule exist? In the fractured conversations with Mr. Milisen, he suggests a concern of our lighting design posing a threat of contact between our clients and the hull of our wa'a. His concern is at its least, unqualified. Mr. Milisen has never been on our wa'a and does not have sufficient knowledge to make that suggestion. Our hulls are rounded. They have no surface which poses a detrimental contact area. In fact, our hulls are part of the enhanced environment for our visitors. They offer a space protected from wind, and provide an experience our clients have expressed compliments and appreciation for. As certified lifeguards, (all crew members are) we know the safety and effectiveness of having our swimmers with arms reach at all times. With our lighting design, we are able to have our Manta viewers within our Wa'a within seconds. They are not floating on "light boards" away from our vessel, with their ability to swim to the vessel being the determining factor for their recovery. For the physically challenged citizens who frequent our offering, this is what makes the difference between them enjoying what all others do, and not being able to go. The sense of safety and confidence offers the "disabled" the confidence to pursue the experience they have a right to. We make it possible for that to exist. Proposed Rule #2 discriminates against a group of citizens. If rule #2 is accepted, we again strongly suggest our vessel and operation being exempt from it. Such exemption would indicate the Agency's interest in accessibility and fairness for all citizens. And, probably avoid legal challenges.

We object to Proposed Rule #3. Why does this rule exist? "For visibility purposes"? Kaukalaelae is an area illuminated by the lights of the Hotel on that shoreline. Lights which by design shine on the waters. The travelling speed of the vessels in that area is very slow, and visibility is always good. Given the presence of light boards and people in the waters, the attention of vessel pilots should be focused on what's in the water, not what's floating on it. Danger as it may exist is centered on the presence of swimmers in the water, in an area of rotating propellers, not by what is floating on the surface.

At its best, the above three rules display a lack of knowledge of the conditions, and activities. At its worst, it shows a disregard for the actual conditions and activities there. As these three rules directly impact our Operation more than others, we cannot ignore its seeming targeting of our presence.

The remaining three Proposed Rules changes presents the question of "how"? How will the boundaries be defined and enforced? How will the dynamic ocean conditions be calculated into this stationary area you seek to establish in this open environment? How will this affect other ocean users who are not part of the Manta viewing purpose? Why, is this necessary?

In summary, our impression of what these Rules Proposals represent is an action to show movement by DOBOR, but not effectiveness. We have journeyed over a thousand times with clients to the viewing of Mantas at Kaukalaelae. We are informed and effective about, and within the Manta Viewing business community at Kaukalaelae. The community on the ocean there is supportive, congenial, connected and safe. It's this community that should be the major factor in determining the need for, and any changes. Rules and Changes should not be factored on the information from someone who has "been distracted" and short on "time".

Our suggestion for a change is in what has been the uncontrolled or directed issuance of permits. Why, are so many permits issued for an activity which has definite boundaries in space, location and impact on Marine life? The only logical explanation for a Proposal in Rules Changes is to finally show an action regarding the heavy number of permits, and what the impact would be if all those permitted, were to seek to congregate at the viewing areas. How would a business book clients for a specific time and date, and not be able to reasonably guarantee there would be a " mooring " available, or space at the "campfire"? The uncontrolled and irresponsible issuance of permits is the area that needs "Changes", not the responsible, safe and visitor satisfying actions and experiences at Kaukalaelae.

We recently had onboard a retired Fire Rescue Specialist from the Kailua Kona Fire Station. He had been an integral part of the Ocean and Land rescue unit for 20 years. He was aware of the proposed rule changes, and asked to come out to see our operation, and the activity at Kaukalaelae. After doing research, he offered this statement. "In my opinion the Proposed Rule Changes create the possibility of safety concerns and challenges to operation. The present Operation by the Tour companies at Kaukalaelae on the evening I visited were a display of cooperation and purpose. As an experienced water safety person I absolutely support the responsibility and decision making to those on the water, at the time of the activity. Without doubt the level of competency by all there was appreciated. With your vessel and operation specifically, is and opportunity and service which is valuable. The knowledge and professionalism of your crew sets a standard to be modeled. Your ability to offer persons physically challenged the opportunity others have in the Manta experience is invaluable. Mahalo for the opportunity you afforded me. I am a supporter."

He further related during discussion. "These proposed rule changes is a misdirected effort to address a possible situation. It's like this. Imagine a school zone where children cross the street. There are experienced local adults there who assist the children, knowing of the traffic conditions, and how to best alert drivers of the children. These adults have for years, been taking care of the children, and drivers without incident. The government decides to widen the road to double lanes to assist with business growth further down the road. They now decide the adults need to move to a crosswalk that has been painted at the site recommended by a consultant whose concern was drainage during rain. All crossings are now required at that crosswalk. The adults who have for years been assisting the crossing realize the new rule is bad, but aren't being valued. The problem with the new site is it's drainage effective because it is on a slope. That slope is on the down side of the crest of the hill that obstructs a view of the crosswalk for vehicles coming over the hill. Although there are speed limit signs, and a crosswalk sign, the adults know if a single vehicle fails to heed those signs, the children in the crosswalk are in danger. That is what these Proposed Rules emulate. An effort to address a situation poorly executed (uncontrolled issuance of permits), by seeking rules that don't value the present excellent knowledge and ability of those doing the Manta Tours at Kaukalaelae.

Mahalo,

Derrick 'Iko' Balanga
Anelakai LLC

Dear Mr. Ballanga,

Thank you for reaching out to us regarding your concerns for the West Hawaii Ocean Recreation Management Area rule changes. We appreciate your tenacity to get a response, and respectfully apologize for the delay. As you are aware, we are currently in the midst of public meetings and field assessments that have taken up most of our team's attention. Your comments are appreciated and needed to craft this program. Below, we will address your primary concerns in turn.

"Live-boating" is defined as maintaining a mobile motorized vessel without attaching to a mooring, so a non-motorized vessel, such as your canoe, will not fall under this rule. However, vessels will be asked to

stay out of the campfire viewing area as hard vessel hulls can cause blunt-force injuries to swimmers. While we agree that one can conduct a non-motorized craft safely and carefully in an area, we cannot expect this of everyone and need to prioritize safety. That said, we are considering designating a mooring nearest to the campfire for non-motorized vessels only. As only non-motorized vessels will be allowed to use it, the mooring will also be exempt from the prohibition on rafting or "daisy-chaining".

In regards to your concern about subsurface lighting, we are attempting again to maximize viewer enjoyment while maintaining safety. By attracting mantas to boats, subsurface lighting encourages swimmers to approach and stay in the vicinity of boat hulls that can be an impact hazard to swimmers at the surface. Furthermore, subsurface lighting contributes to the site fractionation that is one of the leading causes of user conflict at the manta sites currently. Finally, and after reviewing footage of mantas at the site, subsurface hull lighting appears to be a contributing factor to impact injuries on the mantas, especially when they contact propellers, skegs, etc. Therefore, subsurface lighting is not allowable at the sites in the future, and no exemption will be granted to non-motorizes vs. motorized vessels.

All vessels operating at night are required to have navigation lights as outlined by both DOBOR administrative rules and USCG regulations. Rule 25D of the Navigation Center by the US Coast Guard states that a vessel under oars may exhibit the lighting required by sailing vessels, however if not, you must have "ready at hand an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision." The rule change would take this a step further and require a 360º white light that does not need to be so bright as to reflect on the water and impair viewing, but should function to improve overall visibility of the vessel and its occupants. This is an active area full of ocean users at night and proper illumination is expected of all vessels.

For the proposed ORMA boundaries, this concept is enforced in many areas throughout Hawaii including other ORMAs, MLCDs, and Sanctuaries. The manta viewing areas will be defined similarly and enforced with a combination of DOCARE and contracted and/or volunteer observers. The intent of these boundaries is not to enforce them to the exact line, but to provide a reasonable and enforceable area around which certain rules and conduct are to be observed. Furthermore, restrictions during manta viewing hours (4pm-4am nightly) will exclude pole, net, spear, or any variation thereof to engage in fishing in order to ensure the safety of persons and the protection of property as related to the use of the waters within the established manta viewing zones.

Finally, regarding permits, DOBOR would initially issue permits to those already holding them who can document continuous manta tours since before June 215. Our aim is to limit the number of permitted operators to 30, and seek to arrive at this lower number through attrition. If the number drops below 24, DOBOR would consider permitting new operations on a case-by-case basis, but not in excess of thirty total permittees at any one site. Additionally, there would be 13 DMBs at either site and we would work with the community to facilitate a low-conflict scenario such as coordination among permit holders to reduce the chance of bringing a full boatload of passengers to a site where there are no available moorings.

In the meetings ahead, we will need to resolve this as a community with the safety and the resource's best interest in mind. We're encouraged to read about the endorsements from members of the community for your operation, and we do not intend to force out your low-impact service. We hope the same cooperation and purpose that inspired your client can motivate the community at Kaukalaelae to agree upon a code of conduct that is fair, feasible, and respectful to the users and the resource.

This process requires interaction and dialogue between the program development team and stakeholders, and we are grateful for the time you've taken to craft your correspondence with us. Mr. Milisen is currently conducting buoy surveys and community meetings, and his lack of communication is not intended to neglect or isolate any one member of the community. He has been instrumental in crafting this program and this response, and we hope you can connect with him directly in the future as he is the point-of-contact on this matter. Any further concerns or questions you have, you may direct to the entire team directly at this email, but we encourage you to give Mr. Milisen a call as needed.

Thank you again for your time and your contributions

Dant, Mendy. 10/19/17

Key Points: overcrowding, enforcement, permit holders hierarchy, campfire in Keahou

From: Mendy Dant [Sent: Thursday, October 19, 2017 7:14 AM
To: DLNR.BD.DMB <dlnr.bd.dmb@hawaii.gov>
Cc: Underwood, Ed R <ed.r.underwood@hawaii.gov>
Subject: Manta Sites Proposal Comments

Aloha,

Thank you for the opportunity to respond to the current proposal.

First and foremost , our concern is the number of permits, 51 compared to the number of 13 moorings available at the two locations equaling 26 with no anchoring or live boating permitted. That leaves us with the possibility of having a boat full of paying passengers and no place to hook up. I argue, this is worse than the current situation, which is bad.

In my earlier comments I have stated 2013 was the beginning of our meetings to try to control the vessels going to the Manta sights. The problems were documented by DLNR Nancy Murphy and USCG LT. Bill Taylor, and In my opinion the plan of 51 vessels permitted by proving one charter a week since June 2015 being enough to get a permit because DLNR does not want to "put anyone out of business" is problematic. A business is not made by one charter a week. A permittee should need to prove 3 minimum manta charters each week to be an actual business. If businesses did run one cruise a week in 2015 or even since 2013, then give them fewer nights to run and a later time in the evening, since there are not enough moorings for everyone you have listed. Have full time mooring permits, 7 nights at sunset for those that can prove business prior to the "2013" year. The part-time proving doing business after 2013 could be 3 nights weekly at the later time starting 2.5 hours after sunset.

Secondly, The current situation in Keauhou is that the majority of the vessels are live boating. Moving around swimmers in the dark, a dangerous situation. So, with no live boating but not enough moorings, and no anchoring how do the planners think this can work? I am curious to know how many permittees are being approved for the Keauhou location with 13 moorings?

Based on the $100.00 monthly fee from 51 permittees, will this afford DOCARE coverage to successfully enforce these new rules of operation? If a company is making 40,000 a month... 1% would be 400.00. If we need more income in order to hire and fund our enforcement needs... set this from the beginning, don't try to do this after the fact and then people can cry about it. This can also be a deterrent to companies that are not legit. We need to hold all of these companies to the highest standards and insist on professionalism. The Day Use moorings need repair, added enforcement costs can be proven.

Lastly, In Keauhou we do not use a campfire. Everyone has their own floats with lights attached, the current moves the plankton so, no one knows where the mantas will actually be moving in order to get to their food source. Having these floats to be mobile allows a better chance for viewing.

Thank you for this work being continued and the management plans moving forward. I hope you consider these comments, ignore the winers and go forward with high standards and high expectations and with realistic Rule Changes that can work over time.

Mendy Dant

--
Mendy Dant
Executive Vice President
Fair Wind Cruises
Kona Sunrise Charters
78-6775 Box A Makenawai St
Kailua Kona, Hi 96740
www.fair-wind.com

Cruising the beautiful Kona Coast since 1971
Exploring, snorkeling in Kealakekua Bay and along the South Kona Coast

---

Dear Ms. Dant,

Thank you for taking the time to craft a thorough and well-reasoned response to the proposed rule changes. Below, we have addressed your comments one at a time:

Given that there are currently more than 30 companies conducting manta tours at either of the two sites, we would address overcrowding through attrition and once the number of companies has dropped to a manageable number, DOBOR would consider issuing new permits but not in excess of 30 total permits for a single site. Companies that are unwilling to comply with the rule changes would not have their permits renewed.

The concern from the customer satisfaction standpoint is certainly valid, and it will require some coordination among permit-holders. On busy nights, new moorings will free up to waiting vessels as companies leave. With a 2.5 hour time limit on a mooring (we are considering less time for Keauhou moorings), it should be possible to coordinate with the other companies. As the process moves forward, we will hold meetings with the north and south communities to help iron out these issues.

As you noted, added enforcement is crucial to the success of this program. We are evaluating enforcement options with the DOCARE Chief now, and have received word from the division that DOCARE is piloting its marine patrols units and also developing a new DOCARE academy to increase the number of trained potential officers. Additionally, we are also looking into an observer program, per the recommendations from our public meetings. This would provide coverage at the sites for at least 70% of the year. We are also talking with DOCARE to develop a convenient and accessible reporting tool for smartphones to alert officers and/or DOBOR of any violations. We will take your concerns, which are echoed by a large part of the community, and reassess the budget breakdown. Specifically, to your concern about 1% being an inadequate amount to pay for needed enforcement, this percentage option was proposed for the Day Mooring Buoy Permit fee, which would be separate from the Manta Permit. It is our understanding, similar to your own, that should a company elect to offer manta tours, it must have sufficient business to pay for access. We would not extend the 1% option for the Manta Permit.

Finally, your concerns about the campfire at Keauhou have been echoed by others and we are compiling comments on this topic. Our intent is to centralize manta viewing activities to reduce user conflict at the sites and to improve safety. Fractionation leads to a decreased experience for some and makes the location of swimmers less predictable to vessels. There have been other comments on the need to keep snorkelers mobile, so we will give this point careful consideration going forward and welcome further input from the community.

In the months ahead, we will continue to meet with operators and members of the public to shape this program. Our team will draft the rule change with all comments integrated into the evaluation, and we will do our best to address each concern. We anticipate that this program will be ready for public hearings in Fall 2018, and we hope to have a satisfactory program in operation by 2019.

If you have any additional questions, please do not hesitate to write to us. Thank you again for your considerate and thoughtful comments,

---

Kate Mink, 10/1/17

From: kate mink []
Sent: Sunday, October 1, 2017 9:36 AM
To: DLNR.BD.DMB < >
Subject:

I understand that DOBOR now wants to charge commercial operators $150 a month for day use mooring upkeep.

i oppose this.

I'm not a commercial operator or involved with such a business in any way except as an occasional client. I live here.

I know that boat and dive tours make a great contribution to our economy AND to teaching people about our environment, and to respect it. They operate on a slim margin, and I think they'll be hurt by the additional fee - also, I don't think it will lead to much benefit.

Thanks for listening
kate mink

Dear Ms. Mink,

Thank you for taking the time to answer our call for public comment. Though you don't identify as a commercial operator, you're absolutely right that our economies are linked and so is our quality of life in this shared community.

The estimated $150/month fee will seem high to some, and very low to others. We've had feedback from operators on Oahu and Kauai so far that this fee represents a lower cost than operators are currently spending to maintain and install the moorings they use on their own, which many other operators use cooperatively. The state proposes to assist this cost-sharing and ensure a more equitable distribution between commercial operators benefiting from access to safe moorings. To ensure that no business is unduly strained by these fees, we would provide an option to pay the lesser of a monthly fee or ~2% Gross Annual Income. This means the total amount paid by any business that uses moorings would be no more than 2% their gross annual income, and as little as 0.05%.

In regards to your other concern about our environment, stewardship and conservation are our primary purpose. The mooring program would require users to tie up to an installed mooring rather than drop anchor, which often happens directly on top of Hawaii's fragile coral reefs. We and countless others have documented this problem, and we hope that with a state-mandated mooring buoy program we can demonstrate that addressing this is a top priority for our state

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2017 Phone Call Interviews

Jeff Milisen, Hawai'i Coral Reef Initiative

USCG Lt. Kaaua 4/11/17

Date: 4/11/17
Time: 10:17
Company Name: USCG
Individual: Intended for Josh Williams, but he was transferred out. Got Lt. Kaaua
Required to keep passenger manifest (paper copy on board for each trip)-retention time not specified in USCG rules.
Passengers, operation purpose, date. 46-cfr185.504. Required for COI vessels
Vessel logs-fire drills, abandon ship drills quarterly, epirb test monthly.
6-packs-UPV requirements governed by USCG-Google uninspected passenger vessel requirements-records, documentation, licensed mariner onboard.

Byron Kay 4/19/17

Time: 15:29
Company Name: Kona Honu Divers
Individual: Byron Kay
What boats do you own? Honu One (46')
What corporations are you associated with? Kona Honu Divers, Inc.
How many days do you run per week? 7
When did you start doing manta tours regularly? 2002
How far back do your records go? Captain's Logs to 2002, manifests to 7 years ago, sales receipts to 7 years ago
Where do you prefer to go? north

Comments:
-For the most part, it is a good idea to limit and enforce rules
-Potential for us to be curtailed in business operations, even though we have operating with good conduct
-we helped establish the industry as it sits today, so it wouldn't be fair to kick us out of an industry that we have helped spearhead
-do a filter system, do they abide by standards? How long have they been operating?

Katie Key 4/20/17

Time: 11:41
Company Name: Kona Diving
Individual: Katie Key
What boats do you own? Hale Kai (34), other boat not for manta, Force (25)
What corporations are you associated with? Hawaii Sailing Company, Pacific Watersports LLC (no manta plans for Pacific Watersports)
How many days do you run per week? 7
When did you start doing manta tours regularly? 2004
How far back do your records go? Manifests back to 2010, maybe earlier, sales

receipts to 2011,
Where do you prefer to go? North

Comments:
-Sharing moorings makes sense, early/late shift

Rob Hemsher: 4/25/17

Time: 8:02
Company Name: Ocean Eco Tours
Individual: Rob Hemsher
What boats do you own? Ama Rave (25'), Tiara (25')
What corporations are you associated with? Ocean Eco Tours, Captain Steve's Ocean Adventures
How many days do you run per week? 5-ish
When did you start doing manta tours regularly? Ocean Eco Tours-1996,
How far back do your records go? Profit and loss from the first dollar, booking sheets
Where do you prefer to go? North

Comments:
-The north site is a big problem
-What is suffering is the reef, not as bad north
-Any operator in good standing is doing manta dives
-I want a choice between sites, we should be allowed to use both spots
-We need someone on our side that will support our industry
-Our revenue for the state is generated by tourism-money drives education and enforcement, don't keep shutting it down!
-Why don't we have visitor fishing licenses is absurd
-Why don't people buy a coin for admittance to national parks
-Wants to help lobby for the cause

My Kona Adventures, LLC

Aloha,

My name is Nick Yanagi and I have a DLNR-DOBOR commercial permit that operates out of the Keauhou Ramp area. We are a Hawaiian based business that employs local people, and have been conducting manta tours for the past (3) years. We have a great rapport with customers and are a top (2) business on Trip Advisor. We work well with the other permit holders at Keauhou and have never been accused or spoken to about harrassment of the manta's at Keauhou. I have seen what there is to see at the Keauhou site, and have never traveled to the Garden Eel Cove site since Keauhou is the main base for operations. Manta viewing is the primary base of my commercial operation as I usually run several trips a night, and would like for my business to be included on this list. I also have another DLNR-DOBOR Commercial Permit for the Kailua ramp that I sometimes utilize using the "special charter"

rule at Keauhou but always informs DOBOR of my intentions regardless. I feel that my being at the site so often is a huge asset to DOBOR and can help you in any way. Please give me a call if you need any information or have any questions.

Mahalo,

Nick Yanagi
Owner/Operator – My Kona Adventures, LLC

My Kona Adventures 4/20/17

Time: 12:34
Company Name: My Kona Adventures
Individual: Nick Yanagi
What boats do you own? Myka 1 and 2, (both 25'), third boat in negotiation, will be 34'
What corporations are you associated with? My Kona Adventures LLC
How many days do you run per week? 7
When did you start doing manta tours regularly? 2014
How far back do your records go? Fareharbor, sales receipts, manifests
Where do you prefer to go? South

Comments:
-Not contacted about the meeting
-If I got 3 night permit, I may as well shut my doors
-2 shifts per night is okay by us, we do a late shift anyway
-North boats may as well take early shift, since they come down at 4-5 pm anyway
-Fewer mantas when site is clogged with lots of boats

John Swanson April 6, 2017

From: John Swanson < >
Subject: Fwd: Comments on Proposed Manta Rules
Date: April 6, 2017 9:40:32 AM HST
To: "milisen---------- Forwarded message ---------
From: John Swanson
Date: Wed, Oct 26, 2016 at 7:13 AM
Subject: Comments on Proposed Manta Rules
To: <dlnr.harreview@hawaii.gov>
Cc: Underwood, Ed R <ed.r.underwood@hawaii.gov>
Aloha,
My name is John Swanson, VP of Big Island Divers on the Island of Hawaii. Thank you for taking the time to review our stance on the proposed manta rules.

As one of the first operators to provide guided tours for guests to experience the Manta Rays in 1996, we have long been an advocate of these magnificent marine animals and allowing guests of the Island take part.

At Big Island Divers we are built around two things; safety and the guest experience. It's no surprise that we helped write and institute the Manta Tour Operator Standards within the community as it became very apparent the waters had become more crowded and would seemingly continue to do so.

It is by and through these standards that the community, and in particular Big Island Divers, has maintained an excellent safety record when considering the exposure.

Our staff is thoroughly educated on these standards as part of our new-employee onboarding process. We go to great lengths, often associated with great costs in materials and labor, to ensure that our staff has the highest quality boating and in-water safety training. This training equips them with the tools and knowledge to be proactive on our vessels and with our customers as well as awareness of other operators and their guests.

Coupled with our commitment to guest experience, it's apparent why Big Island Divers is rated the #1 Tour Operator, regardless of type of tour - whether land, sea or air, in all of Hawaii.

While we maintain an impeccable safety record, we are not blind to the situation. In general, regulation to some extent would enhance the guest experience. Because we are committed to providing the best guest experience possible, we frequent both Sheraton Keauhou Shore Waters and Makako Bay throughout the year depending on the pattern and feeding habits of the Manta Rays. Our primary location of choice, however, is Makako Bay.

Given the mooring field options provided, Option 1 would be our choice. Although in the "Introduction of Proposed Administrative Rules", Option 1 is noted in the text (pg 11) as offering 12 commercial and 1 recreation mooring, but only 11 are pictured (pg 15).

Furthermore, we support a fee based on vessel size, given the options and proposed mooring field layout and anchoring rules.

Lastly, and most importantly, we believe the qualifying operators list (per 'Appendix C - Draft List of Commercial Operators as of June 2015', amended version) should take into consideration the number of permits associated with the operator.

While the majority of operators have a single permit or only use a single permit to provide the Manta Ray experience for their guests, we have five (5) that are actively used.

Night in and night out, we have more vessels in the water than any other operator, and as such, would see the biggest impact from these proposed rules.

Are OUR sizable investments made not taken into consideration, just as DLNR-BOR would like their sizable investments for the new mooring fields to be taken into consideration?

Is our commitment to safety and proven track record not taken into consideration, again - especially given the exposure we incur on a nightly basis with the number of 'Big Island Divers' stamped vessels in the waters?

Is our longevity with this specific type of tour with multiple vessels not taken into consideration?

Here is a breakdown of what our operations have provided for the State of Hawaii and DLNR-BOR since we began operating these tours in 1996. These figures ONLY represent Manta specific tours and do NOT include any of our other offerings;

- Horizons Pacific, Inc
    - Moana Olapa (35' vessel)
        - 15,900 Guests
        - $1,853,000 Gross Revenue
        - $74,000 paid to State of Hawaii (GET)
        - $55,500 paid to DLNR-BOR (3%)
    - Moana Luu (29' vessel)

        - 1,300 Guests
        - $1,041,000 Gross Revenue
        - $41,600 paid to Sate of Hawaii (GET)
        - $31,200 paid to DLNR-BOR (3%)
- Honu Iki, Inc
    - Honu Iki (36' vessel)
        - 22,600 Guests
        - $2,636,000 Gross Revenue
        - $105,500 paid to Sate of Hawaii (GET)
        - $79,000 paid to DLNR-BOR (3%)
- Pueo Bay, LLC
    - Naia (27' vessel)
        - 1,300 Guests
        - $152,000 Gross Revenue
        - $6,000 paid to Sate of Hawaii (GET)
        - $4,500 paid to DLNR-BOR (3%)
- Snuba Big Island, Inc
    - Kahanuola (36' vessel)
        - 2,900 Guests
        - $340,500 Gross Revenue
        - $13,600 paid to Sate of Hawaii (GET)
        - $10,200 paid to DLNR-BOR (3%)

In total, Big Island Divers has taken nearly 52,000 guests on guided Manta Ray tours

Big Island Divers has generated nearly $250,000 for the State of Hawaii in General Excise Tax

Big Island Divers has generated over $180,000 for DLNR-BOR

In 2016, we are on pace for gross revenues of $1,900,000 for Manta Ray tours alone...generating $76,000 for the State of Hawaii and $57,000 for DLNR-BOR

If our numbers stay flat for the remainder of this decade thru 2019, our totals generated for the State and DLNR-BOR would balloon to $511,000 and $375,000, respectively...a 106% increase over the next 3 years.

We're a business that has always played by the rules and done things the right way...safety, COI, boating laws and most significantly, reporting actual gross receipts and paying on time and in full.

We're one of the good guys and, as illustrated above, generate $130k+ annually for State/DOBOR in Manta tours alone and $315k+ in total. This number will only grow as customer demand continues to climb and supply of operators and seats available are significantly reduced, allowing a higher price per customer to be collected.

We've been in business since July 1984...over 32 years...and we're not going anywhere. We will continue to do things the right way and you can continue to count on our gross receipts when budget planning. We're thankful for the opportunities over those 32 years to provide guests such a wonderful experience and hope to continue to do so for years to come in the same capacity and with the same integrity we have always operated.

I appreciate your time and strongly urge these items be taken into consideration, and the total value of past, present and future contributions Big Island Divers brings to the table - with safety, abiding by applicable rules and regulations, and significant monetary generation - when determining how and to whom the finite moorings will be awarded.

Sincerely,
JOHN SWANSON
GENERAL MANAGER

BIG ISLAND DIVERS / BIG ISLAND WATERSPORTS
--

John Swanson: 4/6/17

Time: 9:30
Company Name: Big Island Divers
Individual: John Swanson
What corporations are you associated with? Horizons Pacific Inc., Divers Supply of Kona, Honu Iki Inc., Snuba Big Island Inc., Pueo Bay LLC
LOA: 35' Force (Olapa), 29' Force (Moana Lupu), 36' Newton, 36' Lightning (Radon), 26' Willard (RIB)
Days per week: 7 nights/week
Where do you prefer to go? Makako Bay
Comments: Will this be broken up by operating name or by corporation.
-Jack's and BID have invested heavily in acquiring corporations, staffing, and boats.
-Can see Maria's thought process shifting regarding the 6 days/wk agenda-agree that 6 days/week is a bad idea. Having a day with only rec boaters at the site will lead to increased bad manta interactions and more unsafe boating operations.
-We run 5 boats 7 days every week. Reducing the number of boats and taking away Sundays would be detrimental. 1200 customers in March 2017 alone. Hate to see such a successful operator reduced to operate on course with a 6-pack.
-In response to "what if operators could swap moorings"-with each ramp permit, DOBOR allows us to launch vessels 21 times/year at another ramp. Should utilize recreational boating software to help organize mooring swaps.

Claudia Merill, April 03, 2017

From: Claudia Merill [Sent: Monday, April 03, 2017 12:26 PM
To: Nahale, William K <william.k.nahale@hawaii.gov>; Gaydos, Maria R <maria.r.gaydos@hawaii.gov>; Mersburgh, Daniel K <daniel.k.mersburgh@hawaii.gov>
Subject: Manta meeting saturday

Aloha William, Dan, & Maria,
I'm checking to see why we were not included in the manta ray meeting on saturday night? It was very disappointing to hear about it through friends and our local paper after the fact. I also spoke with a few other operators that run manta tours that new nothing about the meeting until today.
I had submitted all the paperwork for Dolphin Discoveries with the requested letters/ signatures etc. and our company has been in business here for 20 years now, much longer than most.
Please confirm that we are still on the list for a manta viewing permit out of Keauhou Bay and please make sure we are included in future
discussions.
Mahalo,
Claudia

Claudia Merill VP
Dolphin Discoveries

Claudia Merill: 4/17/17

Time: 16:01
Company Name:
Individual: Claudia Merill
What boats do you own? 4 boats, naia nui (28'), whalesong (29'), kaimana (25'),
hoku kai (26')
What corporations are you associated with? Merrill Inc., Hoku Kai LLC
How many days do you run per week? Used to run them 3-4 days/week, then 4-5 years ago slowed down to 1-2 days/week when permits went crazy
When did you start doing manta tours regularly? 1997, slowed way down in 2012
How far back do your records go? Would have to go back through the records and check. We may not have very good records.
Where do you prefer to go? Keauhou
Comments:
-Consider the longevity of the operators that run out of Keauhou
-We want to beef up manta tours because dolphin swims are under threat
-The placement and number of moorings is important, west swells can cancel tours uneededly
-How many Keauhou contracts?
-Why are more permits being handed out??
-Grandfather in old operators, newbies should not get choice

Bambi Worst April 6, 2017

From: Bambi Worst Subject: Fwd:
Date: April 6, 2017 9:22:44 AM HST
To: Maria.R.Gaydos@hawaii.gov, Stephen.c.Schmeltz@hawaii.gov, , William Nahale <William.K.Nahale@hawaii.gov>

Hi Maria et al,
After the Big Island Manta Operators' meeting last Sat. 4/1, I came up to you after the meeting to advise you that my name was not on the AppendixC - List of Commercial Operators as of June 2015, as it should have been. My company Kalena Nai'a LLC (dab Kona Ocean Experience has had a Keauhou Ramp Permit for over 10 years, and I have operated manta tours since beginning of 2015. I gave you my contact information and as you were in a hurry to catch your early flight back to Honolulu, so you referred me to speak with and leave my info with Jeff Milisen. I did that and then also followed up calling Jeff on 4/4, when I talked with him at length about my company's name "inadvertently" not appearing on the list. Jeff and I also talked about some of the commercial manta operator issues discussed at the 4/1 meeting, including the lack of communication with ALL of the DLNR commercial ramp permittees operating manta viewing tours.

I'd like to receive assurance in writing that my company's name will be added immediately to the Appendix C-List of Commercial Operators (as of June 2015) for Manta Viewing Permits specifically for a mooring ball at Keauhou Bay (Kaukalaelae Point). As you will see in the attached letter that I sent to DLNR agent, William Nahale, last Fall, I submitted the requested documents for being put on that "official" manta operators' list for a Keauhou mooring ball. It is also very well documented in my DLNR Commercial Use Questionnaire which I have submitted as part of my Commercial Keauhou Ramp Permittee Renewal Application in April of 2015, 2016 & 2017, that I have been operating manta tours since shortly after I became manager of Kalena Nai'a LLC on Dec. 31, 2014. Should you need any further proof that I have justification for being included on the Commercial Operators' Manta Viewing Permits List, please feel free to contact me so that I can provide whatever info you need to rectify this situation.

Mahalo for your prompt assistance with resolving this issue.
Melissa Bambi Worst
Manager - Kalena Nai'a LLC

DBA Kona Ocean Experience

---------- Forwarded message ----------
From: Bambi Worst
Date: Fri, Oct 14, 2016 at 3:33 PM
Subject: Re:
To: "Nahale, William K" <william.k.nahale@hawaii.gov>

Hi William,

Happy Aloha Friday! As you know, I was away for a month and somehow the email you sent on Oct 4th got "lost", so when I saw Nick at the ramp this morning he told me about it all, I scrambled to locate your email. As you mentioned, you have a list of those companies operating mantas out of Keauhou and from my permit papers, and you know that I am one of them, so I'm pretty sure you already have Kalena Nai'a LLC (DBA Kona Ocean Experience) on your list. None-the less, here is the info you requested:

- Company Name: Kalena Nai'a LLC DBA Kona Ocean Experience
- Vessel Name(s): 1) Lei Plana & 2) Horizon
- Contact Information (Name, Address, Telephone Number, and email):

Melissa Bambi Worst

- Proof of Commercial Permit for State Ocean Waters from DOBOR:
1) Lei Plana - Permit #:CR024136 Account #:00006049
2) Horizon - Permit #: CR024137 Account #: 0006055

- Justification for being included on the list: I am one of the handful of Keauhou Bay Commercial Ramp Permit holders operating manta tours ONLY from Keauhou Bay. I have taken the Manta Naturalist Course (w/Wendy Laros at Jack's Diving Locker), and I work in cooperation with the small handful of legitimate Keauhou commercial
operators who conduct manta tours there on a regular basis.

- How long you have been conducting manta tours: 1 yr & 8 months (Since Feb. 2015 when I became manager of Kalena Nai'a LLC (DBA Kona Ocean
Experience).

- How often you conduct manta tours (weekly, daily, monthly, etc.): Average 4-5 weekly

- 2 separate witness statements from other operators on the list of manta tour operators
(with witness name and contact number).
1) Iko & Holly Balanga - Anelakai - Ph#
2) LeeAnn Leslie (& Jonathan Droge) -Hawaii Island & Ocean Tours -
* Please note: As I was away on vacation for a month and somehow did not receive the email pertaining to the Keauhou mooring request deadline (today-10/14/16), I'd like to request an extension for submitting the one "missing" witness statements from the two Keauhou Bay operators listed above. Attached is the statement from Iko Balanga nd LeeAnn Leslie has confirmed that they'll send their written statements to me, which I will forward when I receive it. Please let me know if there is any other information you're needing with regard to this matter, or any other for that matter!

Mahalo for your understanding, Bambi

Melissa Bambi Worst
Manager
Kalena Nai'a LLC
DBA Kona Ocean Experience

> On Tue, Oct 4, 2016 at 2:21 PM, Nahale, William K <william.k.nahale@hawaii.gov> wrote:

Aloha all,

If you do conduct Manta tours, and have been operating doing those tours since June of 2015, and also would like to have a permit for a mooring outside of Keauhou, please do the following below. Be assured I have compiled a list of vendors of who I know conduct Manta tours already, but to make sure you are on the next list if you are not currently, please do the following. This also needs to be in before October 14th. If you have any questions, feel free to give me a call on my cell phone. Kayak vendors will not need to do the below as this will basically be for mooring during Manta's with powered vessels only. Mahalo!!

If you believe you belong on the list of operators eligible to apply for a permit and are not included, please contact DOBOR (per the above instructions) on or before October 14, 2016 with the following information:
-Company Name
-Vessel Name
-Contact Information (Name, Address, Telephone Number, and email)
-Proof of Commercial Permit for State Ocean Waters from DOBOR
-Justification for being included on the list
-How long you have been conducting manta tours
-How often you conduct manta tours (weekly, daily, monthly, etc.)
-2 separate witness statements from other operators on the list of manta tour operators (with witness name and contact number).

Link to the Introduction to proposed administrative rules (Manta Viewing);
https://dlnr.hawaii.gov/dobor/files/2013/08/MantaDiveSitesManagementPlan-9.9.16.pdf

ALOHA FOR NOW,

William K. Nahale
Harbor Agent III - Kailua/Keauhou

--
Aloha, Melissa Bambi Worst
Owner/Manager - Kalena Nai'a LLC
DBA Kona Ocean Experience

Anelakai LLC

October 6, 2016

To Whom It May Concern,

We share the Keauhou Boat Ramp with Kalena Nai'a LLC DMB Kona Ocean Experience and have seen them operating their Night Manta Tours on a regular basis since March 2015. We work cooperatively together and have both completed the Manta Naturalist Course offered through Jack's Diving Locker.

Please let me know if you have any questions or concerns.

Mahalo,

Derrick Balanga
Owner of Anelakai LLC

Kona Ocean Experience 4/6/17

From: "info / Kona Ocean Experience" <
Subject: Re: Manta informational meeting followup
Date: April 6, 2017 12:32:07 PM HST
To: Jeffrey Milisen

Hi Jeff,
It was genuinely nice to have the opportunity to talk with you the other day, when I called to remind you (and thus, Maria, who instructed manta operators to contact you), that my company Kalena Nai'a LLC dba Kona Ocean Experience had been omitted from the Appendix C Commercial Manta Operators (since June 2015) List for a Manta Viewing Permit and mooring ball at Keauhou. And as you know from my email this morning, I sent a more formal request to have Kalena Nai'a LLC added to rectify the situation.

Again, it was refreshing to talk to someone who actually seems to listen (and respond thoughtfully. I look forward to "talking story" with you again.

Aloha, Bambi

Melissa Bambi Worst
Manager - Kalena Nai'a LLC

Kona Ocean Experience
www.konaoceanx.com

> On Tue, Apr 4, 2017 at 10:25 AM, Jeffrey Milisen <> wrote:
>
> Hi Bambi-
> We just spoke over the phone about some issues regarding the Keahou manta site, the new management plan, and the eligibility of your company to receive a permit. I will check with Honolulu in the next day or two and get back to you. Please understand that I have a lot of people to follow up with, so this may take some time. Thanks for reaching out.
>
> Jeff Milisen
> Coral Habitat Monitoring Coordinator
> University of Hawaii SSRI

Melissa Bambi Worst 4/11/17

Time: 14:35
Company Name: Kona Ocean Experience
Individual: Melissa Bambi Worst
What boats do you own? 2 boats, both are 24' Willard (Navy Issue 180 Cummins)
"Horizon" and "Harmony" (formerly Le Plana)
What corporations are you associated with? Kalena Naia LLC
How many days do you run per week? 4-5/week
When did you start doing manta dives? February 2015
Where do you prefer to go? Keahou

Comments:

-Everyone will need to make adjustments for the safety of our oceans
-Look at the application process for DOBOR-there is a commercial usage questionnaire. There is a form that you will not transfer more than 10% on you will incur a transfer fee.
-Should produce time stamped things to show who did what when
-Seaquest bought in at the same time, bought a well developed company
-Former Kona Ocean Experience owner did a lot in cash and off the books
-Keauhou operators community are a tight knit group that is very ocean-centric
-Get the DLNR to look at alternatives to DOCARE
-"The Office" is breaking the swim lane rules to chase dolphins

Splasher's Ocean Adventures: 4/26/17

Time: 14:10
Company Name: Splasher's Ocean Adventures
Individual: Mike Trafkstone
What boats do you own? Orca (27')
What corporations are you associated with? Splasher's
How many days do you run per week? 7, 2 per night
When did you start doing manta tours regularly? 6 years
How far back do your records go? Manifests, sales receipts
Where do you prefer to go? GEC

Coral Reef Snorkel Adventures: 4/24/17

Time: 9:54
Company Name: Coral Reef Snorkel Adventures
Individual: Ron Giddens
What boats do you own? Makua (Davis 27') 6-pack
What corporations are you associated with? Owhyee Services
How many days do you run per week? 7 days/week, twice per day
When did you start doing manta tours regularly? 2004
How far back do your records go? Manifests, vessel logs
Where do you prefer to go? North

Comments:
The problem with the north site is it can go 2 weeks at a time without a manta
Plan doesn't consider bad weather, slow tourism, lacking mantas
Manta operators got together in 2012 and knew they needed to do something
Go back to this time frame and weed out those who didn't follow the rules
Notes from early meetings maybe held by Martina
Reduction to 6 days per week is disturbing-we need 7 days just to stay afloat-3 nights/week are absolutely not doable!
Could lose $75 per year
We refunded $28k last year for cancelled charters
If you open it up to recreational only on Sundays, no one will regulate the activity
Lots of residents just don't care, they dive down and touch the mantas
When lots of operators are out there, at least the rec guys are outnumbered

The proposed moorings are quite a long ways from the theater
The inshore moorings look too close to shore to be usable

Bo Pardau: 5/4/17

Time: 10:36
Company Name:
Individual: Bo Pardau
What boats do you own/are associated with? Tanks a lot, Kona Honu, KOA, Coral Reef, any other
How many days would you run per week? 1 month
How long have you been familiar with the manta site? 1991

Comments:
-Not assigning moorings is a great idea
-reduced time limit on snorkel tours is a good idea
-no need for day of rest
-Need to manage the activity
-Need people to go to the campfires

Tom Carey: 5/4/17

Time: 13:07
Individual: Tom Carey
What boats do you own/are associated with? Personal boat
How many days would you run per week? 2/year
How long have you been familiar with the manta site? 2003

Comments:
Leaning too much toward commercial operators
1 rec mooring will not be enough
Nobody should be operating Keauhou-Keauhou is destroyed!

Doug Perrine: 5/4/17

Time: 10:59
Individual: Doug Perrine
What boats do you own/are associated with? Personal boat, Tom Carey's boat, Tanks a Lot
How many days would you run per week? Sporadically, but average 1/month
How long have you been familiar with the manta site? Circa 1996

Comments:
-Newer plan sounds good in theory, but in practice, need proof to show someone has not been following rules-need enforcement!
-Need centralization of the activity at the campfire

Ocean Spirit Diving 4/10/17

Time: 14:30
Company Name: Ocean Spirit Diving
Individual: Yumi
What boats do you own? Anelakai (25' Force)
What corporations are you associated with? Ocean Spirit Diving
How many days do you run per week? 2-3 nights/week
Where do you prefer to go? North (scuba/snorkel)

Comments:
-not on the email list-fixed!
-Sent pdf of management plan. Yumi will follow up with questions and comments.

Geoff Hand 4/5/17

From: GEOFF HAND < >
Subject: Re: Manta Ray Moorings Permit
Date: April 5, 2017 1:43:25 PM HST
To: Jeffrey Milisen

Thanks for getting back to me. I'm standing by.

> On Apr 5, 2017 11:00 AM, "Jeffrey Milisen" <> wrote:
> Hi Geoff
> Thanks for getting in contact. I have yet to confer with Maria. I will be in touch as soon as possible.
> Jeff
>
> > On Apr 3, 2017, at 10:27 PM, GEOFF HAND wrote:
> > I noticed in the recent handout you distributed, Draft Site Management Plan Update in Appendix C, list of commercial operators, at the meeting on April 1 at the civic center, that my company Adventures in Paradise Inc. Is not listed as one of the manta ray mooring permittees.
> >
> > My DOBOR ramp permit for Keauhou Bay lists manta rays snorkeling as one of my activities, I was invited to all the manta ray operator meetings by DOBOR staff, and I completed the DOBOR application to receive the manta ray permit. Yet I am not listed. At the meeting you mentioned that this process would be fair to all companies and am concerned that I have not received word from Jeff Milisen or DOBOR staff regarding inclusion in the permit process.
> >
> > Could you please check to see if there has been an error or omission in listing my company for the Kaukalaelae site for a manta ray mooring permit.
> >
> > In anticipation of your consideration, thank you.
> >
> > Geoff Hand
> > Adventures in Paradise Inc.

Geoff Hand 5/3/17

Time: 16:14
Company Name: Geoff Hand
Individual: Adventures in Paradise
What boats do you own? No Name (18)
What corporations are you associated with? Adventures in Paradise Inc
How many days do you run per week? 2
When did you start doing manta tours regularly? 2008-ish
How far back do your records go? Advertisements
Where do you prefer to go? South

Comments:
-Restrict boaters by attrition, not through hard-fisted slashing of companies
-Rafting-some companies have a lot of boats, let them raft!
-Include everyone on the list as of today, then let the companies drop out
-Reduce the time that snorkel tours may tie to the mooring. They might only need 1.5 hours

Lisa Christensen 4/19/17

Time: 16:28
Company Name: Honu Sports
Individual: Lisa Christensen
What boats do you own? Honu Adventure (Force 28)
What corporations are you associated with? Honu Sports LLC
How many days do you run per week? 3
When did you start doing manta tours regularly? 2002
How far back do your records go? Calendars, receipts, manifests
Where do you prefer to go? North, 3 night/week

Comments:
-There should not be one night per week with no supervision
-The more recreational divers, the more at risk our customers are
-What about nights where there no mantas? It really sucks if no mantas show

Pono Lealao: 7/3/17

Time: 15:00
Company Name: Lealao Ocean Adventures
Individual: Pono Lealao
What boats do you own? Hiilani (no more), Lealao (28')
What corporations are you associated with? Lealao
How many days do you run per week? Every other month, will increase to 2-3 per week
When did you start doing manta tours regularly? 2011
How far back do your records go?

Where do you prefer to go? GEC

Comments:
-Keauhou should be for Keauhou boats only

Seth and Jessica Conae: 4/10/17

Time: 15:20
Company Name: Neptune Charlies
Individual: Seth and Jessica Conae
What boats do you own? 26'Newton, 36' RIB
What corporations are you associated with? Hawaii Islands Eco Adventures, Pacific Playground Inc., Hokanson Inc. (used to be Start me Up), used to own White Widow- now dissolved, soon to be Hawaii Diving Tours
How many days do you run per week? 7/week
Where do you prefer to go? North

Comments:
-rubble area at Keauhou could serve divers, but companies have abused the site. Some operators don't care. A few bad apples mean we need to do this.
-Is there a way to phase in the process to try out good and bad ideas?
-Assigning mooring balls is a hard concept to swallow
-assigning someone to the close mooring is biasing the issue. Farther mooring assignments are riskier, and now the state is forcing those companies to take on more risk.
-limiting companies to 3 days per week is unfair-should have the same business opportunities
-Once mooring balls are installed and rules in place, do we need to assign moorings?
-Would like to see moorings work in shifts
-Need more criteria for getting a permit: when did you get your permit, then how often can you prove that you have gone out in that time?, then…
-Jessica: the time slots are probably the best compromise vs. restricting the # of days per week
-What if every company's take turns enforcing?-this will not work
-New rules need to affect businesses equally
-If it cannot be fair across the board, then shut the whole thing down.
-Limiting the number of days/week is not okay-time slots and rotate time slots
-Assigning mooring balls is unfair-Rotate moorings with another company, so nobody gets screwed on the outside mooring balls.
-BID average 2 boats per night

Seth Conae May 25 2017

When you come up with an idea, you still have to think about all of the ways it can go bad and people take advantage of it.
On the right track
12 mooring balls, no assignments, no live-boating, no anchoring
How can we work with the community?

First come first serve will not work-people waiting offshore for 2.5 hours will ruin business. Need 2 site groups and time slots (15 minutes before sunset-1.:15 after sunset, next starts at 1:15 after sunset) or reduce the total time on mooring to 1.5 hours-4 groups!
Can enforce a single time-the switchover time between shift 1 and 2.
30 minutes for briefing and gear up, 1 hour dive, 15 minutes break down.
Rotate early/late shifts every other day
Companies with more boats are getting an unfair deal. But they can just get a bigger boat if they want
If a permit is on a boat, and that boat is in drydock, can the permit be swapped to another vessel in your fleet?

Keller Laros: 5/2/17

Time: 13:47
Company Name: Manta Pacific
Individual: Keller Laros

Comments:
Manta report in blue ledge, electronic, and FB format depending on the era
-population study would be %$^&ing awesome
-Takes data on grievous injuries, identifications, is on board with mark recapture
Martina might have Keauhou site data
Will check with Jan as to how to access old manta data
Wendy and I are going over to Honolulu next week. Should we meet with someone?
Chamber committee on economic development
Need an evaluation of how much money is going through the harbor
Would like to make harbor nicer
How many people run charters?
Commend everyone for the hard work
Talks about sites, not how the tours are actually conducted
Need to develop standards for activity
Safety equipment, crew standards, lights should be away from boat, everyone needs a marker light on them, no freediving
Mandatory education program and license for operators!
Moorings aren't enforced now
Limit number of permits so we can raise the quality of the program
Honokohau operators are not ensuring a quality experience for consumer-too many suppliers
Should be an application process-Just because you have been running charters doesn't mean you should get a permit-ask questions like what have you contributed to the community? What safety equipment do you keep on board? How is your staff trained?
Should be required crew training-dm or lifeguard trained

DOCARE meeting 6/15/17

Time: 13:40
Present: Officer Jerome, Officer Matt, Jeff Milisen, Luna Kekoa, Todd Tashima
Goal: Site visit at Garden Eel Cover and solicit local DOCARE comments on the draft management rules
Discussion:
-Matt looked over the plan and, on first read, had no comments.

-This visit was an observation of the site, so no enforcement actions were pursued of manta operators. The officers were concerned that they did not feel comfortable in the water at night to check anchors. JM offered to help serve as their in-water eyes if they wish to do this again.
Activities:
Deployed TT and LK for an evening in-water site visit. JM led the tour. Points of interest included the two campfires, the sand chute, the mooring arrangement, manta snorkel activity, and observing the guests and dive masters.

Name: Luna Kekoa

Date: 5/2/17
Organization: DOCARE and Makai Watch
Manta rules
This is the rules about manta site
Could get in-water support
Lino is the chief in Kona-Luna will set up a meeting next time he is on Big
Island, we will meet at Keauhou and discuss the site
Ormas need easy-to-identify boundaries
Need to involve DOCARE
Citations are easiest to hand out when it is based off a permit-recommends some sort of lettering or flag showing commercial operators
Extra contracted eyes on the water would not only help enforce, but also keep user data
Regarding comment organization, break the comments into groups, then organize the comments. Prioritize commonly asked questions/comments.

Patrice Heller: 4/25

Time: 13:41
Company Name: Pacific Rim Divers
Individual: Patrice Heller
hat boats do you own? Boundless (Munson 34')
What corporations are you associated with? Pacific Rim Divers
How many days do you run per week? 2
When did you start doing manta tours regularly? 1997-2007, then started again in
2014
How far back do your records go? Quikbooks report
Where do you prefer to go? North

Comments:
-We haven't made our living doing manta night dives, they are just a component of our business, so we would prefer to share a permit. We could become a 7 night/week program if we need to, but we would rather not.
-snorkelers should be required to go to the campfire at GEC

Timothy Driedger: 4/17/17

Time: 15:15
Company Name: Hawaii Experience Iruka
Individual: Timothy Driedger
What boats do you own? Fountain (Hawaii Experiences 38'), Kona Naia (Iruka Hawaii 34'), Marai being built (42')
What corporations are you associated with? Iruka Hawaii, Intrepid inc.,
How many days do you run per week? 7 days/wk. 90% occupancy
When did you start doing manta tours regularly? 11 years
How far back do your records go? GET matching with DOBOR tax. We have quickbooks/accounting firms, reservation systems that go back 3-4-5 years. Sales Data, electronic manifests.
Where do you prefer to go? South

Comments:
Are we able to have these regulations? What is the process for this?
Iruka Hawaii Experiences
Some background-we've been in business on Oahu for 10 years. Iruka means "dolphins"
2013-closed on the business, 2014-2015 lots of permits were released
The number of days that one can operate will be significantly decrease
The most positive thing about that meeting was that Maria mentioned multiple shifts per night
Would like to encourage the opportunity to act as a community
Our priority is customer safety, north has more ocean condition issues
Do mantas and dolphins, educate on them, did 30,000 customers
Wants a closed door owners meeting with representatives from each size class in a room to help hash things out and talk openly

Dan Hill: 4/11/17

Time: 13:50
Company Name: Manta Adventures
Individual: Dan Hill
What boats do you own and confirm LOA? Mahili hili (Seahawk 36')
What corporations are you associated with? Manta Adventures Inc.
How many days do you run per week? 5-7
How long have you been doing these? 2014 (formerly Reel Class)
Where do you prefer to go? North, but open to other options

Comments:
-Very easy to talk to
-I understand where we are going to endup.
-Bill Benbow is other owner/captain
-Stopped manta dives while they were transferring from Reel Class to Mahili hili
-I have a million dollars invested here with lots of headache and paperwork
-daytime family fishing charter (ocean adventure trips)
-I advised that we will need verification that they have been doing manta dives.
Note from Dan's email on 4/5/17: "Manta Adventures permit was issued way back on 01/23/1998 however, they did not start doing manta dives until they got their new vessel on 05/25/16"

DOBOR meeting 6/15/17

Time: 13:40
Present: Stephen Schmelz, Jeff Milisen, Luna Kekoa, Todd Tashima
Goal: To solicit local DOBOR comments on the draft management rules
Discussion:
-Stephen was very concerned with enforcement and encouraged us to use fees to fund a docare position dedicated to the manta site. By requirement, this officer would be responsible for enforcing all DOCARE rules while on duty. Luna mentioned that Maunalua Bay will assign an officer to a specific area, in this case, the manta sites (from orma border to border).
-Stephen also brought up a potential unforeseen hiccup in the Department of Health. Offshore moorings, harbor moorings, and possibly DMBs require regular water samples and an application package that will take many months to pass through DOH.

DAR meeting 6/15/17

Time: 13:40
Present: Dr. Bill Walsh, Laura (last name not recorded), Megan (last name not recorded), Jeff Milisen, Luna Kekoa, Todd Tashima
Goal: To solicit local DAR comments on the draft management rules
Discussion:
-For the manta management plan to take effect, the orma rules, DMB rules, and Fee rules will need to be updated.
-Naming the sites is important. Either Makako or GEC, not both. As for the south site, there are at least 3 different spellings for Kaukalaelae. Todd and Luna would like to let the public decide which is correct.
-Suggest to reword admin rule draft such that “at ALL manta sites, this, this, and this applies.” Then separate out the sites for site specific rules such as the commercial scuba prohibition at Kaukalaelae.
-Do we actually need an orma-if manta rules applied to the whole coast, new manta sites would be covered automatically as they popped up
-instead of many vessel size classes, maybe reduce it to large and small vessel moorings for simplicity
-Recreational mooring should have a surface float
-If there is an orma, it should only extend shoreward to 5’ of depth to allow for a’ama crab and opihi fishing.
-Include heavy fines and restrictions for non-permitted commercial vessels using the site.
-Require a flag or “M” decal for vessels using the manta site. Be sure to restrict the display of such flag or decal to just those vessels with a current manta permit.
-Be clear on whether we are banning all scuba diving at Keauhou or just commercial scuba diving
-Dr. Bill would like to see a copy of Melanie Hutchinson’s thesis where she discusses elasmobranch avoidance of longline hooks. He suggested that we may be able to incorporate this into the new moorings so the mantas do not get tangled.

Sea Paradise n/d

Sailing & Snorkeling Tours
Manta Night Snorkeling
Private Charters
Proposed General Rules & Regulations

Commercial manta tours allowed six days a week:
We do not agree with this proposal for these reasons.
1. There is no evidence to suggest the manta rays require a “rest day”, no studies to show this is needed.
2. Opening one day a week for “recreational” users only, could possibly lead to non-compliant activities towards manta rays, such as touching or harassing manta rays. With no commercial operators to “police” recreational users, the manta ray guidelines most likely will not be adhered too.
3. Loosing one day a week will result in loss revenues as well as loss of employee pay. Some of our employees rely on manta ray tour pay to sustain their household budget.

Live boating limited to ingress/egress & emergency situations:
We agree with this proposal

Rafting/Daisy chaining prohibited:
We agree with this proposal

Subsurface vessel lighting prohibited:
We agree with this proposal with a slight modification.
1. Define subsurface floats as subsurface lighting to be allowed but floats must not raft off to vessels. Floats should put a distance between the float and vessel (distance TBD)

Lighting for kayaks, SUP, and other small craft required:
We agree with this proposal

Additional moorings provided:
We agree with this proposal

Site Specific Rules

Kaukalaelae point ocean waters (Keauhou site)

1. Commercial manta SCUBA activities Prohibited:
We agree with this proposal

2. SCUBA tours limited to the campfire area:
We agree with this proposal with the change in wording. Need to change the wording “SCUBA Tours” to “Manta Tours”.
The use of the word SCUBA is miss leading, as the first rule requires there be no SCUBA manta tours.
3. Limited issuance of commercial permits for shore based manta activities
We agree with this proposal

Mooring permits: Distribution and fees

Potential mooring numbers and arrangements

Kaukalaelae (Keauhou site):
We agree with this proposal with the following changes.
1. 13 moorings; 12 commercial & 1 recreational. We do not agree with the proposal that Sunday be designated only to recreation use (see previous reasons).

2. We would suggest that 1 mooring be designated for recreational use. The permit reservation process for that mooring is agreeable.

Permittee Selection Process
We do not agree with the proposed date of "July 2015". We propose the date roll back to the year 2013; which is the year
that the "Manta Working Group" began to discuss a possible rule and management for manta ray tour operators.

Initial Permit Issuance:
We agree with this proposal for the application process with the definition of "the criteria chosen by DOBOR". Currently there does not appear to be any definition of what that criteria is, we would like to see what the wording is for this criteria.
Currently this proposal seems very vague.

New Permittees
We agree with this proposal

Permit Types
Kaukalaelae point shore waters commercial permit types:
We do not agree with this proposal for permit type.
1. We recommend that the manta ray moorings be available 7 days a week for 12 commercial and 1 recreational mooring.
2. We are open to the proposal of "split tour times". Split tour time being offered 7 days a week for 12 commercial moorings at first tour time, second tour time and possible third tour time.
3. We would recommend that the selection of tour times be offered to the tour operator by means of "seniority" by years of operating experience. For example, an operator offering manta ray tours for a minimum of 10 years should have first pick of tour times…

Kaukalaelae point shore waters and Makako bay shore waters recreational manta viewing permits:
We agree with the proposal of option "A" (Single-use permit rec mooring) 7 days a week by reservation.

Fee Options:
Commercial Permit Fees
We do not agree with the "permit type" of "A" "B" or "C". We agree with permit type "D" (split morring) with the following
change made; Split mooring shall be for 7 days a week. Fees for permit should be determined by vessel size and not passenger load.

Appendix A-Kaukalaelae proposed mooing layouts
We do not agree with this type of mooring layout.
1.We would recommend a 2-point type of mooring for all vessels of 37 feet or larger. A 2-point mooring would close the distance between vessels and eliminate any swing radius.
2. The current proposed mooring layout would be difficult to ingress/egress safely between vessels that are seeking their permitted mooring.
3. We would recommend a simple arch or crescent type of mooring layout (see attachment). This type of layout would eliminate any potential collisions between boats and swimmers.

Appendix C- List of Commercial operators as of July 2015
We do not agree with this proposal.
1.We recommend that the year roll back to 2013, the year the "Manta Working Group" began.
2. We would also recommend that a "true" verification of manta ray tour operators be conducted. A true list of manta ray operators is a list of operators that have conducted manta ray tours on a continuous basis more than 3 nights a week for he past 5 years. Operators should show evidence that they have been working to educate the public about manta rays (Sea Paradise developed the "Manta Ray Talks" with the Sheraton, now known as the "Manta Ray Education Center).

Sincerely,
Richard Kersten
President

Rich Kersten 4/25/17

Time: 14:37
Company Name: Sea Paradise
Individual: Rich Kersten
What boats do you own? Hokulani (41')
What corporations are you associated with? Sea Paradise Scuba Inc
How many days do you run per week? 7
When did you start doing manta tours regularly? 1985 (Rich purchased in 2001, turned into snorkel)
How far back do your records go? Reservations, sales records, advertisements, manifests
Where do you prefer to go? South

Comments:
History-Sea Paradise had 2 boats originally, some records lost in 2011 tsunami,
could be vouched for by Leichers
Dolphin Discoveries and Dolphin TLC do not do manta dives-need to verify
Take your time on the plan to make sure it is done properly
Made comments via email
http://seaparadise.com/sustainable-tourism/

Miss Mojo- 3/23/17

Steve Tarbill- Captain
Owner: Mike Jones
Accountant/Secretary Melissa: 918-284-1117
Company: Kiholo Inc.
Hi, my name is Jeff Milisen and I am working for the University in conjunction with
DOBOR to help manage the manta viewing sites. I wanted to reach out because we have not heard much from you regarding the manta site regulations. From what I understand, your company has not been doing manta dives for quite some time. Is this still a part of your business model?
Not so much anymore-only exclusive trips, not shared
Not economical
Are you planning to pay for a manta site mooring when the regulations come into place?
Melissa: Probably not at this point, may want to maintain the permit because it makes the business more rounded.
How many days per week would you do the manta dive? Yea, if can, 1-2 times per week
Should still allow us to use it.
Bill, former Captain, is running Helehele on manta Adventures

Evin Cotter 4/5/17

From: Evin Cotter
Subject: Re: Manta Meeting
Date: April 5, 2017 10:22:15 AM HST
To: Jeffrey Milisen <>
No problem, thanks Jeff.
Kind regards,
Evin C. Cotter
Operations Manager
Live/Dive Pacific, Inc.
Operators of the Kona, Palau, and Rock Islands Aggressors

> On Wed, Apr 5, 2017 at 8:25 AM, Jeffrey Milisen <> wrote:
>
> Hi Evin-
> Thanks for introducing yourself! Yes, we should definitely touch base regarding your specific position in all of this. Things are sort of up in the air right now (and
>
> Maria is out sick), let me nail down a few things with Maria and get back to you. I cannot promise when.
> Jeff

> > On Apr 1, 2017, at 5:12 PM, Evin Cotter wrote:
> > > Hi Jeff,
> > >
> > > I apologize for our early departure from the meeting. We needed to get back to the boat, guests boarding at 5:00 PM.
> > >
> > > Thank you and we'll be in touch with each other soon I'm sure.
> > >
> > > Evin
> > > Live/Dive Pacific, Inc.
> > > --
> > > Kind regards,
> > >
> > >
> > > Evin C. Cotter
> > > Operations Manager
> > > Live/Dive Pacific, Inc.
> > > Operators of the Kona, Palau, and Rock Islands Aggressors

Derrick Balanaga 4/12/17

Time: 15:39
Company Name: Anelekai
Individual: Derrick Balanaga
What boats do you own? 2 boats, double hull canoes (23')
What corporations are you associated with? Analakai
How many days do you run per week? ~5/wk
When did you start doing manta tours regularly? Pre-2013
How far back do your records go? Just started fareharbor last year, got permit 2012- ish
Where do you prefer to go? South

Comments:
-3 concerns-stone drop/anchor

-Hull lighting-we take 6 people
-We are a canoe, and we have the most to lose, and we will have to change everything
-It isn't fair to hold a canoe to the same standards as everyone else
-Considered a kayak company
-Work closely with handicapped and elderly people, this would destroy our niche
-Does not see a difference between our hull lighting and the lighting of surf boards
-Wish to be considered a lightboard instead of a boat
-84% of our money is from mantas
-Most non-invasive vessel out there at night

Anelakai 4/10/7

Subject: Re: Manta Meeting
Date: April 10, 2017 9:38:58 AM HST
To: Jeffrey Milisen <>
Aloha Jeff,
Thanks for getting back to us, and we have a few questions as well as some feedback for you to igest before we speak.
Have you or Maria ever been out with us to experience first hand what we do? Please tell me what the difference is between our smooth hulls and a light board that is hand crafted and many of which have sharp edges. Particularly those made of aluminum as well as those that carry 10, 20, 30, even 40 or more people on them with ropes and lead lines dangling down. Our lights are on a rack that we place between the hulls, on the surface of the water once we are at the site. We carefully designed them to ensure 1) Our guests are at least 4 feet away from the lights to avoid contact with the Mantas and 2) that there are no sharp edges to harm the Mantas. From our experience our canoe has never hurt anyone in the water, however our canoe has been damaged by other light boards because of their design and because they bumped into us. Our biggest concern in us having to build a light board and swim our guests away from the boat is that we would be creating a more dangerous environment than what we currently have – not for our guests but for the Mantas as well. In the event of an emergency we have all of our safety equipment within hands reach, and can get all of our guests back on board within 5 minutes. By swimming them away from our vessel we are jeopardizing that safety advantage. There have been numerous instances where guests from other companies, on their light board, have needed assistance (being nervous and panicking) where we have brought them on the canoe to calm them down. Other companies seek us out, swim close to us with their light board, because they know we are a safe haven for their guests. Your concern with us ramming into other boats is completely unfounded. We are paddle power, and our captain remains in the canoe at all times. He is completely aware of his surroundings and ensures that we come nowhere near ramming other boats. We have a huge advantage being paddle power, as we are able to move our position the entire time we are out there. We have, however been rammed by other large motorized boats that have lost control of their vessel and don't have the same advantage.
Safety has always been our number one priority. Light boards are a big concern for us. Being on the canoe, again, we have all of our safety gear for all of our guests within arms reach. If you are putting people in the water, swimming away from the vessel (especially the distances that the proposed mooring locations create) shouldn't your board have to be Coastguard certified to carry that many people and have safety gear readily available? The proposed scenario puts guests at a much higher risk than they currently are. Many times these boards are being led by 1 guide - completely unsafe. Out of all companies, Anelakai would be the company that has the most changes to do. We are currently the most non invasive and safest company out there, and we would have to completely change what we do? All of our guides are lifeguard certified, and other companies are only CPR and First aid - that is unsafe. If we really do have to change we will, but if that's the case, then we need a motorized permit for the boat ramp, NOT kayak, since we are being treated as such. We really feel as though we are being discriminated upon. We are the most traditional, cultural, non invasive company and we will have to destroy everything we have worked so hard to create.
The Keauhou site, when only used by permitted Keauhou boat ramp vessels, has no drama or safety concerns. The Keauhou companies have worked so closely for so many years and are there for each other. It's about supporting each other, not competing or creating drama. When the Honokohau permitted vessels come to the Keauhou site, it is

complete chaos and all safety is out the window. Serious consideration should be given to prioritizing the Keauhou companies at the Keauhou site. There would be no need to any of this regulation if only Keauhou boat ramp companies use that site. Another note - NONE of the Keauhou companies ever go to the Makako Bay site. Because we are different, we're not asking for preferential treatment, but are asking that you do the right thing. Conforming to the new regulations would compromise the integrity of the Hawaiian cultural experience that we provide, as well as the safety of our guests. We want you to understand that we are not saying this out of anger. We truly want to make this work, and are open to conformity if that's what it boils down to, but we want your decision to be based on ALL facts and issues at hand. We are happy to discuss this further whenever you have a moment - we would prefer to do this with you and Maria in person so that this can all be covered at one time. If we have to fly to Oahu we will - just let us know. We are unlike any company out there and should be considered differently as I know you're doing. These e-mails could go back and forth for a very long time, and we could resolve a lot more in person.

Thank you again for helping us work through this and striving to develop a plan that works. We look forward to hearing from you soon.

Derrick and Holly

> On Apr 10, 2017, at 8:39 AM, Jeffrey Milisen wrote:
> Aloha Derrick and Holly!
> Thanks for contacting me. While the anchoring issue is undesirable, there are some other concerns with leaving Anelekai without a mooring. As you heard from the meeting, site fractionation and hull/boatside lighting contribute to manta injuries and a diminished experience for other guests. Conducting manta viewing from between your hulls could contribute to both of these issues. Furthermore, the point of the no live boating is that we don't want boats drifting around at the site. Your vessel might not maintain a running propeller, but a drifting vessel presents the opportunity to crash into other hulls and manta viewing participants. Let's keep an open dialogue on this, as I really do want to help develop a plan that works. I will be giving you a call soon to discuss.
> Jeff
>
> > On Apr 8, 2017, at 8:37 AM, Holly Crane wrote:
> > Aloha Jeff,
> > We thought of one more thing to consider when trying to figure out where we fit in all of this.
> > We are one of three permitted kayak companies out of Keauhou Bay and know that your one concern with us is that we occasionally drop our stone anchor, which is the traditional Hawaiian technique. How will you be handling the other two kayak companies as far as their Manta operations go? When they go out on their kayaks they are anchoring as well.
> > We look really forward to speaking with you to discuss all of this further.
> > Mahalo,
> > Derrick and Holly
> > Begin forwarded message:
> >
> > From: Anelakai Adventures < Subject: Re: Manta Meeting
> > Date: April 6, 2017 2:37:43 PM HST
> > To: Jeffrey Milisen <>
> > Cc: Maria Robben Gaydos
> > Aloha Jeff,
> > Thanks so much for getting back to me, and I know you guys definitely have a lot going on. We have of course been discussing this process at length, and realize that the main struggle and concern is issuing permits in the most fair way possible. What we have concluded and would love to suggest is that permit issuance be determined based on fact. A concern voiced at the meeting is that companies that haven't been doing Manta tours at all, as well as companies that have been doing them at a minimum, are now requesting permits.
> > There are some companies, Anelakai Adventures being a prime example, that would be completely devastated by not receiving a permit, or even having a limited permit. Other companies that focus a lot of their energy on their daytime tours would certainly feel the loss, but would not be put out of business. If your main goal is to protect businesses, and you truly don't want to see any companies go out of business because of this process, then a HUGE part of your decision making process should be taking into account what percentage of each companies' gross receipts comes from Manta Tours. I ran the numbers for Anelakai Adventures for last year, and we are at 84% of our income being from Manta

Tours. I can guarantee you that many of the other companies on the list are at a much lower percentage. Again, this is a very factual way of issuing permits. The companies that have 30% or less of their revenue from
Mantas should potentially have the 3 day permit, or something along those lines. Simply put, as mentioned earlier, a fair process is what is needed. No one can argue the numbers, you guys can audit everyone if need be. This is a cut and dry way to determine who gets a permit. Rather than a lottery or some other random process, where again a company like ours would potentially go out of business, this is a way to ensure that all companies will survive this storm. There are companies that have 2-4 daytime tours every day, then run 1 or 2 Manta tours per night, if that. Again, if these companies either didn't get a permit, or got a limited use permit, it would not be the end for them.
I mentioned this to Dan Mersburgh and he seemed receptive to it. We truly appreciate you guys being open to feedback and ideas. Working together has always been our goal, whether it be with DOBOR or our fellow companies that we work side by side with out of Keauhou Bay.
Our other main concern is that we seem to be stuck between being a 'kayak' company, which is what our permit says, and having to abide by the same regulations that a motorized boat permit holder has to. Again, when we designed our company and canoe (with Manta tours being our priority), we worked so hard to find a way to keep our guests and the Mantas safe. No one can deny that keeping our guests between the hulls of our canoe is the safest possible scenario out there. If we do have to have a permit and a mooring, the one request we would have is that we given a mooring as close as possible to the snorkel area/site. We are a paddle power company, so our guests have paddled out to the site, and the last thing we want to have to do is put them in the water and make them swim 100 feet to the snorkel area.
We understand that this is such a complex scenario with a million different nuances. And we also realize that it will be impossible to keep everyone happy. It would be such a sad thing to see all of the small, locally owned businesses be destroyed because they have built their entire livelihood around the Manta tours, and we pray that you will take facts and hard, solid numbers into consideration when determining our family's future.
And please keep in mind that we are the most non-invasive, Hawaiian cultural company – we are as green as it gets. Also bear in mind that you guys have categorized us as a kayak company, and if you choose to run us under a motorized company requiring a mooring, then we should have a motorized company permit as well as the kayak permit. We feel we are getting the short end of both sticks. We are definitely open to suggestions and will do what we have to do to continue to operate. It would just be such a shame to have to completely change the way we do our tours. We have such a disadvantage to the other companies that are motorized because our guests are our motors, and some nights are better than others. This makes us much more sensitive to ocean and weather conditions, as well as distance needed to be paddled. Other companies don't have the same sensitivity as we do.
We are trying to preserve and perpetuate our Hawaiian culture - people seek us out specifically for this reason. We feel that the experience that we offer will be greatly compromised if we have to have a mooring, build a light board, send our guests away from the safety of the canoe putting their well being at risk. We take out a lot of disabled people because they have the advantage of staying in the canoe and viewing the Mantas from their seats. We are the only company that can offer this viewing experience for people with disabilities. They would no longer be able to enjoy this amazing experience that everyone else does.
Please feel free to call us when you do have time. We really do appreciate all that you do and know that this is a huge undertaking for you guys. We look forward to hearing from you soon.
Mahalo,
Derrick and Holly

> On Apr 5, 2017, at 10:30 AM, Jeffrey Milisen wrote:
> Hi Derrick!
> Thanks for introducing yourselves after the meeting, and I apologize that things got so hectic.
> Of course, everyone is going to have to make a few adjustments to how they do things-we will try to keep the disruptions as small as possible. I will be reaching out to you guys as soon as I can nail down a few things with Maria. Unfortunately, she is out sick at the moment and really busy on other projects as well, so I cannot promise when I will be in touch. "we appreciate all of your efforts in making this process as seamless as possible." I'm trying!
> Thanks for the kind words.

Jeff

> On Apr 2, 2017, at 9:39 PM, Anelakai Adventures wrote:
> Aloha Jeff,
> It was great seeing you yesterday and we appreciate all of your efforts in making this process as seamless as possible. We really look forward to hearing from you to figure out where we fit into this whole equation. The experience we offer and what we do is so unique, and we would hate to have to compromise what we have strived so hard to develop. We are the only nonmotorized Hawaiian cultural experience out there and from day one have worked so hard to minimize our impact on the mantas and their ecosystem, as well as providing the safest arena for our guests to view them.
> Please let us know when you have time to discuss all of this further, and we really look forward to hearing from you!
> Mahalo,
>
> Derrick Balanga and Holly Crane
> Anelakai Adventures
>
> > On Mar 13, 2017, at 3:18 PM, Jeffrey Milisen wrote:
> >
> > Aloha-
> > Please find attached the meeting notice for the next manta informational meeting.
> >
> > Thank you,
> > --
> > Jeff Milisen
> > Coral Habitat Monitoring Coordinator
> > University of Hawaii-SSRI
> >
> > <April Manta Informational Meeting flyer.pdf>

Mariko Lurbiecki 4/17/17

Time: 11:02
Company Name: Breeze Hawaii
Individual: Mariko Lurbiecki
What boats do you own? Force (27') Radon (31)
What corporations are you associated with? SDH inc
How many days do you run per week? 3/wk. average
When did you start doing manta tours regularly? 1996
How far back do your records go? Keller saw us doing mantas and asked if we would interpret for Sheraton. Our receipts and/or records go back 7 years, web log on boat goes back at least 5 years
Where do you prefer to go? North, GEC

Comments:
We would like to scuba dive at Sheraton if possible.
Did not attend the meeting, management plan sent to email address, they will reply with any questions or comments after review.

Mendy Dant 4/24/17

Time: 12:16
Company Name: Fairwinds
Individual: Mendy Dant
What boats do you own? Hula Kai (55')
What corporations are you associated with? Kona Sunrise Charters
How many days do you run per week? 7
When did you start doing manta tours regularly? 2007
How far back do your records go? Cruises, bookeeping, manifests, pml
Where do you prefer to go? South

Comments:
Any vessels larger than 35' should have a 2 point mooring
We would be willing to pay extra if necessary
Have a single-row crescent shaped layout instead of the 3-tiered layout
Talks started back in 2013, the boats coming in recently have known that management is coming down the pipes.
They are not as naïve as they say
There is no excuse for them to not to have known that something was going on
Should not be any land-based manta permits
Will send email with more comments

Mendy Dant n.d.

Aloha Maria and Jeff,
I have some suggestions I would like to ask for consideration at the Kaukalaelae site.
1. For the vessels 35' and larger a Two-point mooring be used.
2. The layout at Kaukalaelae should be a single row in a crescent shape.
3. In this crescent shape the Manta focus for all vessels could be centralized instead of all over the place, the egress and ingress would be safer instead of in between other vessels and swimmers.
4. I strongly believe the senior businesses in this field should be given priority to times and amount of days offered for permits.
5. The One Recreation mooring for each night at both locations is the best plan in our opinion. 30 nights each month, weather permitting.

We schedule four crew/captain for each of the 7 nights that we have done this tour for 10 years. We are not the most senior but much more so than many of the listed companies. The consideration to the new companies, some have started in 2015 that are being included and put neck to neck with some that have been doing this for 10, 20 years or more. Experience, professional crew and equipment should definitely be put into consideration. DLNR does often qualify businesses before awarding permits.
Please revise for a safer vessel layout.
Aloha
Mendy Dant

Executive Vice President
Fair Wind Cruises
Kona Sunrise Charters
www.fair-wind.com

Jason Thurber 4/10/17

Time: 13:20
Company Name: Hawaii Oceanic
Individual: Jason Thurber
What boats/name/LOA do you own? Pueo Kai (30), Pueo Kai 2 (30)
What corporations are you associated with? Kona Captain Jason LLC, True Lies Sport Fishing LLC
How many days do you run per week? 7/wk, 2 per night per boat
Where do you prefer to go? South

Comments:
-Mentioned online exchange on Manta Tour Guides
-Rafts need to detach and go to a centralized campfire site
-Sunlight on Water had a fatality (heart condition) at the campfire 4-5 years ago
-If everyone does this, it becomes a light war and it is as bad as hull lighting
-More spread out mooring orientation will make this problem worse
-Dolphin Discoveries does not belong on the list
-Miss Mojo has not done a manta tour in 14 months
-Iwa Nui (Cyrus' fishing company), Sea Hawaii, has never done one
-Large operators have other sources of finances, small companies are more reliant on manta
-Brian Wargo owns Ocean Encounters, Kona Style, Bite me 1-6 (Bite Me 3 was going to manta meetings)
-Kalani owns ___ and ___
-Need to prevent monopolies
-Companies with largest capacity will be affected less by going less days/week
-Mentions blue light mafia split from norm
-People that are conducting manta viewing from their boat draw other people away from their boats, making things dangerous for other visitors

Jason Thurber 4/7/17

From: Jason Thurber < >
Subject: Manta FB
Date: April 7, 2017 6:39:14 PM HST
To: Jeffrey Milisen <>
https://www.facebook.com/groups/835326023177761/permalink/1362570800453278/
I really hope you and Maria are paying attention to the Manta Operators FB page.... These Bad Apple companies that are so blatantly and purposefully doing things to work against the green companies, should not get priority and maybe not get a permit at all.
How you conduct your self should matter.
Sorry to vent at you Jeff
Aloha
Jason

Kalani Nakoa 4/13/17

Time: 12:34
Company Name: Holualoa and EKA
Individual: Kalani Nakoa

What boats do you own? Noanoa (50'), Kinikini (38')
What corporations are you associated with? Holualoa, EKA do mantas
How many days do you run per week? 7/wk
When did you start doing manta tours regularly? Holualoa-Apr 2014, EKA-2010-ish
How far back do your records go? Fareharbor (2014), paper records are mostly lost, interviewed with Sam Khang, opened manta education center
Where do you prefer to go? South

Comments:
-The only time we have a problem is when the north boats come down
-I'll share a mooring with Mendy
-Since the apr. 1 meeting, some backlash has occurred
-This process has to be fair and equitable, 3 days is really rough for the companies that will be going out of business!
-I am supporting this process, so a class action lawsuit is probably coming from any companies that are going out of business
-South boats Noanoa, kinikini, hulakai, hokulani, Seaquest, iko canoe, John and Leeane
-We work together, we share lights, can the process provide a forum to develop/discuss the keauhou style with the north boats that will be going south
-What is going to happen with EKA?
-Inside moorings are not possible in heavy weather
-Concerned about additional obstructions in water column (moorings)
-Give more thought to turning the recreational divers loose at the site unsupervised
-We've seen a spike of recreational divers abusing the sites
-Sunday rest days are a horrible idea- rotate the operators instead
-the professionals have spent decades figuring out how to have as little impact as possible.
-If you are going to shut it down one day a week, shut it down 100%.

Kalani Nakoa 3/15/17

From: Kalani Nakoa < >
Subject: Re: Keauhou manta site
Date: March 15, 2017 2:38:24 PM HST
To: Jeffrey Milisen <>
Aloha Jeff,
Mahalo for reaching out, yes of course I am available to talk story with you tomorrow. I'm available after 1:00 Pm or before 7:15Am. FYI I am also the owner of EKA canoe adventures. Hopefully my Hawaiian sailing canoe is also on your radar as we have been in operation exclusively at the keauhou manta site for several years now. I only mention this because through this process EKA has been intermittently on the radar despite my repeated reminders. I look forward to having a conversation with you about both my operations.
My number is () or if you would like to meet in person I will be at the Kailua pier at 12:30 pm.
Mahalo for the opportunity to work with you
-KN

> On Wed, Mar 15, 2017 at 1:44 PM Jeffrey Milisen <> wrote:
>
> Aloha Kalani-
> As the owner of Holualoa Enterprises, I am reaching out to see if you have some time tomorrow to talk about the new manta site management that is going into effect. If so, please reply with your phone number and the preferred time to reach you.
> Aloha,
> Jeff Milisen
> Coral Habitat Monitoring Coordinator
> University of Hawaii SSRI

Teri Leicher 4/19/17

Time: 14:41
Company Name: Jack's Diving Locker
Individual: Teri Leicher
What boats do you own? Kea Nui (46), Naia Nui (31) Diver II (38) Na Pali Kai (38)
Blue Dolphin (24)
What corporations are you associated with? Jack's Diving Locker, Kona Coast Skindiving
How many days do you run per week? 7
When did you start doing manta tours regularly? 1982-1984
How far back do your records go? Teri's dive logs back to 1984, Sales system goes back to roughly 1988, manifests back 10 year
Where do you prefer to go? One north, one south

Comments:
Teri's last guided dive was 1984
Jim Robinson-Kona Coast Skin Divers, started it as Manta Madness
Sea Paradise was doing diving back in '88
Sometimes the south site is doable when the north site is not
Frustrated that new boats are STILL starting up and the site is an accident waiting to happen
Need an emergency ORMA
Talk to Keller

John Senn 4/19/17

Time: 15:54
Company Name: Kamanu
Individual: John Senn

What boats do you own? Kamanu (36) RIB (31)
What corporations are you associated with? Kamanu, Kamanu Ilua
How many days do you run per week? 7
When did you start doing manta tours regularly? Over 12 years
How far back do your records go? Maybe go back 12
Where do you prefer to go? North, or one north, one south

Comments:
-Divers are more apt to disrupt
-It is disheartening that we have busted our butts to invest and make this company. We value the environment, but we don't want to lose our business
-Jay Lambert installed Kamanu Mooring at Pawai Bay in the 70's, but it is everybody's mooring

Nobu Furuta 4/3/17

Subject: Information for the commercial operator for Mantaray tour
Date: April 3, 2017 9:19:20 AM HST
To:
Hi Jeff,

It was very nice meeting with you at Kona Civic Center last Saturday. We believed that we were on the new list of commercial operators as of June 2015, but it was not. Please see attached sheets for all of our information which has mailed on October 2016 just in case, again.
Thank you for your assistance with this matter and support.
Sincerely,
Nobu Furuta
Nature School

Danny Scott 5/4/17

Time: 9:58
Company Name: Kona Ocean Adventures
Individual: Danny Scott

What boats do you own? Ipo Kai (28) Ipo Kai 2(28) Mega Bites (32)
What corporations are you associated with? Kona Ocean Adventures, Fiankin Marine
How many days do you run per week? 7
When did you start doing manta tours regularly? January 2011 (KOA), 2013-ish (Fiankin)
How far back do your records go? Vessel logbooks, paid money to dobor, manifests back 3-4 years
Where do you prefer to go? Fiankin to South, KOA North

Comments:
When we bought our 3 rd boat, we were advised to just make a new corporation
Weather concerns for the north site, flexibility is crucial
More moorings, perhaps expand out into the sand
Day of rest will not work-manta dive is a learned behavior. Day of rest will not help
Inside moorings will bring boats in contact with snorkelers-need ingress and egress
Shorter mooring time limits will limit the access to mantas, for example, when the mantas show up later Second shift will have to find moorings in the dark-which makes it difficult
Would 1 day of rest really be appropriate? Kaiwi is off-bounds on weekends- gentleman's agreement, but people go anyway.
Inside moorings would be problematic vs. live-boating
Surface moorings needed for when finding moorings in dark

Martina Wing n.d.

Name: Martina Wing
Company: Manta Ray Advocates, Ocean Wings Hawaii
Comments
2012-meeting involving dlnr, uscg, docare, and stakeholders met. Will send minutes if she has
Sunday rest day is a good idea, but leaving recreational divers unattended at the site is concerning-professionals should overlook it. Instead, suggests low-impact day, where only 3 boats are allowed to go
Supports the campfire centralization-central viewing area needs to be clearly written into rule
Who gets what permit-not my concern, but how do you distribute that?
We are over capacity, need some sort of rules that will allow attrition to decrease population to a more appropriate number
Permit fees are too low
Mooring layout needs ingress and egress

Ryan Leibach and Martina Wing 6/21/17

via Skype
Subject: Manta Management update
Comments:
Watch for former third party bookers like Manta Adventures-clarify whether the companies have been in operation, or if their boats have been in operation since
June 2015
Bump manta diving definition up to lights greater than 1000 lumens.

Deneen 4/25/17

Time: 12:01
Company Name: Ocean Encounters
Individual: Deneen
What boats do you own? Ocean Encounters (46')
What corporations are you associated with? C-Activities Inc
How many days do you run per week? 7, sometimes double shift
When did you start doing manta tours regularly? Pre-2014
How far back do your records go? Online booking, Quickbooks, Boxes of manifests, passenger logs
Where do you prefer to go? North

Comments:
-6 days per week is not feasible unless we can do double trips
-If everybody is at the campfire and your boat is at one of the outer moorings and an emergency happens…
-Look at Florida shrimp industry shutdown and expect that kind of backlash
-how did they cut the shrimp permits back?
-Too many permits were handed out
-What direction is the "rest day" concept going?
-suggests rotational moorings instead of a rest day

Manu 4/13/17

Time: 11:24
Company Name: SeaQuest
Individual: Manu
What boats do you own? Keala (31.9'-Alan Shaw Solas group in Seattle) newly commissioned, Lilikoi (28'), Manta Raiv (27'). Other boats that don't do manta
include Makana (22'), Kaiimi (27'), Sea Quell (27'), Manu A'o (26')
What corporations are you associated with? Kai Uli Inc., SeaQuest, Sheerwater originally ran mantas but no longer runs them
How many days do you run per week? 7
When did you start doing manta tours regularly? Spring 2014
How far back do your records go? Spring 2014
Where do you prefer to go? South

Comments:
-What is the future of Keala (under SeaQuest)? We would trade for another of our manta boats, had this boat constructed to replace the other manta boats in our fleet
-Bread and butter used to be daytime tours (reef snorkels), started doing mantas when Manu bought in-cater to adventurous experienced snorkelers
-We have major concerns regarding the thought process behind-will this be more harmful than helpful?
-A lot of the conflict is in the north, south gets along just fine
-Problems are coming-the campfire is a problem-we have 80 year old citizens on our tours!
-We put 2 crew per 7 guests
-We feel like the solution is supplanted from the north, but the problems don't exist down south
-Protection of the resource is in our best interest-we feel that these regulations are going in the opposite direction.
-Applauding the idea that companies will be assigned a mooring and will not be dropping anchor
-Who is going to get what permit? If we will get one, how will we get one, and when will we get it?
-We want a 6 day/week permit-we go every single night sold out, it has become a central part of our business
-A lottery would be terrible! If we got a 3day permit and a company that only wants
3 day permits got a 6 day?

Mike Yee Melainah 4/26/17

Time: 14:30
Company Name: Sunlight on Water
Individual: Mike Yee Melainah
What boats do you own? Uhani Nui Onai'a (40')
What corporations are you associated with? Golden Dragon Sportfishing Inc.
How many days do you run per week? 7
When did you start doing manta tours regularly? 2006
How far back do your records go? Booking reservation system for current records, 10 years? Email confirmations
Where do you prefer to go? South

Comments:
-The problem with allowing boats to go to only one location is when weather pops up, that will really limit them.
-wintertime weather will really impact north sites
-Oldest companies should get the permits first

Mike Miligan 4/26/17

Time: 14:53
Company Name: Torpedo Tours
Individual: Mike Miligan
What boats do you own? Napali Kai 2 (38')
What corporations are you associated with? NPK
How many days do you run per week? 4
When did you start doing manta tours regularly? 2003
How far back do your records go? Waivers may go back 5-6 years, old dvds shooting
manta video
Where do you prefer to go? north

Comments:

Sent the management plan via email

Chief Kosaki 1/8/17

Hawaii Fire Department Ocean Safety
Date: 1/8/17
Jeff opened the conversation by going into the goals of the meeting, sending Cliff and
Jeff's contact info, and the most recent iteration of the manta one-pager.
Goals:
-Open lines of communication between DOBOR and Ocean Safety team
-Describe the manta viewing situation currently
-Describe the DOBOR management strategy
-solicit comments from ocean safety professional regarding areas of concern and what have we not considered?
Regarding night ops, the Ocean Safety team will launch their boat and conduct night diving operations if there is an indication that life may be preserved. Night helicopter ops are not usually attempted at night. Body recovery operations will usually wait until the following morning.
Rescue resources:
Keauhou station: fire truck and ambulance, located just south of Kam III on main highway
Palani Station has truck, ambulance, and rescue boat
2 helicopters on island
-Hilo rescue chopper
-South Kohala aero-medical

Jeff then went on to describe the areas of focus, an average night at the manta sites, and Jeff walked the chief through the management plan.
The chief had this to say:
-"It sounds like you have a good direction with regards to safety."
-Ocean Safety has no records of incidences at the manta sites as of now.
-There may be issues with medical conditions at the sites
-The key with medical emergencies is to get to shore as quickly as possible
-Off-island visitors are the main manta participant
-The majority of injury-related visitor death is drowning
-The #1 cause of drowning in visitors is snorkeling/swimming
-This is because visitors entering the ocean are entering a foreign environment to them. They are not comfortable. In the case of the manta viewing sites, they are handed a foreign object (snorkel) and told "here, put this on and you can see mantas." Snorkels build up CO2 (through the extra dead air space), which is why lifeguards often find victims in cardiac arrest face-down with snorkels still in mouth and apparently functional.
-The strange situation and added stress may provoke a heart attack, even in otherwise healthy individuals.
-Recommends that we build emergency procedures that will:
-Get the victim to shore fast
-Jeff: while the Sheraton manta viewers can get to the dock in 5 minutes, GEC visitors must endure a 30 minute boat ride.
-Chief: 4-6 minutes without blood flow starts to cause serious, debilitating brain damage. A victim that ahs been without blood flow for 15 minutes, even if they can be brought back, will likely not be able to remember friends and family and will need constant care for the rest of their life, or worse, be brain dead.
-Chief: Response time to Keauhou ramp is about 5 minutes, responsetime to Honokohau is 10 minutes.
-All boat crews should be trained in CPR
-Should have a safety officer on site to coordinate emergency response Regarding the campfire at Keauhou: campfire grouping is preferable to spreading guests all over the site. Boats, even non-motorized ones, are the big danger. One bump can get someone into trouble

Kara D'Avella 5/8/17

Time: 11:12 am
-Maximum 16 divers per day per site
-Enforcing anchoring is problematic-can only enforce around fully permitted moorings
-Might be able to tolerate higher levels of impact because it is a sand area
-Do the first dive elsewhere to help cut down on the number of divers at the site?
-Snorkelers have less impact on reef, but concentrate sunscreen, effluent, etc.
-Sending thesis
-Maximum capacity of snorkelers to megafauna at whale shark sites-talk to Mark Deakos
-Masters focused on zooplankton emerging from substrate, most of the plankton within coastal areas are coming from substrate
-Calanoid copepod (big blue one) that the mantas favor is a lava rubble-dweller, not coral. Cyclopoid, found in limestone rubble, are probably too small for mantas to swallow.
-Text quick questions in the future.
-Run CPR, AED, O2, First Aid-these should be required!
-Will send thesis and Coral reef alliance west hawaii voluntary standards

Dr. Mark Deakos n.d.

Position: Biologist and Expert on anthropogenic impacts on manta rays
Engineering company-marine species monitoring program
Nonprofits-manta rays and water quality to tackle settlement issues
Use primary catalog might contain the bulk of mantas
-but many of the mantas at the site during the daytime are not in the catalog
-some mantas partake in sites, some don't
-Is the site beneficial? Or is it detrimental?
-Growth, reproduction rates
-Manta Pacific data-fecundity rates? How do those pupping rates compare to maui mantas?
-Quantify number of divers and compare to number of collisions
-consistent size of observational area
-Mark/recapture-is the population stable, growing, decreasing?
Software program-Mark, but it is pretty sophisticated
Turn to statistician like at Perth
In Maui-The mantas treat Maui Nui as one area
None have crossed to Big Island
Seem to behave like spinner dolphins
Enough resources on each island to sustain the population without migration
Population cap-no pups or really young animals, all over 2.5 meters
Mantas were petitioned for ESA, but insular mantas were denied (pelagics accepted). This decision may be in error
Why don't we treat discreet population segments as different so we can delist certain populations that were healthy?
Genetics show distinct stocks among islands
Molokini had to regulate the number of boats-how did they get a priority list
Prod Keller for manta report data

Summary of Public Comments and Questions from Public Scoping Meetings

Kona Manta Viewing Rulemaking Update

In 2012, the Department of Land and Natural Resources was asked to manage Kona's manta ray viewing areas to reduce congestion and reduce the activity's impact on the natural resources at Makako Bay and Keauhou Bay. The proposed rules are under development by the Research Coporation of the University of Hawaii's Hawaii Coral Reef Initiative (RCUH-HCRI) for submission to the Division of Boating and Ocean Recreation. Between April 1, 2017 and May 20, 2017, the RCUH Hawaii Island coordinator solicited comments from stakeholders and concerned community members to the proposed rules through a public introductory meeting and a series of private follow-ups with stakeholders.

RECREATIONAL REST DAY

Proposed

In order to allow a rest day for the resources as well as to diminish user conflicts by making the manta sites available to recreational users, commercial manta viewing operations will be prohibited on Sundays.

Comment Summary

The overwhelming majority of users surveyed felt that a day of rest for the sites would damage the resource and diminish the experience. Critics of the rule cited the fact that the commercial guides follow a set of industry guidelines to reduce impact to the animals. Activities such as freediving, touching, and riding mantas as well as conducting benthic diving activities in areas other than the campfire by recreational boaters would result in injuries to the manta and increased benthic damage. If the rule were kept, most people agreed that recreational divers should be required to go through an educational program, and that in-water guides should be allowed to volunteer their time to help police activities during the day off. Other users were concerned that a day without lights would encourage the mantas to forage elsewhere and might reduce the average number of mantas that they see.
Finally, if fewer mantas showed up at the site, this would equate to fewer successful charters and one fewer day per week to offer a redemption trip.

Questions

What is the reason for a rest day?
Can operators volunteer to help police the site on a day of rest?
Can operators' schedules be altered to ensure 100% coverage of commercial vessels?

CURRENT MOORING LOCATIONS

Proposed

The current mooring design as presented at the April 1 meeting is as follows:

Comment Summary

Most of the operators surveyed agreed that the inner-most moorings at Kaukalaelae were too close to shore and would quickly get washed out in even a moderate swell. Anticipating this, the rulewriters visited the location of the inside moorings during a large northwest swell on the morning of 4/1/17. The southern inside moorings were accessible and well outside of the surf line, however the north inside moorings were awash with reflecting waves from the point. This site will need to be re- engineered so the inside moorings are pushed offshore. Placement of the moorings will be important so that tours do not get unnecessarily canceled. A few operators wanted to require vessels larger than 35' to have bow and stern moorings. Some operators wanted better ingress and egress routes. One operator preferred a single- row crescent shape instead of the 3-tiers currently planned at Keauhou. There was less resistance to the Makako Bay layout after it was explained that the proposed moorings are in similar water depths to the current inside moorings. Some operators wanted to see more mooring placed in the sand, but the sand depths are beyond the current manta anchor design specs.

LIMITED SITE-USE PERMITS

Proposed

In order to save space on the 24 total commercial moorings, different types of permits would allow the companies to split the week up into 6-day permits, 3-day permits, 2-day permits, and split permits. Limited-use permits were conceived in response to some operators who only intended to visit the sites a few days per week.

Comment Summary

Most companies were against the 6-day per week limit on permits because it would leave the site open to untrained recreational divers on the off-day. They were more receptive to a rotating schedule of 6-day permits so that some companies were on- site every night, but this option because too convoluted to execute. Some operators were concerned that 6-day permits would take away 1/7 of their business and still charge them monthly for a manta site permit.
The limited-use companies were still mostly on board with the reduced-day permit, while the majority of manta viewing companies were very-much against it. Many companies voiced that a reduction to a 3-day permit would shut them down. Others cited the limitations for their ability to offer rainchecks would be severely limited and the reduced days would disrupt their ability to book guests on a consistent basis. Some of these companies did not seem to understand that limited-use permits would be available mostly to those companies that requested them. Some operators mentioned that reduced days would put captains under pressure and increase the likelihood of make bad judgement calls due to weather.
Split permits were considered for the 4 largest vessels at Kaukalaelae since space at that site is at a premium. All of the companies that were contacted about splitting times on the mooring were highly receptive to splitting times on the moorings. Two of the 4 companies wanted to keep an early/late shift, the other two wanted to alternate early and late shifts.

PERMIT ISSUANCE
Proposed
Operators listed in Appendix C will be offered the opportunity to apply for a permit based on the criteria chosen by DOBOR. If an operator does not apply for a permit, then the opportunity will be offered to the next eligible applicant on the waitlist until all eligible operators have had a chance to apply. Under DOBOR rules, commercial permits are non-transferable (companies are transferrable and permits may be transferred with the company but the permit alone cannot be sold outright).
Comment Summary
The overwhelming majority of operators were highly concerned that they would not be issued a manta permit. The manta tours are the economic lifeblood of many Kona companies, so they would be forced to close if their access was declined. Three operators suggested that DOBOR put the applicants through an application process with multiple criteria for a permit. Two other operators mentioned that if the rules did not affect all businesses equally, there would be lawsuits. A number of stakeholders suggested that the oldest companies should get priority. Others suggested that Keauhou operators should get priority. Two operators wanted priority given to Hawaiian-owned companies. One operator suggested that DOBOR study how Florida shrimping industry cut permits for ideas on how to select operators into program.

CENTRALIZED VIEWING
Proposed
"Manta SCUBA activities will be limited to the designated campfire area which will be clearly delineated in the administrative rules drafted for Kaukalaelae."
"Manta SCUBA activities will be limited to the designated campfire area which will be clearly delineated in the administrative rules drafted for Makako Bay."
Comment Summary
Fractionation of the manta sites was cited as one of the biggest issues in the manta viewing community. Some operators will use bright lights to draw the mantas away from the main crowds so their guests can have a private show. This ruins the experience for the rest of the community and often puts the manta rays over live coral beds, which exposes coral to scuba diver impacts. Two public comments on the issue at the meeting were met with general support. In the follow-up meetings, most agreed that manta viewing should be conducted at a centralized location. One company tied the snorkel board off to their vessel because they were concerned with letting snorkelers drift too far from the vessel. Another company that paddles customers to the site mentioned that swimming customers to the campfire areas was a lot of work that their guides could not accomplish after paddling. Attendees at the meeting pointed out a typo in the Kaukalaelae management rules stating that manta scuba activities should be limited to the campfire, when no commercial scuba activities will be allowed at the site.

SITE MONOPOLIES
Proposed

All operators hosting manta tours at Kaukalaelae and Makako will be required to hold a manta-viewing permit. Each permitted vessel will be given a specific mooring to use during manta viewing hours. "Operator" was defined verbally as being a corporation.

Comment Summary

Many companies indicated that we should prevent one company from having multiple boats at the site, but we should instead allow for as many companies to use the sites as possible. A number of the attendees at the April 1 meeting indicated that their DBA had multiple incorporations associated with it. Maria pointed out that legally, each company would have to be treated separately. Appendix C originally listed 38 companies that would be eligible for a permit. After discussions with each of those companies, it was estimated that 51 companies would be eligible to apply for a manta permit.

RECREATIONAL DIVERS

Proposed

Recreational moorings located at the Manta viewing sites will be governed in accordance with general day use mooring buoy rules established by Hawaii Administrative Rules Chapter 13-257. These rules are currently pending review and revision. It is envisioned that recreational users of DMB's would be able to go online and reserve a mooring for a specific time period (similar to reserving a campsite).

The anticipated fee for this system will be approximately ~$6 - $15 per reservation. One recreational mooring will be available per site.

Comment Summary

Recreational users want more recreational moorings installed. They attribute a lack of recreational manta ray view attendance to site overcrowding. If more moorings were available, they would use the sites more often.

Commercial users were concerned with the lack of training that recreational boaters get prior to using the manta sites. Most would like to see recreational users get some oversight from trained professionals.

All parties seem to agree that a mandatory education program in the form of a video and/or instruction at the time of permitting would go a long way toward protecting the resources at the site. Recreational permits could be applied for or even reserved online using a system similar to the statewide camping reservation system. This system could be accessed by enforcement as well.

SWITCHING MOORINGS

Proposed

The management plan presented at the meeting provided no provisions for switching moorings between companies.>

Comment Summary

Most commercial operators would like some allowance for switching moorings in case one company cannot go out on a particular night. All mooring reservations could be kept in the same online system that keeps track of recreational users. This could ensure maximum use of the site. There was some dissent from some companies who felt that mooring swaps would create a logistical headache. Other companies wondered how such a system would be able to distribute the free moorings in a fair way. A comment was also raised that mooring exchanges might force people to live boat if no advance notice is given.

KAYAKS

Proposed

"Regulating snorkeler/kayak/other small vessel lighting poses a problem because there is no guarantee of uniform application. Problems could arise due to requiring lighting only at manta dive sites and not statewide. A possible solution would be to address these lighting regulations in a broader general rule for nighttime ocean recreation. US Coast Guard navigation rules require small craft to have a white light on board to display if necessary. Manta sites are high traffic areas, and the sites can become a major safety hazard when people and small craft do not display a light."

"Kayak and SUP tours as well as shore-dive tours have been observed in the area.

Shore- based activities can contribute to the overcrowding of the site. Therefore, commercial permits issued for shore-based manta activities at the Kaukalaelae site will be limited to the number of permits currently issued. No further permits will be issued at this time."

Comment Summary

One operator was particularly concerned with defining and regulating kayak tours because their vessel is a Hawaii canoe and might be regulated like a kayak. They suggested that kayaks be allowed to daisy chain considering how little they weigh.
They wanted some definition and regulations regarding the snorkel boards used by companies, and delineation as to how snorkel boards are not vessels that need permits.

OTHER COMMENTARY/SUGGESTIONS
Some other comments and suggestions can be found below:

-Alotted time on the moorings for snorkel companies at Kaukalaelae should be reduced to 1.5 hours to help increase the rate of turnover at the site.
-We should look into alternative means of enforcement to DOCARE.
-Once permits are handed out, there should be two owner's meetings-one per viewing site, so operators can get to know each other and come to an agreement on site pleasantries.

Manta Ray Viewing Boating Operations and Safety Assessment

Prepared for the Hawaii Coral Reef Initiative Research Program (HCRI-RP) on September 6th, 2015

***by* Marine Science Consulting LLC**
samkahng@gmail.com
(808)551-0904

Report Outline

Executive Summary
Study objectives and scope
- Acknowledgements of contributions

Introduction/background
Project methodology
Manta ray viewing operations
- Makako Bay
- Keauhou Bay
- Mooring Usage

Hazards to human health and safety
Risk factors contributing to severity and likelihood of incidents/accidents
Risk assessment of individual hazards
- Live vessel (while engines in gear) or propeller strike on swimmer/diver
- Anchor strike on subsurface diver
- In-water medical emergency (i.e., heart attack, stroke, etc.)
- Drowning (e.g., due to panic, loss of floatation, or subsurface loss of air)
- High speed boat-to-boat collision

Existing Regulatory Frameworks
Conclusions

Executive summary

The manta ray viewing operations at two primary locations (Makako Bay and Keauhou Bay) on the Kona coast of Hawaii Island were assessed for human safety. Stakeholder input, historical data, field surveys, and direct observations were used to identify safety issues, quantify activity levels, and independently verify current hazards. While the probability of an accident (e.g., motoring vessel striking an in-water person) causing severe injury or death is relatively low, the current activity provides ample opportunity for a severe accident to occur. Given the large number of vessels and in-water persons participating in this night-time activity, a severe accident will likely occur in the future without significant mitigation of the existing risk factors. The numbers of vessels and persons participating in manta ray viewing activities are major factors increasing the likelihood of an accident, however, there are currently no effective controls regulating capacity despite the growing demand for this activity. There are also no regulations governing recreational or commercial swimming/snorkeling activity at night amongst actively motoring vessels despite the inherent hazards associated with this activity. A formal assessment and vetting of regulatory options are recommended to determine how best to mitigate the severity of existing hazards and reduce the likelihood of severe accidents.

Study objectives and scope

The overall objective of this project was to assess the current manta ray viewing operations relative to human safety. This study objectively and quantitatively reviews current operations and provides an independent verification and analysis of safety issues previously raised by various stakeholders. The scope of this assessment focuses on the operations at the two main viewing sites (Makako Bay and Keauhou Bay) and addresses only human safety issues, not the safety of marine life or the environmental impacts of the manta ray viewing activities.

Acknowledgements of contributions

This assessment has been led and conducted by Marine Science Consulting LLC under the leadership of Dr. Samuel E. Kahng in collaboration with the Hawaii Coral Reef Initiative Research Program (HCRI-RP) and Hawaii DLNR Division of Boating and Ocean Recreation (DOBOR). Contributors to this project include the following individuals:

- Meagan Putts, GIS analyst – coordinated email survey, conducted field studies, generated report figures
- Maria Robben Gaydos, DOBOR – coordinated and conducted stakeholder interviews; assessed regulatory frameworks
- Risa Minato, HCRI – coordinated and conducted stakeholder interviews
- Keller Laros, Manta Pacific Research Foundation – conducted mooring verification surveys, provided daily statistics on vessel activity
- Dan Mersburgh, DOBOR – contributed boat support for conducting mooring verification surveys
- Finn McCall, DOBOR – provided engineering assessments on mooring capacity
- Teri Leicher, Malama Kai – provided specifications for day-use moorings
- Jan War, NELHA – provided shoreline access to the Makako Bay site

Introduction/background

On the Kona coast of the Big Island of Hawaii, the commercial and recreational activity of viewing manta rays (*Manta alfredi*) at night has increased significantly thereby raising concerns about human safety in the midst of congested boating, snorkeling, and scuba diving activity in the dark. The night time manta ray viewing activities are centered around two main viewing sites: Makako Bay (also called "Garden Eel Cove") and Keauhou Bay ("Manta Village" in front of the Sheraton Kona Resort & Spa at Keauhou Bay) (Figure 1). The Makako Bay site is primarily accessed via vessels from Honokohau harbor. The Keauhou Bay site is primarily accessed via vessels from the adjacent Keauhou Bay harbor and boat ramp, but it is also accessed by vessels from Kailua-Kona pier and from Honokohau harbor.

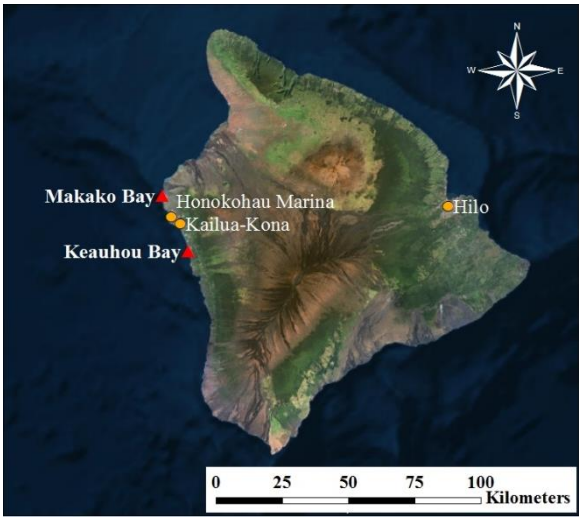


Figure 1. Map of the Big Island of Hawaii and the location of the two primary manta ray viewing locations: Makako Bay and Keauhou Bay.

Manta rays are large (up to 5.5 m wide), visually majestic creatures which feed by ingesting small zooplankton through their toothless mouths while swimming (Figure 2). Tiny marine animals called zooplankton (much of which hide in the reef during the

day) rise into the water column at night to feed and are attracted to artificial lights. At both sites, artificial lights are used to attract and aggregate zooplankton in high densities which in turn attract manta rays to nightly feeding opportunities. Tour operators use a variety of waterproof lights to localize and attract the manta rays for the viewing pleasure of their clients.

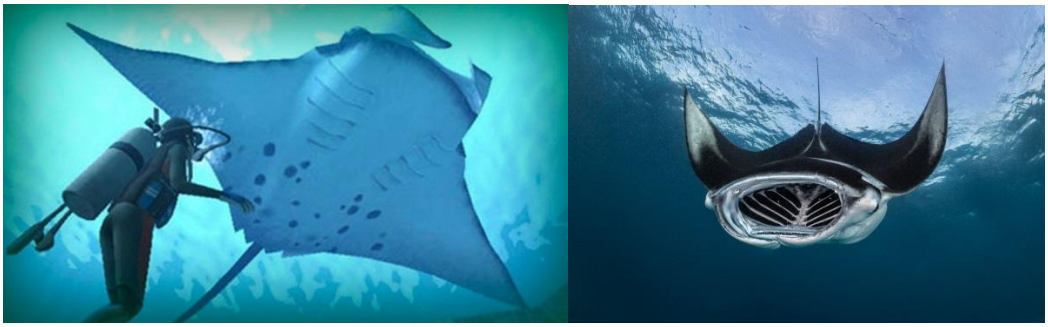


Figure 2. Manta ray swimming amongst scuba divers (*left*) and feeding on zooplankton (*right*). Images from California Divers and Adrian Basques.

The opportunity to view manta rays, sometimes in large numbers, is a significant attraction for both visitors and residents of Hawaii. The manta ray scuba diving and snorkeling tours in Kona (Figure 3) are widely advertised in the international travel & tourism media and are literally world renown. Scuba diving magazines and websites regularly list the Kona manta ray night dive and animal encounter as a top rated activity and scuba diving destination. The consistency with which mantas are available for viewing, the relatively easy access to these sites, and predominately calm ocean conditions of the Kona coast are major factors in their popularity. While not assessed in this study, the direct and indirect economic contributions of this activity to the local economy are likely substantial.

Figure 3. Manta ray swimming amongst scuba divers at night (*left*) and underneath snorkelers (*right*). Images from Alert Diver and Splashers Ocean Adventures.

Project methodology

The project was conducted in three phases consisting of User Requirements, Field Investigations, and Synthesis. For the User Requirements phase the existing information relevant for the manta ray viewing operations was reviewed including the Manta Ray Working Group meeting notes, the voluntary Manta Tour Operator Standards (endorsed by 20 operators), and existing regulations. Via interviews and email surveys, voluntary stakeholder input was compiled from 26 stakeholder organizations/companies (Appendix A) to assess current operations (equipment, normal procedures, crew training & experience,

and emergency protocols), perceived human safety risk factors, efficacy & limitations of voluntary protocols, and perceived regulatory solutions & limitations. Attempts were made to contact all known manta ray tour operators via email survey to give everyone the opportunity to provide input. In addition to tour operators, input was received from safety and regulatory organizations, relevant nonprofit organizations, adjacent land owners/managers, and a private boater.

For the Field Investigation phase, the two primary viewing sites were surveyed and mapped, all existing moorings were inspected and photographed, and night time operations were observed in detail on nine nights. Visual observations of operations were conducted at both sites from land and onboard tour operator vessels. Four days of operations were observed at Makako Bay and six days of operations were observed at Keauhou Bay. The operational observations quantified & characterized in-water activities, quantified & characterized boating activity, recorded behavior or activities increasing/decreasing safety risks, independently verified & confirmed potentially hazardous operational aspects.

Manta ray viewing operations

As of August 2015, at least 42 commercial tour operators (Appendix B) have been identified as visiting these two sites providing night time snorkeling and/or scuba diving tours for viewing manta rays. While some companies operate on a nightly basis, others provide manta tours less frequently or service the private charter vessel market. A few of the larger companies operate multiple motorized vessels on a nightly basis. The capacity of the vessels also varies from small six passenger boats to large vessels with over 40 passengers (Appendix C). Depending on weather, the number of vessels, snorkelers, and divers varies widely by date but averages 12-13 motorized vessels at one time. However, maximum number of vessels at each site on the busiest night is roughly double the average (Figure 4).

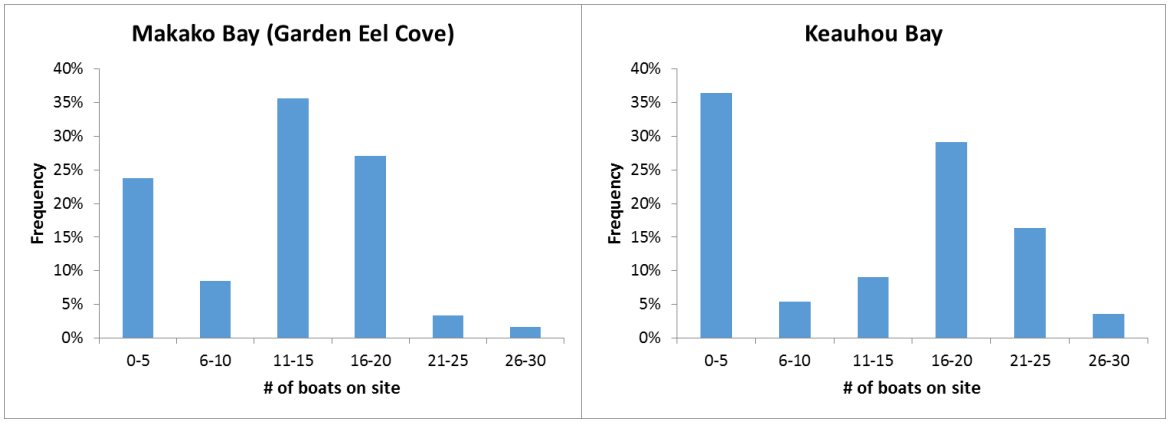


Figure 4. Frequency distribution of number of motorized vessels per night at each manta ray viewing site. Data derived from daily observation logs January-July 2015 from Manta Pacific Research Foundation. These data were collected from an operating vessel and therefore represent concurrent vessels on site. Total number of vessels visiting per night may be higher.

Makako Bay (Garden Eel Cove)

At Makako Bay, some scuba diving boats providing two tank dives arrive early, well before sunset, but most vessels arrive just prior to sunset while there is sufficient ambient light facilitate mooring/anchoring. Snorkelers entering the water and are generally associated with floating rafts (Figure 3). Peak in-water activity occurs 30-45 minutes after sunset before the first groups of snorkelers leave and after most scuba divers enter for their final night dive. A few vessels either operate a second shift or arrive very late (~2 hours after sunset) after most vessels have already departed the site.

During observations on Aug 10-13, 2015, a total of 16-19 vessels per night were observed with a visual count of 160-190 persons (snorkelers and divers) in the water concurrently. Due to limitations in visibility at night, this count represents a conservative estimate and the actual number was likely higher. Considering that up to 26 concurrent vessels have been recorded at this site (on April 3, 2015), the maximum number of persons in the water concurrently likely exceeds 290 persons on the busiest nights. During the observation period, the arrival and departure of vessels to the manta viewing area was somewhat synchronous with little live boating activity when a majority of persons are in the water (Figure 5). The tour operators who only cater to snorkelers tend to depart early while scuba divers are still underwater. Due to the limited number of moorings, the amount of live boating activity on busy nights is likely higher than observed during this study.

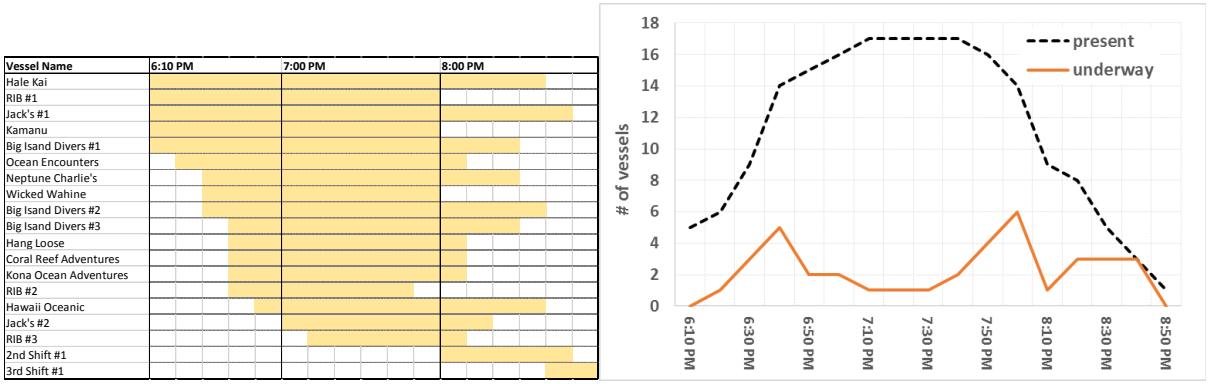


Figure 5. Time-motion statistics at Makako Bay on August 13, 2015 from 6:10-9:00 pm. Yellow bars indicate when each vessel, watercraft, or group was present at the manta viewing site. Each cell represents a 10 minute block of time. The beginning and end of each continuous yellow bar denotes when each vessel/group arrived and departed respectively. A nightly total of 19 vessels were observed with approximately 209 persons. During peak in-water activity 7:00-7:40 pm, most vessels were moored/anchored and relatively few were underway (i.e., actively motoring).

Snorkelers are accompanied by a guide, associated with rafts (e.g., floating boards with handles and equipped with downward facing lights, Figure 3), and remain at the surface of the water (free diving is discouraged by tour operators). In some cases the rafts are tethered to the originating vessel but in other cases, the rafts are free floating enabling the group to adjust their location independent of the originating vessel. While a majority of the snorkelers observed had individual lights, many regularly do not. On occasion, individual snorkelers or guides without lights were observed straying > 40 ft from their group raft.

Scuba divers are accompanied by a diver master/professional and generally begin their descent next to their originating vessel before transiting underwater to a central “campfire” site where underwater lights are aggregated to attract manta ray feeding. Given the dispersion of vessels, the underwater transits originate from all directions. In general, divers return to their originating vessel prior to ascending to the surface. However, an individual scuba diver was observed briefly surfacing in an unplanned location during their transit to/from an originating vessel.

Keauhou Bay (Sheraton Kona Resort)

At Keauhou Bay, the activity by “regular” operators (who are based on Keauhou Bay) are primarily focused on snorkelers and the boat activity can be considerably lower than at Makako Bay (Figure 4). Unlike the operations at Makako Bay which is adjacent to restricted shoreline access (i.e., Kailua-Kona International Airport and Natural Energy Laboratory of Hawaii Authority), the Keauhou Bay site is accessible from shore by kayaks, stand up paddleboards (SUPs), and individual swimmers via a nearby

public shoreline access point. Given the proximity of the snorkeling site to Keauhou harbor and boat ramp, a few commercial operators operate up to three shifts nightly. When manta rays are not frequenting the Makako Bay site, commercial operators who normally visit Makako Bay move their scuba diving and snorkeling operations south to Keauhou Bay. The result is a bimodal distribution in activity and the potential for very high boating activity on certain nights (Figure 4).

During observations on June 22-23 and Aug 19-21, 2015, a total of 7-22 vessels per night were observed with a visual count of 114-177 snorkelers and divers (including customers and guides) in the water concurrently. A few of the Keauhou based snorkel charters operate vessels (i.e., *Hula Kai*, *Hokuhele, Kona Style*) with high capacity. On the busiest days (e.g., 28 boats on July 6, 2015), the maximum number of persons in the water concurrently likely exceed 310 persons. In general, the activity at Keauhou Bay is less synchronous than at Makako Bay with vessels continuously arriving and departing throughout the night. The result is continuous live boating activity at the site.

To help illustrate the overlap in boating activity with in-water snorkelers and divers, an intensive time & motion study was conducted on August 21, 2015 from 6:20-10:00 pm from the 2nd floor of the Sheraton Kona Resort. In addition to static totals (21 vessels, 6 kayaks, 1 SUP, and 301 persons), the arrival & departure and the live boating activity for each vessel was tracked across time along with the timing of persons entering and exiting the water from each vessel and from shore. Data was aggregated for each 10 minute block of time, where the number of in-water persons were quantified verses the number of vessels actively motoring at the site. Peak overlap occurred between 7:20-8:00 pm with 98-177 persons in the water while 5-10 vessels were actively motoring in the confined area (Figure 6-7).

Greater overlap between actively motoring vessels and in-water persons would occur on busier days especially given the limited availability of moorings. For example, up to 28 concurrent vessels have been observed at Keauhou (April 3, 2015) which would represents a 38% increase over the maximum of 16 concurrent vessels observed on the date of this time-motion study.

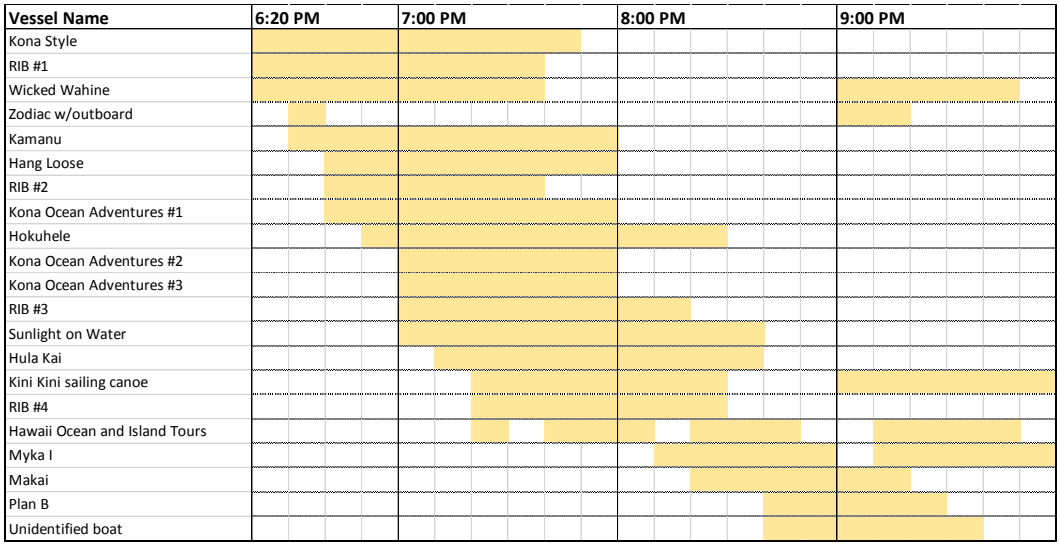


Figure 6. Time-motion chart at Keauhou Bay on Aug, 21, 2015 from 6:20-10:00 pm. Yellow bars indicate when each vessel, watercraft, or group was at the manta viewing site. Each cell represents a 10 minute block of time. The beginning and end of each continuous yellow bar denotes when each vessel/group arrived and departed respectively. Note that some vessels visit the site multiple times per night.

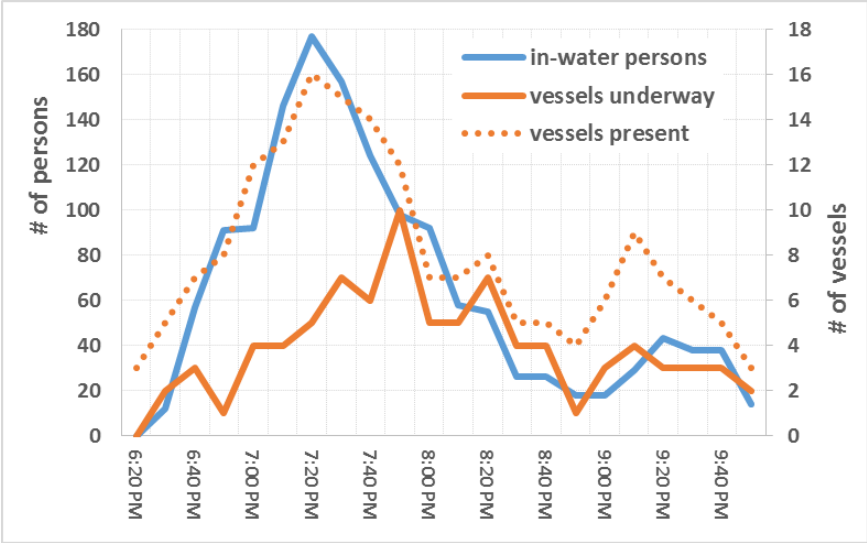


Figure 7. Overlap between in-water persons and live boating activity (i.e., vessels underway) at the Keauhou Bay manta ray viewing site on August 21, 2015. A total of 21 vessels and 301 persons visited the site.

Attempts to collect similar quantitative details at Makako Bay were not successful due to the lack of a feasible observation platform. The distance and elevation of the available shoreline observation stations did not provide sufficient night time visibility to obtain reliable counts. The elevation and motion stability from available vessel observation platforms also did not support the ability to obtain consistently reliable counts across time.

Mooring usage

At Makako Bay, seven moorings with subsurface floats are used on a nightly basis (Figure 8, Table 1). Five are anchored using double pins, one (north inside) is anchored with a single pin, and one (north outside) is secured to a large boulder via chains (Figure 9). The north outside mooring is not a U.S. Army Corp of Engineers (USACE) permitted mooring. These moorings are located in close proximity and surround the circle of rocks known as the stone circle "campfire" where scuba divers place lights and sit on the seafloor to view manta rays (Figure 8). The campfire is the primary manta ray viewing site for scuba divers in Makako Bay.

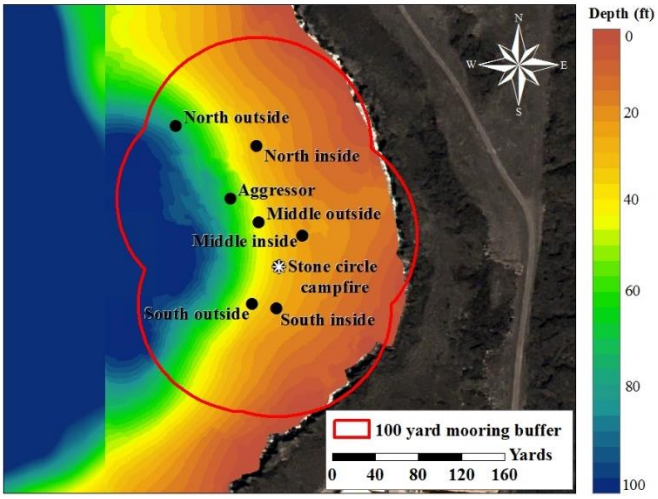


Figure 8. Map of the Makako Bay manta viewing site and the day-use mooring locations – both official and unofficial. The red outline indicates the 100 yard perimeter surrounding the official day-use moorings.

Given the number of vessels compared to available moorings, at least 2-3 vessels simultaneously use each mooring on a nightly basis. The boats are attached end-to-end ("daisy chained") to each other. Given that the number of vessels observed at Makako Bay during this study was well short of its peak activity, the number of vessels per mooring likely increases on busier days. Due to the limited number of moorings and space constraints, vessels also commonly anchor

nearby (within 100 yards of the moorings). Some vessels, particularly smaller boats arriving after dark, do not moor or anchor but "live boat" throughout the duration of the night. These boats typically drop-off and pick-up snorkelers near the campfire and wait offshore in the interim.

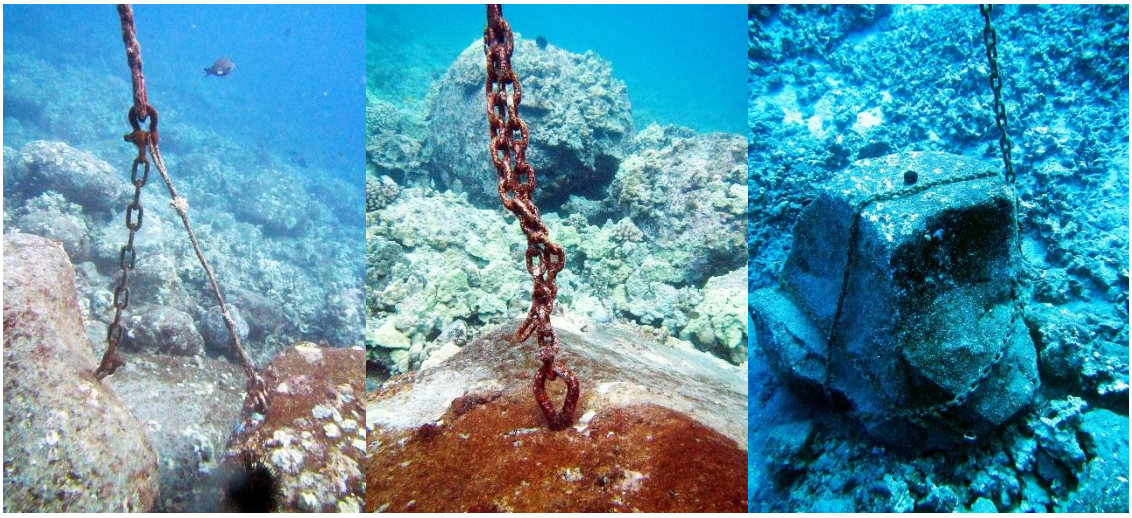


Figure 9. Day-use moorings at Makako Bay: (*left*) middle outside with double pin anchor, (*middle*) north inside single pin anchor, and (*right*) north outside with chain anchor.

At Keauhou Bay, there are seven moorings but only four have subsurface floats. Three are anchored using double pins, one (inside north) is anchored with a single pin, and three (Aggressor north, Aggressor south, south chain) are anchored to large boulder via chains (Figure 10, Table 1). The three chain moorings do not have subsurface floats and are not USACE permitted moorings. Additionally, the south chain mooring is not secure and consists of a chain loosely looped over a boulder (Figure 11). The Keauhou moorings are located in close proximity to the boat channel which is actively used throughout the day and night by vessels not associated with the manta ray viewing operations.

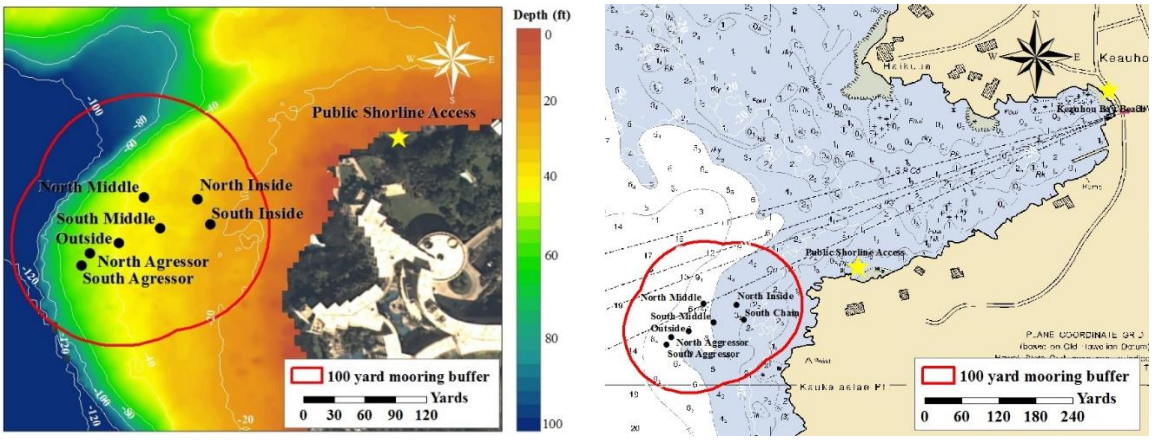


Figure 10. Map of the Keahou Bay manta viewing site (*left*) and the day-use mooring locations– both official and unofficial. The red outline indicates the 100 yard perimeter surrounding the official day-use moorings and the yellow star indicates the location of the public shoreline access. The NOAA nautical chart (*right*) showing the Keauhou harbor boat channel and its proximity to the day-use moorings.

Based observations, the four moorings with subsurface floats are regularly used by at least one vessel. Some vessels, arriving after dark, do not moor but instead drop anchors presumably due to their inability to locate available moorings. Boats have also commonly been observed live boating throughout the duration of the night. During busy nights, 3-4 boats were observed using each mooring simultaneously. Compared to the Makako Bay site, the vessels at Keauhou Bay are less centralized and more dispersed along the shoreline and anchoring is much more frequent. While not assessed within the scope of this study, the live coral cover was observed to be quite high throughout the area where anchoring was observed. Damage to live coral colonies is likely unavoidable when anchoring in this area, especially at night.

Figure 11. Day-use moorings at Keauhou Bay: (*left*) middle south with double pin anchor, (*middle*) inside north with single pin anchor, and (*right*) south chain which is only loosely wrapped around a boulder.

Attempts were made to reconcile the moorings verified during this study with existing records from Malama Kai (http://www.malama-kai.org/) and DLNR DOBOR administrative rules. However, GPS coordinates listed in the records do not align with the high sensitivity GPS coordinates recorded by a Garmin 72H directly over each mooring in this study (Table 1). Assuming that the Malama Kai records list all day-use moorings approved by the Army Corp of Engineers and the Hawaii DLNR Land Board, there are several unapproved moorings which are being used at both sites. Despite the discrepancies with the Malama Kai online records, Teri Leicher of Malama Kai states that all of the double pin and single pin moorings at both sites are approved.

At Makako Bay, at least one or two of the moorings with subsurface floats are not permitted/approved. At Keauhou Bay, three chain based moorings and possible one of the moorings with a subsurface float are not permitted/approved. Of all day-use moorings at both sites, only one at Makako Bay is actually codified in the DLNR DOBOR administrative rules which guide enforcement activities (per Dan Mersburgh, DLNR DOBOR).

The risk of mooring failure was not thoroughly assessed in this study due to external dependencies for information and engineering expertise which were not met in time for issuing this report. However, rough engineering calculations on the available mooring specification data suggest that the mechanical force exerted on a single mooring from four rafted vessels may easily exceed the design specifications of the mooring causing potential failure under conditions of high wind (e.g., 30 mph) and significant swell (per Finn McCall, DLNR DOBOR). More detailed analysis should be performed to assess what level of vessel rafting and what weather conditions can be safety supported by the moorings.

Hazards to human health and safety

Consistent with classical risk assessment and management methodology, this safety assessment defines and assesses the **hazards** to human health & safety independently from their **likelihood** (i.e., probability) of occurrence (Figure 12). Hazards are prioritized in order of potential severity. **Risk factors** which increase hazard severity and/or likelihood will be assessed. **Mitigating factors** employed to reduce severity and/or likelihood will also be assessed.

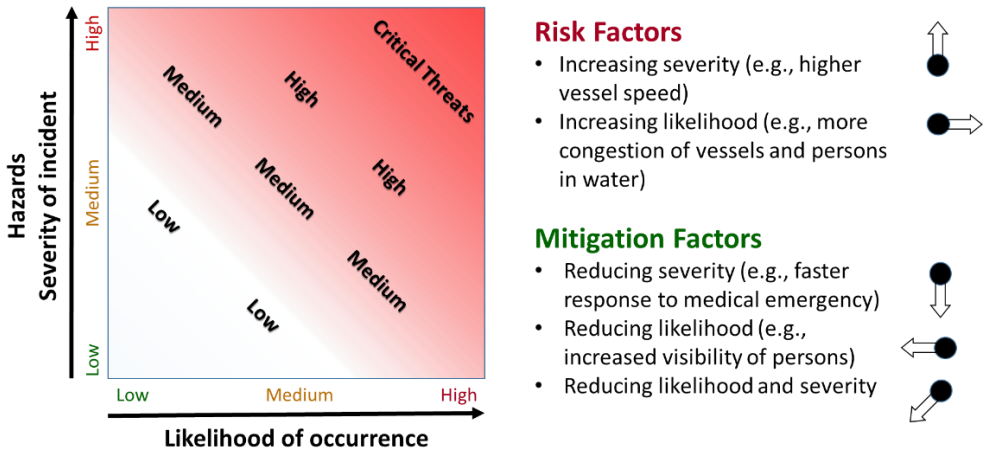


Figure 12. Classical risk assessment and management framework. The severity or impact of a hazardous incident occurring is represented in the vertical axis while the likelihood or probability of occurrence is represented in the horizontal axis. The resulting gradient represents the highest threats (upper right corner) which should be prioritized for management attention. Risk factors increase the threat level either by increasing severity of a hazard and/or increasing the likelihood of occurrence. Conversely, mitigating factors reduce the threat level posed by hazards by reducing the severity of the hazard and/or reducing the likelihood of occurrence.

Given the nature of the manta viewing operations, there are several potential human safety hazards which range in level of severity. Some hazards are inherently associated with any in-water activity but others are exacerbated by specific nature of the manta viewing operations and/or the level of congestion on a given night. Hazards have been classified based on potential severity of injury and resulting consequences.

For purposes of this assessment, hazards have been classified as **high** if they can result in severe injury or death, **medium** if they can result in injury requiring professional medical attention but are most likely non-life threatening, and **low** if they can result in minor injury (i.e., not requiring professional medical attention) but possibly ending recreational activity for the individual(s). Specific hazards identified via stakeholder input and review of current operations include the following:

High: severe injury or death possible

(1) Live vessel (while engines in gear) or propeller strike on swimmer/diver
(2) Anchor strike on subsurface diver
(3) In-water medical emergency (i.e., heart attack, stroke, etc.)
(4) Drowning (e.g., due to panic, loss of floatation, or subsurface loss of air)
(5) High speed boat-to-boat collision

Medium: injury requiring medical attention possible

(6) Drifting vessel strike (engines off)
(7) Swimmer/diver hitting idle vessel (e.g., swimming into boat or surfacing under boat), or accidentally kicking idle propeller

(8) Manta ray colliding with swimmer/diver
(9) Slow-no-wake speed boat-to-boat collision

Low: minor injury possibly ending recreational activity

(10) Contact with hazardous marine life (urchins spines, coral abrasion, stinging organisms)
(11) Swimmer accidentally hitting/kicking another swimmer
(12) Mild hypothermia
(13) Swimmer fatigue

The scope of this assessment will address high severity hazards relative to the manta ray viewing operations and factors affecting their severity and likelihood. While the likelihood of hazardous incidents occurring cannot be definitively calculated without substantial, detailed historical data, valuable qualitative insights can be gleaned from the available data, assessment of stakeholder input, and limited observations performed in this study. Generic diving or boating related hazards not specific to or exacerbated manta ray viewing operations are not addressed.

Risk factors contributing to severity and likelihood of incidents/accidents

For each type of hazard there are risk factors that influence the severity and likelihood of hazards occurring (i.e., incidents/accidents). Some of these factors can be influenced to varying degrees by operating procedures employed by individual tour operators. For purposes of this assessment, these factors have been classified in the following categories with an indication of whether they are addressed within the scope of this study and if so, what information was used in their assessment.

- **Natural ocean & atmospheric conditions** including level of ambient light, wave swell, wind speed, currents, and underwater visibility
  - *not addressed in this study; can be mitigated via operator decision to cancel tours*
- **Customer health and snorkeling/diving ability**
  - *not addressed in this study; can be mitigated via operator screening of customers*
- **Operator skill/experience/readiness** including number of crew, level of training & experience of captain & crew, crew utilization & attentiveness, emergency procedures & medical equipment
  - *voluntary stakeholder input collected via interviews & email survey*
- **Operating procedures & equipment** including in-water supervision ratios, aggregation versus dispersion of swimmers/divers, use of group flotation & lights, use of individual flotation & lights
  - *Assessed via direct observations, and voluntary stakeholder input collected via interviews & email survey*
- **Crowding/congestion** including number of boats and divers/swimmers in water
  - *Assessed via direct observations, compilations of statistics provided by Manta Pacific Research Foundation, and voluntary stakeholder input collected via interviews & email survey*
- **Live boating near swimmers & divers** including the synchronicity of operations and the behavior of vessel captains, swimmers, and divers
  - *Assessed via direct observations, and voluntary stakeholder input collected via interviews & email survey*
- **Mooring availability & integrity** including mooring specifications, number of vessels using each mooring, and vessel size(s)

- *Assessed via mooring verification survey, commercial vessel specifications, mooring specifications, and DLNR DOBOR engineering calculations*

Risk assessment of individual hazards

Live vessel or propeller strike on swimmer/diver at night

Probably the most severe hazard associated with the night time manta viewing operations is a live vessel or propeller strike on a person in the water, particularly on the head. Several risk factors which can increase the likelihood of a live vessel or propeller strike include the following:

(a) Number of live boating vessels and in-water persons
(b) Timing overlap of in-water persons and live boating activity
(c) Spatial proximity of live boating vessels and in-water persons
(d) Visibility of in-water persons (including use of lights) and surfacing behavior of scuba divers & free divers
(e) Speed of live boating vessels
(f) Crew utilization and attentiveness, and use of spot lights on live boating vessels

Of these risk factors, vessel speed (**e**) is the only factor which also increases severity of hazard.

In the operational statistics previously reviewed, the level of congestion and overlap of in-water persons and live boating vessels have been quantified and demonstrate ample opportunity for an accident to occur due to (**a**) and (**b**), especially on the busiest days. Additionally, the spatial proximity of the Keauhou manta viewing site to an active boat channel increases the likelihood of an accident (Figure 10).

Ten days of direct observations (confirming stakeholder input) have recorded operator and swimmer/diver behavior which needlessly increases the likelihood of an accident occurring due to (**c**), (**d**), and (**e**). On a nightly basis, multiple vessels have been observed traveling above minimum operating speeds (**e**) and passing within 10-20 ft of in-water persons (not associated with the vessel) (**c**) who are not wearing individual lights (**d**). Unlit swimmers have also been observed venturing away (>40 ft) from their groups/rafts or swimming to/from shore (at Keauhou Bay). On one occasion, a scuba diver was observed briefly surfacing unexpectedly (**d**) halfway between their originating vessel and the campfire (at Makako Bay). The visibility of in-water persons (**d**) by vessel operators can be both enhanced and degraded by the use of strong lights. The use of strong lights by one operator can substantially enhance their vision and ability to avoid in-water persons while concurrently hampering the vision of other operators.

During the night-time observation periods, unrelated vessels exiting and entering the Keauhou harbor at high speed avoided the manta ray viewing area where most moored/anchored vessels were well lit. This behavior contrast to day-time activity when vessels commonly transit over the day-use moorings at high speed when entering & exiting the Keauhou boat harbor. However, on one night multiple groups of swimmers associated with lighted rafts were observed following manta rays well into the boat channel (north of the North Middle mooring) as defined by the NOAA nautical chart (Figure 10).

On three occasions, vessels were observed transiting above minimum operating speed directly over submerged divers (**c**) visible from their dive light and in one case confirmed by the diver's behavior afterwards (i.e., waving their dive light upward in response). Due in part to congestion, vessels regularly pass within 20 ft of subsurface divers (**c**). The movement and dispersion of subsurface divers relative to moored/anchored vessels contributes to this spatial proximity. On one occasion, subsurface divers moved to within 10 ft of the stern of a moored vessel (**c**) and remained stationary for an extended period of time (>30 minutes). Subsurface divers transiting underneath moored/anchored vessels is a common occurrence due to the congestion of vessels in a confined area.

Direct observations also confirm some operators employing mitigating behavior to reduce the likelihood of accidents. Many vessels (but not all) clearly take the most evasive route possible (**c**) and use minimum operating speed (**e**) exercising an abundance of caution when approaching or leaving the area with in-water persons. Some (but not all) moving vessels also employ extra crew on the bow or stern with spotlight(s) to avoid in-water persons (**f**). A majority of operators place individual lights on in-water persons (**d**) although this practice appears less consistent on the snorkeling guides themselves. The general procedure practiced by all scuba diving operators is to descend and surface next to their originating vessel (**d**), however, unplanned surfacing inevitably occurs for a small percentage of scuba divers. Scuba divers at the manta viewing sites do not use surface markers or dive flags due to the entanglement hazard they pose to the manta rays at night.

Free diving (**d**) is also discourage by all tour operators but has been observed, especially at Keauhou Bay. In close proximity to moving vessels, lengthy free dives which may include transiting a significant distance underwater disproportionately increases the risk of an accident.

Anchor strike on subsurface diver

Another potentially severe hazard associated with the night time manta viewing operations is an anchor strike on a subsurface diver, especially on the head. Risk factors which can increase the likelihood of an anchor strike include the following:

- **(g)** The number of vessels using anchors and number of subsurface scuba divers
- **(h)** Timing overlap of subsurface diving and arrival time of vessels
- **(i)** Anchor deployment procedures

Of these risk factors, anchor deployment procedures (**i**) is the only factor which can also increase the severity of hazard.

The risk factors associated with this hazard differ by manta ray viewing site. At Makako Bay where scuba diving occurs nightly weather permitting, the vessel arrival schedules are more synchronized with fewer vessels arriving after dark while subsurface scuba divers are in the water (**h**). At Keauhou Bay, scuba diving is less regular but the vessel constantly arrive throughout the night (e.g., Figure 6). At both locations, the busier nights (**g**) result in an increase in both the need for anchoring (due to limited availability of moorings) and the timing overlap between subsurface divers and arriving vessels (**h**).

Dropping an anchor from a vessel at night without inspecting the seafloor and allowing it to free-fall at maximum speed to the bottom not only increases the likelihood of an accident but also maximizes the severity of the hazard. This behavior was observed on several occasions at Keauhou Bay and appears to be a common practice. This practice was not observed at Makako Bay during the four days of observation. Less caution at Keauhou Bay may be the result of scuba diving being less common there.

Direct observations also confirm this most operators mitigate this risk by slowly lower their anchor hand-over-hand and/or employing an in-water observer to help guide the anchor. However, even when lowered hand-over-hand, an anchor strike on the head on a subsurface diver has the potential to injure or render them unconscious.

In-water medical emergency

Due to preexisting medical conditions, medical emergencies (i.e., heart attacks, strokes, etc.) will be directly proportional to the number of at-risk persons involved in any physical activity. Due to the increasing number of persons engaging in night time manta ray viewing, its widening appeal to snorkelers, and the low barriers to entry (i.e., no prerequisite training or skill required), such incidents can be expected at a consistent ratio. Based on stakeholder input, such events appear to occur every year and should increase as the number of participants increase.

The most direct and possible only effective way for operators to lower the likelihood of such incidents is to screen customers for medical condition and skill level prior to in-water activities. While

this practice is institutionalized in the scuba diving industry, there are no standards associated with snorkeling tours. Some snorkeling operators have indicated that they deliberately screen customers based on health or snorkeling experience. However, customer dishonesty about their medical condition or skill level has been noted in the past. Another practice which prevents operators from proactively screening customers is the use of independent third party booking agents. In these situations, the operators do not meet the customers until they are ready to board the vessel.

The risk major factors affecting the severity of incidents and conversely the mitigating factors reducing severity are as follows:

(j) Response time to medical attention
(k) Ratio of crew/guides to customers and their vigilance
(l) Crew preparation, response training, skill, and equipment

While no in-water medical emergencies occurred during the observation period, risk factors were assessed based on observations and stakeholder input. Response time (**j**) will be directly affected by the level of congestion blocking the shortest path of getting a victim onto a responding vessel, the proximity of originating vessel to in-water persons, and in some cases the sheer size of the in-water victim.

The number and size of floating rafts and number of snorkelers can impede the ability to quickly transfer an in-water victim to a responding vessel. Due to the configuration of snorkeling rafts and the absence of fins on some snorkelers the speed and mobility of a raft is often dependent on a single guide's ability to pull everyone through the water. Noise levels (e.g., people shrieking with delight as they see manta rays) can also inhibit timely detection of a medical emergency and subsequent communication to a responding vessel.

Direct observations of operations suggest that response time to an in-water victim can be hampered by distance and congestion on busy days. Some operators commonly allow their free floating rafts of snorkelers to travel >100 yds from their vessel and out of direct line of sight. In some cases due to congestion, the originating vessel remains unmoored/unanchored offshore. A past fatality associated with slow response to an in-water medical emergency has prompted one operator to keep their snorkeling rafts tethered to the vessel keeping them in close proximity at all times.

Supervision of recreational scuba divers by diving professionals is governed industry standards (i.e., PADI, SSI, NAUI, etc.) in terms of training & certification requirements and the appropriate supervision ratios associated with each type of diving situation. All scuba diving operators reportedly adhere to industry standards and guidelines due in part to certification and insurance requirements.

For swimming or snorkeling tours, there are no industry standards on training & certification requirements for operators or guidelines on supervision ratios. Via voluntary input, tour operators have indicated that they maintain in-water snorkeler to guide ratios ranging from 6:1 to 13:1 (**k**). Given the scuba diving orientation of many tour operators, snorkel guides are often PADI certified Dive Masters or Rescue Divers. At least one company states that they only hire snorkeling guides with American Red Cross Lifeguard certification, CPR & First Aid certification, and prior lifeguarding work experience. Based on stakeholder input, companies can and do employ snorkel guides without any formal training or certification. The extent and level of lifeguard training associated with operators and their crew were not confirmed by this study.

Since there are no uniform requirements, the medical equipment available on vessels varies by operator but can include First Aid equipment, Medical Oxygen (e.g., DAN Oxygen), and Automated External Defibrillators (AED). The formal training associated with this medical equipment also varies by operator.

Drowning (excluding medical emergencies)

As with any in-water activity, drowning is a potential hazard that increases proportionately with the number of persons in the water. The risk major factors affecting the likelihood of a drowning incident include the following:

(m) Ocean conditions
(n) Swimming ability
(o) Availability and use of personal floatation

The most direct ways for operators to lower the likelihood of a drowning are via preventative measures including cancellation of operations during adverse ocean conditions (**m**), screening customers for skill level prior to in-water activities (**n**), and requiring the proper use of adequate personal flotation (**o**).

While reported by multiple stakeholders as a potential risk factor, this study was not designed to assess the swimming ability of visitors to the manta ray viewing sites. However, small children were observed joining in night time snorkeling activity and having to be individually escorted back to their originating vessel prematurely by their snorkeling guide.

The use of flotation in the form of group rafts appears to be universally employed by commercial snorkel operators. However the use of personal floatation varies and includes the use of inflatable swim vests, naturally buoyant neoprene wet suits, and unattached floats (e.g., foam noodles for keeping legs afloat). All operators surveyed indicated that personal floatation devices (PDFs) are always made available for customer utilization. Some snorkelers, presumably those comfortable in their swimming ability have been observed without personal floatation which can interfere with swimming efficiency.

The risk major factors affecting the severity of drowning incidents and conversely the mitigating factors reducing severity are analogous to those of an in-water medical emergency (**j**) (**k**) (**l**) and discussed in the prior section. In the opinion of Hawaii Fire Department Ocean Safety Division Capt. Chris Stelfox, formal lifeguard training and certification should be required of all snorkeling guides with a maximum swimming to lifeguard ratio of 25:1 when swimmers are associated with a central floating raft. Capt. Stelfox does not consider scuba diving training and certification (e.g., PADI Rescue Diver) as a sufficiently rigorous qualification for snorkel guides.

High speed boat-to-boat collision

The major risk factors which can increase the likelihood of a high speed boat collision include aforementioned (**f**) crew attentiveness, (**e**) vessel speed, and the following:

(p) Proximity of vessels to boat channel traffic
(q) Visibility of vessel moored/anchored or underway (including natural ocean & atmospheric conditions)

Given the isolation of the Makako Bay site and the shape of the embayment, the only vessels visiting the site are those participating in the manta ray viewing activities. Therefore, a high speed collision at the site is unlikely. However, due to the multiple shifts of tours conducted at Makako Bay, there is concurrent high speed vessels traffic travelling in both directions between Honokohau harbor and Makako Bay at night. While this hazard is not unique to manta ray viewing operations, the nature of the scheduling guarantees that vessels will encounter each other on busy nights.

At Keauhou Bay, the proximity of the boat harbor elevates the interaction between manta ray operators and unrelated vessel traffic. For regular night-time Keauhou harbor users, familiarity with the manta ray viewing site likely mitigates the likelihood of a collision due to (**e**) (**f**) (**q**) despite (**p**). During the observation period, vessels entering & exiting the harbor at night consistently gave the manta ray viewing site a wide berth. Under normal conditions, significant operator negligence would be required for an accident to occur. However, a few vessels at the Keauhou manta ray viewing site have been observed mooring/anchoring without the use of lights in the midst of several well lit vessels. Additionally, on one occasion a zodiac without any lights was observed repeatedly entering & exiting the harbor to/from the manta ray viewing site.

Existing regulatory frameworks

Several regulatory frameworks currently regulate various aspects of the manta ray viewing operations. These frameworks include permits, zone restrictions, mooring use, navigation restrictions, and environmental protection. Manta ray tour operators are required to obtain a **Commercial Use Permit for State Ocean Waters** and either a **Harbor Commercial Use Permit** or a **Launch Ramp Permit** depending on the status of their vessel(s). The recent increase in the number of permits issued has led to an increase in the number of tour operators offering manta ray viewing activities. There are currently no activity-specific restrictions (e.g., associated with manta ray diving or snorkeling or night time activities), capacity restrictions (e.g., number of persons), location restrictions, or equipment requirements/restrictions (e.g., lighting, propeller guards, medical equipment, etc.) associated with these state permits.

While location and activity specific restrictions within **Ocean Recreation Management Areas (ORMAs)** have been applied to regulate and limit activities and ensure safety at other locations, activities at Makako Bay and Keauhou Bay are not currently regulated by location or activity specific administrative rules. There are currently no regulations restricting the locations for live boating, diving, or swimming at these sites.

With respect to **mooring and anchoring** at the manta ray viewing sites, a few regulatory frameworks are currently in place. Day-use moorings are required to be approved by the Army Corp of Engineers and the DLNR Land Board. As mentioned in the previous section, unapproved day-use moorings exist at both sites and are used on a nightly basis. DLNR administrative rules limit day-use mooring usage to 2.5 hrs while another vessel is waiting and prohibit anchoring within 100 yds of a day-use mooring. *See* HAR §§ 13-257-3, 13-257-4. There are currently no regulations or restrictions associated with rafting multiple vessels on a single mooring.

General DLNR and U.S. Coast Guard **navigation** related rules govern vessel navigation in proximity to a displayed dive flag and light/signaling requirements for vessels anchored/moored, with divers in the water or with restricted movement. Vessels are prohibited from approaching within 100 ft of a displayed dive flag unless there are intending to conduct diving or swimming activities in which case they are required to approach at a speed of slow-no-wake. This buffer is reduced to 50 ft within navigational channels. From discussions with the U.S. Coast Guard and DOBOR, the definition of the regulatory term “slow-no-wake speed” is potentially ambiguous and may include speeds in excess of minimum operating speed (required to maintain steerage). There are currently no regulations governing how close vessels (involved in diving/snorkeling operations) are allowed to travel to unrelated in-water persons. For examples, vessels are allowed to motor over subsurface divers at slow-no-wake speed.

DLNR administrative rules and U.S. Coast Guard require divers (SCUBA and free divers) to display **dive flags** within 100 ft of them either in the water or on the highest point of their vessel. Despite the lack of flag visibility in the dark, there are no regulations regarding the use of lighted flags/markers by divers at night. There are currently no regulations governing the visibility of surface snorkelers/swimmers (i.e., non-divers) in the ocean at night despite the obvious hazard.

Unrelated to human safety, DNLR environmental protection regulations prohibit knowingly capturing or killing manta rays and anchor damage to stony corals. *See* HRS § 199-39.5, HAR § 13-95-70.

As with any government regulation, compliance can vary and is affected by practical constraints on enforcement. During this study, several technical violations of existing regulations were observed. During this study, a vessel was observed operating at night without running lights (at Keauhou Bay) and anchored/moored without any lights (in the midst of several other vessels with proper lights). One vessel was observed dropping off an individual with a lighted raft at the Keauhou Bay manta ray viewing site, leaving the site to go to the harbor, then returning 20 minutes later.

At both sites, vessels often occupy day-use moorings longer than 2.5 hrs and routinely anchor within 100 yds of occupied day-use moorings. Since only a single mooring at Makako Bay (DLNR #13, Table 1) and none at Keauhou Bay are formally listed in the DLNR administrative rules, enforcement of existing day-use mooring regulations may not be feasible until the administrative rules are updated.

At both sites, vessels routinely operate at speeds above minimum operating speed within close proximity to in-water persons. Arguably these vessels are not violating the slow no-wake speed requirement but they are easily exceeding minimum operating speed required to maintain steerage which is considerably slower when conditions are calm.

Voluntary tour operator standards

Independent of government regulations, community cooperation and voluntary standards can govern aspects human safety of manta ray viewing operations. A working group of tour operators have established a list of voluntary operating standards aimed at maintaining human safety and environmental stewardship. These standards were finalized in March of 2013 and promoted online by Manta Pacific Research Foundation (http://www.mantapacific.org/#!manta-tour-operator-standards/ci5b) and the Manta Ray Green List (http://www.mantaraygreenlist.com/operator-standards/). While not universally adopted by all operators, these voluntary standards have in many ways have improved the safety of manta ray viewing operations despite the high number of participants. For example, the widely adopted and voluntary practices of using individual lights on snorkelers/swimmers, centralizing them on floating rafts, and prohibiting free diving, have substantially (but not totally) mitigated some of the risks associated with placing large numbers of persons in the water at night amongst actively motoring vessels.

Since the goals of this study was to assess the current operation relative to human safety, it is important to acknowledge the substantial contributions to human safety associated with some of these voluntary standards. It is also important to acknowledge that some of the provisions in the voluntary operating standards are unrelated to human safety. Some provisions also conflict with the operating model employed by some tour operators (e.g., providing dry boat-based manta ray viewing opportunities) and are a source of contention among tour operators. Providing a critical assessment and/or endorsement of the individual provisions within these voluntary standards was not an objective of this study and not performed.

Conclusions

Severe safety hazards are currently associated at the manta ray viewing activities at Makako Bay and Keauhou Bay. The probability for a severe accident is relatively low since a concurrent overlap in both time & space of two or more hazardous behaviors is required for a severe accident to occur (e.g., vessel motoring over subsurface divers and unplanned/uncontrolled diver ascent). However, on a nightly basis substantial overlap in the timing of hazardous behaviors occurs, and complete spatial overlap in hazardous behaviors occurs. These existing data and observations suggest that a severe accident is mathematically inevitable and will occur in the future without significant mitigation of the existing risk factors.

While voluntary tour operator standards have contributed to increased human safety and current government regulations address general boating and diving safety, the unique human safety issues associated with this activity (e.g., high density of in-water persons and vessels in the ocean at night) warrant special attention. In particular, night-time congestion and the overlap (in time & space) between live boating and in-water persons are major factors which substantially increase the likelihood of a severe accident. Existing permit requirements provide an overall level of capacity control for all

commercial vessels; however, no other regulatory control is in place to prevent further growth commercial and recreational activity. Unsuccessful attempts to “develop” additional manta ray viewing sites by tour operators have exacerbated the congestion at Makako Bay and Keauhou Bay. If popular demand for this activity continues to exceed supply (e.g., tour operators often fully booked during peak season) and commercial revenue potential remains high, continued growth in commercial activity can be expected.

The onset of adverse weather conditions reducing visibility (e.g., rain), increasing minimum operating speed (e.g., wind), or the rapid departure from normal operations associated with an unexpected event (e.g., medical emergency, mooring failure, large shark sighting, etc.) can significantly elevate risk and the likelihood of an accident. The extent of elevation is dependent in part on the skill, experience, and reaction of tour operators and their crew and may be disproportionately influenced by the lowest common denominator, especially in a confined & congested area.

A formal assessment and vetting of regulatory options are recommended to determine how best to mitigate the severity of existing hazards and reduce the likelihood of severe accidents. This process should include an assessment of regulatory limitations with detailed input from all stakeholders to anticipate the potential for unintended consequences, identify regulatory loopholes, and recognize practical enforcement limitations.

Table 1: Day-use moorings at Makako Bay and Keauhou Bay

Existing moorings verified in this study

Site	Name	Mooring Type	Latitiude N	Longitude W	depth (ft)	photos
Makako	North Outside	chain around rock	19 44.242	156 03.281	80	G7
Makako	North inside	single pin	19 44.233	156 03.244	23	G3
Makako	Aggressor	double pin	19 44.209	156 03.256	72	G6
Makako	Middle outside	double pin	19 44.198	156 03.243	38	G2
Makako	Middle inside	double pin	19 44.192	156 03.223	30	G1
Makako	South outside	double pin	19 44.161	156 03.246	34	G5
Makako	South inside	double pin	19 44.159	156 03.235	23	G4
Keauhou	Outside	double pin	19 330543	155 58.065	36	K01
Keauhou	Aggressor North	chain around rock	19 33.538	155 58.079	47	K02
Keauhou	Aggressor South	chain around rock	19 33.532	155 58.083	48	K03
Keauhou	Inside North	single pin	19 33.564	155 58.027	29	K04
Keauhou	Middle South	double pin	19 33.550	155 58.045	34	K05
Keauhou	Middle North	double pin	19 33.565	155 58.053	38	K06
Keauhou	South Chain	chain around rock - loose	19 33.552	155 58.021	26	K07

Day-use moorings listed in the Malama Kai records

Site	Name	Mooring Type	Latitiude N	Longitude W	depth (ft)	
Makako	Garden Eels North		19 44.230	156 03.240		
Makako	Garden Eels Central		19 44.202	156 03.235		
Makako	Garden Eels East		19 44.198	156 03.215		
Makako	Garden Eel Cove-1		19 44.186	156 03.260		
Makako	Garden Eel Cove-2		19 44.186	156 03.260		
Keauhou	Keauhou Manta-1		19 33.558	155 58.023		
Keauhou	Keauhou Manta-2		19 33.558	155 58.023		
Keauhou	Keauhou Manta-3		19 33.558	155 58.023		

Day-use moorings listed in the DLNR DOBOR administrative rules

Site	Name	Mooring Type	Latitiude N	Longitude W	depth (ft)	
Makako	DLNR #13		19 43.940	156 03.470		

Appendix A: Manta ray tour operation stakeholders

Name/Contact	Company/Organization	Inteview Participant	Survey Response	Survey Recipient
Iwa Kalua	Aloha Kayak Co.	x		x
(808) 557-5668	Aloha Kona Tours			
Captian Kris Henry	Aloha Ocean Excursion (formerly Sea Hawaii Rafting)			x
Craig Napier	Big Island Divers	x		
Frank Hendricks	Big Island Divers	x		
Kristina Dowling	Big Island Divers	x	x	x
Norman Cinch	Big Island Divers	x		
Sarah Rafterty	Big Island Divers		x	x
Erica	Blue Sea Cruises Inc.		x	x
Ray Lemay	Blue Sea Cruises Inc.		x	x
Denise Vidosh	Blue Wilderness		x	x
Mariko	Breeze Hawaii		x	x
coralreefadventures@gmail.com	Coral sea Adventures (Coral Reef Snorkel Adventures)			x
Alex Dent	Fair Wind Cruises	x		
Mendy Dant	Fair Wind Cruises	x		x
Mitch Stauffer	Fair Wind Cruises	x		
Daniel Mersburgh	Hawaii DOBOR Honokohau	x		
Capt. Chris Stelfox	Hawaii Fire Department Ocean Safety	x		x
Johnathan Droge	Hawaii Island and Ocean Tours LLC		x	
LeeAnn P. Leslie	Hawaii Island and Ocean Tours LLC		x	x
Jason Thurber	Hawaii Oceanic			x
Bari Mims	Hawaii Pack and Paddle			x
http://www.hawaiianscubashack.com/	Hawaii Scuba Shack			x
Lisa Christensen	Honu Sports			x
Keller Laros	Jacks Diving Locker	x		
Teri Leicher	Jacks Diving Locker	x		x
Wendy Laros	Jacks Diving Locker	x		x
info@kamanu.com	Kamanu Charters			x
kohalakayak@yahoo.com	Kohala Kayaks			x
Captian Chris Wade	Kona Agressor		x	x
Evin	Kona Agressor			x
Katie Gaab	Kona Diving Company			x
Kerry Key	Kona Diving Company		x	x
Ralph Jewell	Kona Glass Bottom Boat		x	x
info@konahonudivers.com	Kona Honu Divers			x
Laure and Danny Scott	Kona Ocean Adventures		x	x
info@konaoceanx.com	Kona Ocean Experience			x
Ty and Cyrus Widhalm	Kona Sea Adventures			x
Kalani Nakoa	Kona Snorkel and Sail	x		x
info@konasnorkelandsail.com	Kona Style			x
liquid@liquidhawaii.com	Liquid Hawaii			x
Keller Laros	Manta Pacfic Research Foundation	x		
Seth Conae	Manta Ray Dives of Hawaii			x
Robert Hudson	Miss Mojo Sports	x		x
Jan War	Natural Energy Laboratory of Hawaii Authority	x		
Dani Knapp	Neptune Charlies Ocean Safaris			x
Seth Conae	Neptune Charlies Ocean Safaris			x
ecoinfo@oceanecotours.com	Ocean Eco Tours			x
Brain Wargo	Ocean Encounters			x
Deenen Wargo	Ocean Encounters			x
Yumi	Ocean Spirit Diving		x	x
James and Martina Wing	Ocean Wings Hawaii Inc.			x
Frank and Patrice Heller	Pacific Rim Divers		x	x
Bob Gladden	private boater	x	x	x
Jay Smith	Scuba Shack		x	x
Kris Henry	Sea Hawaii Rafting			x
Rich and Holly Kersten	Sea Paradise		x	x
Kyle	Sea Quest Hawaii			x
Lily Dudoit	Sheraton Keauhou Kona Resort	x		
info@splashersoceanadventures.com	Splashers			x
Colin Adams	Sunlight on Water	x		
Josh	Sunlight on Water	x		
Melainah and Mike Yee	Sunlight on Water	x	x	x
Nicole Milligan	Torpedo Tours		x	x
Lt. Joshua Williams	U.S. Coast Guard Marine Safety	x		
www.wahinecharters.com	Wahine Charters			x

Appendix B: Manta Ray Tour Operators serving the Kona coast

Aloha Kayak Company
Aloha Kona Tours
Aloha Ocean Excursions
Big Island Divers
Blue Sea Cruises
Breeze Hawaii Diving
Coral Reef Snorkel Adventures
Dolphin Journeys
Fair Wind Cruises
Hang Loose Boat Tours
Hawaii Island and Ocean Tours
Hawaiian Scuba Shack
Honu Sports
Hawaii Oceanic
Iruka Hawaii
Jack's Diving Locker
Kamanu Charters
Kohana Iki
Kona Aggressor
Kona Diving Company
Kona Honu Divers
Kona Nature School
Kona Ocean Adventures
Kona Ocean Experience (KOEX)
Kona Sea Adventures
Kona Style (Kona Snorkel & Sail)
Kukio Boats
Liquid Hawaii
Miss Mojo (Kiholo Inc.)
My Kona Ocean Adventure
Neptune Charlies Ocean Safaris/Manta Ray Dives
Ocean Encounters (Bite Me)
Ocean Eco Tours
Ocean Spirit Hawaii
Pacific Rim Divers
Sandwich Isle Divers
Sea Paradise
SeaQuest Snorkel Tours
Splasher's Ocean Adventures
Sunlight on Water
Torpedo Tours
Wahine Charters LLC

Appendix C: Vessels operating manta ray viewing activities at Makako Bay and Keauhou Bay

Company	Vessel Name	Length (ft)	Gross Register Tonnage	Max Passengers	Max Total	Height (ft)	Width (ft)	Official Number
Aloha Kayak Company	(kayaks)							
Aloha Kona Tours	Aloha Kona Tours			12				
Aloha Ocean Excursions	Zodiac Hurricane 733	25						
Big Island Divers	Moana Olapa	35	14					1166964
Big Island Divers	Moana Lu'u	28						
Big Island Divers	Hono Iki	36	20					1206121
Big Island Divers	Naia							
Breeze Hawaii Diving	Umi Katana	27	5	11				HA1357CP
Blue Sea Cruises	Makai	46	14	32	84	18	16	978116
Blue Sea Cruises	Spirit of Kona	70	78	100	149	20	28	11955628
Coral Reef Snorkle Adventures	Makua	25	2	6	8	12		1636CP
Fair Wind Cruises	Fair Wind II	58	55	124	132			993088 (U.S.)
Fair Wind Cruises	Hula Kai	55	27	48	51		21	1176109 (U.S.)
Hang Loose Boat Tours	Hang Loose	29.3	8	24	26		9.4	1251486 (U.S)
Hawaii Island and Ocean Tours	Box top			6				
Hawaiian Scuba Shack	White force	28						
Hawaii Oceanic	Pueo Kai	30		6				
Honu Sports	The Honu Adventure	28		8			10	
Iruka hawaii	Kona Naia	32	13	21	23			1030297 (U.S.)
Jack's Diving Locker	Kea Nui	46	40	38	40	16		1196519 (U.S.)
Jack's Diving Locker	Nai'a Nui	32	8	15	17			1189298 (U.S.)
Jack's Diving Locker	Na Pali Kai	33.8	12	25	27			687068 (U.S.)
Jack's Diving Locker	Diver II	38		28				
Kamanu Charters	Kamanu	36	4	24	26			HA463CP
Kohana Iki	Kaikea							
Kiholo Inc.	Miss Mojo	41	24	6				982338 (U.S.)
Kona Aggressor	Kona Aggressor II	73						
Kona Diving Company	Hale Kai	34						
Kona Honu Divers	Honu I	46	44	36	39	16	9	1122486
Kona Nature School	Black and yellow Zodiac							
Kona ocean Adventures	Ipo Kai							
Kona ocean Adventures	Mega Bites							
Kona Ocean Adventures	White Fishing cat	28		12	17			
Kona Ocean Experience	Lei Plana							
Kona Ocean Experience	Horizon	RIB						
Kona Sea Adventures	Ahi Lani	34						
Kona Snorkel & Sail	Kini Kini	38	under 5	6				HA1705CP
Kona Snorkel & Sail	Noa Noa	50		43				
Kona Snorkel & Sail	Kona Style							
Kukio Boats	?							
Liquid Hawaii	Liquid Hi	25		6				HA1949CP
Neptune Charlies Ocean Safaries	The Manta	36	20	29	32		6	1179815 (U.S.)
My Kona Adventure	(white boat red letters)							
Ocean eco Tours	Zodiac							
Ocean Encounters	Ocean Encounters	41.8	26	35	40	25	14.2	548605
Ocean Spirit Hawaii	White force	25						
Pacific Rim Divers	Hapa Naia	26.5		6				
Pacific Rim Divers	Boundless	34	n.a.	n.a.	n.a.			
Sandwich Isle Divers	(force with fly bridge)							
Sea Paradise	Hokuhele	50	unk	39	42			
SeaQurst Snorkel Tours	Vitos boat							
Splasher's Ocean Adventures	Orca	26.7	8	19	21		3.8	972712 (U.S)
Sunlight on Water	Uhani Nui O Naia	40		35?				
Torpedo Tours	Napali Kai II	38		27				
Wahine Charters LLC	Wicked Wahine	27	9	14	16		5.1	1097318 (U.S.)

Day Mooring Installations

Best Management Practices

Prepared for:

State of Hawaii
Department of Land and Natural Resources
Division of Boating and Ocean Recreation (DOBOR)

4 Sand Island Access Road
Honolulu, HI 96819

Prepared by:

Hawaii Coral Reef Initiative
Social Science Research Institute
2424 Maile Way #718
Honolulu, HI 96822
November 2019

Table of Contents

1.0 General Requirements

This Best Management Practices (BMP) Plan is provided in preparation for the proposed Day-Use Mooring Installations project. This Plan summarizes the minimum BMPs that shall be implemented over the course of the project to avoid and minimize impacts to the marine environment, including impacts to threatened or endangered species. These BMPs are based on recommended practices by the U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA).

The contractor shall comply with this BMP Plan, AMAP and the specific requirements of all federal, state, municipal, and any other necessary permits put in place for the work. All workers associated with this project, irrespective of their employment arrangement or affiliation (e.g., employee, sub-contractor, etc.) shall be fully briefed on the BMPs and the requirement to adhere to the BMPs for the duration of their involvement in this project. BMPs shall be covered in the weekly toolbox safety meetings. The Project Superintendent shall be responsible to ensure compliance with the BMP plan. The Project Superintendent shall appoint and train a minimum of two (2) alternate individuals to comply with all aspects of the BMP plan. The Project Superintendent or trained alternate shall ensure that the employees and subcontractors are trained in the use of BMP materials.

The Project Superintendent or trained alternate shall conduct a visual inspection of all BMPs daily. The contractor shall fill in the Best Management Practice Plan (BMPP) Inspection and Maintenance Form daily and to submit it to the DOBOR Engineer by 12:00 noon on the next working day. The inspection and maintenance report form will be used by DOBOR to ensure that the required BMPs are practiced and functioning properly. This form will be submitted to DOH – Clean Water Branch in a timely manner and is available in ***Attachment A*** of these BMPs.

The DOBOR Engineer will be responsible to fulfill all conditions of the Department of Army Permit and Section 401 Water Quality Certification.

All minor repairs and maintenance of the BMPs shall be completed within 24 hours of the inspection. Major repairs shall be completed as soon as practical but in no case later that 48 hours after the inspection. Any work that requires the BMPs will be immediately stopped and shall not resume until the BMP has been repaired. Inspections of all BMPs shall be made within 24 hours of any rainfall of 0.25 inch or greater and after periods of prolonged rainfall. Likewise, the in-water BMPs shall be inspected after severe ocean conditions to ensure that they are functioning properly.

The Applicable Monitoring and Assessment Plan (AMAP) for Clean Water Act – section 401 Water Quality Certification for the day-use mooring (DMB) installations have been prepared to accompany this BMP plan. It describes the water quality sampling and analysis plan that will produce representative data to monitor potential project impacts. The construction monitoring data will be transmitted by email to the Clean Water Branch with 24 hours or close of the next business day.

The contractor shall notify the DOBOR Engineer immediately of any changes to the BMPs, a BMP that is not functioning properly, and if a plume outside of the decision unit is generated by their construction activity. The activity that is causing the plume shall be stopped immediately and shall not resume until the problem is addressed to the satisfaction of the DOBOR Engineer.

2.0 Site Characterization

The work will be conducted within two sites along the Kona coast of Hawaii, each located on Hawaii Island. Garden Eel Cove is a 38-acre zone at the back of Makako Bay. Vehicular access is by way of Makako Bay Drive through NELHA property. The second site, Kaukalaelae Point, is immediately south of Keauhou Bay. It can be accessed via Ehukai Road. Boat access to the sites is typically made from either the Honokohau or Keauhou boat ramps. Site maps are included under ***Attachment B***.

The existing installations at the Kona sites include DMBs that were installed and maintained by local tour companies and a nonprofit organization, Malama Kai. There are at least 6 known moorings at Garden Eel Cove and 4 at Kaukalaelae. Approximately a ½ mile offshore from the Garden Eel Cove site sits a series of aquaculture fish cages and a supporting matrix of moorings and feed vessels. Onshore by Garden Eel Cove, there are a series of water runways and associated facilities for algae aquaculture. The site at Kaukalaelae sits just south of a bay that houses a popular canoe club, beach, and boat ramp as well as residential housing. In addition, the Keauhou Sheraton sits immediately onshore from the intended ORMA site.

Underwater topography of the two Kona sites is typical of the leeward coastal reef structure. Garden Eel Cove has basalt boulders down to around 20', then lively coral reef to a depth of around 70', where the coral dissipates to sand. Kaukalaelae is similar except that the north boundary is an active boating channel with a sandy bottom.

3.0 Construction Sequence and Duration

The following is based on a likely sequence of general construction activities for the project. The construction could vary based on the contractor's operations and means and methods. Steps may occur concurrently or in a different order. Mooring construction diagrams are provided under ***Attachment C***.

1. Place applicable construction BMPs prior to commencement of associated construction activities. BMPs, once placed, shall remain in place for the duration of the activities
- Construct new site civil works. (2 weeks concurrent with water activities)
    a. Excavate 2 holes per mooring site.
    b. Secure pin in place using cement or epoxy.
    c. Let the installation sit for 24 hours.
- Demolish existing moorings.
    a. Disassemble buoy, line, and ground tackle assemblies.
    b. Pull existing pins.
- Assemble new moorings.
    a. Buoy and line can be assembled topside.
    b. Install ground tackle including pin shackles and chain.
    c. Attach buoy/line assembly to ground tackle.
2. Remove temporary construction BMPs.

It is anticipated that the in-water work will require a cumulative total of 2 weeks to complete. The use of a turbidity curtain or vacuum is pending the advice of on-site DAR field agents. Topside activities are anticipated to occur concurrently with the in-water work. Construction for the moorings is anticipated to begin in spring 2021 with Phase 1 installation of four moorings at the Kaukalaelae site. The additional moorings are to be added as funding and site conditions allow.

4.0 Construction Methods

4.1 Demolition/Marine Debris Recovery and Disposal

In-water demolition and removal work will be conducted with hydraulic-operated equipment mounted on support vessels.

4.1.1 Recycled Materials

Debris and demolition waste from the Manta Viewing Sites Day Mooring Project shall be recycled to the maximum extent possible at Atlas Recycling, Big Island Scrap Metal, or other commercial metal recycling facility.

4.1.2 Disposed Materials

Acceptable waste material shall be disposed at the Kealakehe Transfer Station, Keauhou Transfer Station, Waimea Landfill Facility, or other approved local waste management facility. Material that is not acceptable at a local facility shall be shipped and disposed at an approved, mainland waste management facility.

4.3 Epoxy Construction

The cast-in-place epoxy elements are constructed by excavating the substrate, placing the pins, and then pumping the mixed epoxy into the excavation site by hand-held plunger style pump. Epoxy should be injected deep enough to prevent fresh epoxy from entering the water.

4.4 In Water Construction of Manta Anchors

In water construction of manta anchors will be driven under the sea bed using hydraulic and manual hammers. The anchor will be set using a hydraulic pull. This should not produce much disturbance. As above, the use of a turbidity curtain will be optional based on the recommendation of a DAR field agent.

5.0 Characteristics of the Discharge

Materials to be placed in State waters: temporary and permanent placement.

5.1 Temporary

The Contractor shall work from a motorized support vessel. This vessel will also be used to install and maintain any turbidity curtains and to transport personnel to the work site.

A turbidity curtain may be installed based on the advice of a DAR representative. Should a curtain be deemed necessary, it will remain installed for the duration of the in-water work. It will be secured using small steel anchors.

5.2 Permanent

The following permanent discharges are associated with the intended construction activities

Contractor will place manta anchors in the sandy bottoms of the sites. Manta anchors consist of a central galvanized steel shaft and 2 galvanized locking plates.

The Contractor will place pins in hard substrates. The pins are ¾ galvanized rods.

The pins or manta anchors will connect to a series of stainless steel chain, shackles, thimbles, nylon line, and foam filled mooring buoys.

6.0 Proposed Control Measures and/or Treatment

6.1 General Site Best Management Practices

6.1.1 Miscellaneous

Construction debris and trash are to be disposed of at an appropriate facility.

Project operations must cease under unusual conditions, such as large tidal events and high surf conditions, except for efforts to avoid or minimize resource damage[1]

6.1.2 Materials Storage

Materials shall be properly stored in a container, on dunnage, or as required by the manufacturer to avoid contact with storm water in order to control spills.

6.2 In-Water and Above-Water Work

6.2.1 Turbidity Curtain Placement

A weighted turbidity curtain shall be used when deemed necessary by DAR staff to enclose the work area to control turbidity during the performance of in-water work such as bottom drilling and epoxying pins. Harbor waters within and outside the turbidity curtain shall be monitored (visually) and sampling shall be performed in accordance with the Applicable Monitoring and Assessment Plan. In addition to water sampling, the contractor will be required to inspect the BMPs and submit a daily inspection report of their findings to the Engineer, as exhibited in ***Attachment A***. If construction results in turbidity outside the turbidity curtain, immediate corrective action shall be taken to repair or adjust the curtain. The activity suspected to generate the turbidity shall be stopped immediately and the Engineer notified.

6.2.2 Turbidity Curtain Maintenance

The contractor shall inspect the turbidity curtains at the start of the day's construction to assess their condition and shall monitor the effectiveness of the turbidity curtains throughout the construction period. If a failure of the turbidity curtain to contain turbidity within the enclosed area is identified, in-water work that may result in turbidity will not continue until the problem has been resolved. The contractor shall maintain at least 200 feet of additional turbidity curtain on-site in case emergency containment of turbidity outside of an installed turbidity curtain or eventual replacement of an installed turbidity curtain (once the turbidity has subsided) is needed. If turbidity curtain replacement is required, in-water construction that may result in turbidity will not continue until successful installation, repair, or replacement of the turbidity curtain is achieved. Maintenance of turbidity curtains shall be in accordance with the turbidity curtain manufacturer's recommendations.

6.3 Spill Prevention

Precautions shall be taken to prevent spills of oil and other hazardous substances from entering the water. All waste and hazardous materials shall be properly managed, stored and handled, and secondary containment shall be provided as applicable. Fueling, lubricating, and maintenance of equipment, motor vehicles, and vessels shall be conducted in such a manner to prevent spills, and these shall not be conducted over water unless secondary containment is provided. Bulk fuel storage containers shall be provided with a secondary containment system. A spill kit will be kept on site.

Oil Spill Contingency Plan: In the event of a spill, the following actions shall be taken:

1. STOP FUELING/OILING IMMEDIATELY!
2. Reduce the amount of the spill by shutting down the equipment, shutting off the valve, shutting off the pump or up righting the container, etc. Place a pan or bucket under the leak to catch as much of the spill as possible.
3. Confine fuel to containment areas as much as possible. If on a crane barge, then confine the fuel to the deck and out of the water.
4. Should an overboard spill occur on the crane barge, use sorbent pads and deploy 200-foot long (minimum) oil containment boom to minimize the limits of thespill.
5. Immediately notify the contractor's company Spill Response Safety Officer by radio or telephone. He/ She shall take over coordination of operations and further notifications. Whether assistance is required or not, all supervisors and personnel shall follow these notifications steps.
6. If the spill is too large to handle with on-site resources, then the Emergency Spill Clean-up Contractor, a subcontractor of the prime contractor, shall be notified and mobilized.
7. Notify the Department of Transportation, Harbors Division Engineer immediately.
8. The Emergency Spill Clean-up Contractor shall take over containment, clean-up and disposal of the spill and any contaminated material in accordance with their established procedures. The contractor shall provide whatever aid the Emergency Spill Clean-up Contractor requires

6.4 Protected Species

Project personnel shall be briefed on the recognition of protected species such as: green sea turtles, hawksbill sea turtles, humpback whales, and Hawaiian monk seals. Constant vigilance shall be kept for the presence of non-coral ESA-listed marine species[1].

Active areas of operation shall incorporate the following site-specific avoidance and minimization measures:

1. A responsible party, i.e., permittee/site manager/project supervisor, shall designate a competent observer to search/monitor work sites and the areas adjacent to the authorized work area for ESA-listed marine species[1]
2. Surveys for marine life shall be made prior to the start of work each day, and periodically during the day, including prior to resumption of work following any break of more than one half hour.
3. All in-water work will be postponed or halted when ESA-listed marine species are within 50 yards of the proposed work, and will only begin/resume after the animals have voluntarily departed the area, with the following exception: if ESA-listed marine species are noticed within 50 yards after work has already begun, that work may continue only if, in the best judgment of a biologist, the activity is unlikely disturb or harm the animal(s), for example, divers performing surveys or underwater work (excluding the use of toxic chemicals) is likely safe, the use of heavy machinery is not[1]
4. When piloting vessels, vessel operators shall alter course to remain at least 100 yards from whales, and at least 50 yards from other marine mammals and sea turtles.
5. Reduce vessel speed to 10 knots or less when piloting vessels in the proximity of marine mammals and turtles. If practicable, reduce vessel speed to 5 knots or less when piloting vessels in areas of known or suspected turtle activity.

6. If approached by a marine mammal or turtle, put the engine in neutral and allow the animal to pass.
7. Marine mammals and sea turtles should not be encircled or trapped between multiple vessels or between vessels and the shore.
8. Do not attempt to feed, touch, ride, or otherwise intentionally interact with any ESA-listed marine species.
9. All on-site project personnel must be apprised of the status of any listed species potentially present in the project area and the protections afforded to those species under Federal laws. Information explaining laws and regulations for listed species in Hawaii may be downloaded at http://www.nmfs.noaa.gov/pr/education/hawaii. The contractor's designated point-of-contact (POC) shall ensure that protocols and observers to avoid the potential for contact or harassment with ESA- listed species of record are followed during all periods of in-water work.
10. Records of observations of ESA-listed species observed in the project area for the duration of in- water activities shall be documented in daily construction inspection and maintenance reports.
11. Any incidental take of marine mammals must be reported immediately to NOAA Fisheries' 24-hour hotline at 1-888-256-9840. Any injuries to sea turtles must be reported immediately to NOAA Fisheries at 1-808-725-5730, Monday – Friday, 7 a.m. – 4 p.m., and 286-4377 on weekends, holidays and after-hours. Information reported must include the name and phone number of a point of contact, location of the incident, and nature of the take and / or injury.

6.5 Protection of the Marine Environment

Specific measures shall be employed to prevent contamination of the marine environment from project-related activities.

1. The contractor is prohibited from storing hazardous materials on-site.
2. Appropriate materials to contain and clean potential oil/fuel spills shall be stored at the work site and be readily available.
3. The contractor's superintendent and heavy equipment operators shall perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations shall be postponed or halted should a leak be detected and shall not proceed until the leak is repaired and equipment cleaned. Fueling of land-based vehicles and equipment shall take place at least 50 feet away from harbor waters over an impervious surface with drip pans.
4. No project-related materials (fill, sediment stockpile, rock, etc.) shall be stockpiled within 50 feet of harbor waters. Material staging and storage area(s) shall be designated within project's facility footprint and equipped with sediment control BMPs to prevent loss of material due to erosion or leaks.
5. Any materials or equipment to be used to carry out the authorized work must be cleaned of pollutants before use on-site. The contractor is required to use stone that is free of organic matter, clay, silt, dirt, or any deleterious material as stated in the contract specifications.

6. No land-based heavy equipment shall be operated directly in State waters. Work adjacent to State waters must occur above the mean higher high water level.
7. Revetment construction activities (excavation and rock placement) landward of the existing shoreline shall occur during relatively calm wave conditions.
8. Turbidity and siltation from project-related work shall be minimized and contained through the appropriate use of erosion control practices and the curtailment of work during adverse weather and tidal/flow conditions. Erosion control practices shall include a silt fence around all disturbed areas landward of the existing shoreline. A double sediment control silt fence shall be maintained along the waterfront edge of the project site.
9. The contractor shall conduct daily visual observations to ensure that all BMPs and erosion control measures shown on the BMP plans are in place and functioning properly. If an activity-related turbidity plume is observed outside of the turbidity curtain during periods of in-water construction, the contractor shall stop that activity and take immediate corrective action by repairing the turbidity curtain. Activity shall resume only after the problem is corrected.
10. Water quality monitoring shall be performed in accordance with the 401 Water Quality Certification issued for the project by the Department of Health.
11. All debris removed from the marine/aquatic environment shall be disposed of at an approved upland waste management site.

6.6 Protection of Upland Resources

Additional measures shall be employed to prevent contamination of upland areas using appropriate "good housekeeping" BMPs for site management and storm water management BMPs for erosion and sediment control.

1. The construction entrance and roadways shall be stabilized to prevent tracking of materials to/from the project site.
2. Specific and contained areas shall be designated for vehicle and equipment cleaning and fueling to prevent discharges of polluted wash water, fuel spills or leaks.
3. The discharge of pollutants from material delivery and storage areas to the storm water system or marine environment shall be prevented by minimizing the storage of hazardous materials on-site, storing materials in watertight containers and/or a completely enclosing designated areas, installing secondary containment, conducting regular inspections, and training employees and subcontractors.
4. Stockpiles shall be located away from the marine environment and any storm water facility. Stockpiles shall be equipped with erosion prevention BMPs such as plastic coverings to protect against wind or rainfall and containment BMPs such as berms, silt fences, or dikes to protect stockpiled material from run-on or runoff discharges.
5. Existing vegetation shall be preserved to the extent possible to avoid any unnecessary disturbance to native materials.
6. During earthwork activities, sediment control BMPs such as silt fences, fiber rolls/wattles, and sandbags shall be used to prevent discharge of sediment-laden water.
7. At the completion of work, hydraulic mulch or hydroseed shall be applied to unpaved areas to encourage re-establishment of vegetation.

6.7 Protected Species BMPs

(Taken from National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Pacific Island Regional Office, Protected Resources Division)

The National Marine Fisheries Service, Pacific Islands Regional Office recommends that the following measures, as appropriate and germane to specific projects, be incorporated into projects to minimize impacts on protected resources. These supplement, but do not supersede the BMPs above.

1. Turbidity and siltation from project-related work should be minimized and contained to within the vicinity of the site through the appropriate use of effective silt containment devices and curtailment of work during adverse tidal and weather conditions.
2. Any construction-related debris that may pose an entanglement hazard to marine protected species must be removed from the project site if not actively being used and / or at the conclusion of the construction work.
3. All project-related materials and equipment placed in the water should be free of pollutants.
4. No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, etc.).
5. No contamination (trash or debris disposal, alien species introductions, etc.) of marine environments (reef flats, lagoons, open ocean, etc.) adjacent to the project site should result from project-related activities.
6. Fueling of project-related vehicles and equipment should take place away from the water. A contingency plan to control the accidental spills of petroleum products at the construction site should be developed. Absorbent pads, containment booms, and skimmers will be stored on-site to facilitate the cleanup of petroleum spills.
7. Return flow or run-off from material stored at inland dewatering or storage sites must be prevented.

The General Conditions and Best Management Practices listed in this enclosure are a selection from the complete Pac-SLOPES General Conditions and Best Management Practices based on the Corps' determination of their applicability to the subject project. The numbering of each of the General Conditions and BMPs is taken directly from the complete list and will not appear in numerological order in this enclosure. The permittee must comply with the selected General Conditions and Best Management Practices listed in this document. Numerous Pac-SLOPES conditions and BMPs are already listed in the project BMP Plan – the redundant conditions have been removed from this list.

ATTACHMENTS

Best Management Practice (BMP) Plan

Inspection and Maintenance Report Form

Report No._____Weather: _____Tide:_____Date:_____

Type of Report: ☐ Daily ☐ Within 24 hours of a rainfall event of 0.5 inches or more

N-WATER TURBIDITY CONTROL MEASURES (Provide Date Stamped Photograph):	**YES**	**NO**	**N/A**
Are turbidity curtains functioning properly?	☐	☐	☐
Are the bin(s) on the support platform, landing craft or barge water tight?	☐	☐	☐
Are the control measures on the platform, landing craft or barge adequate to prevent Water/sediment from being discharged into the ocean?	☐	☐	☐

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

PROTECTION AROUND CRITICAL AREAS (Provide Date Stamped Photograph):	**YES**	**NO**	**N/A**
Are berm or dike properly installed/maintained?	☐	☐	☐
Are run-on/run-off controls installed to prevent discharge to surrounding areas and harbor?	☐	☐	☐

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

HOUSEKEEPING:	**YES**	**NO**	**N/A**
Are areas kept clean of rubbish, construction debris, spills, etc.?	☐	☐	☐

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

MATERIAL/WASTE MANAGEMENT:

	YES	NO	N/A
Are material stored under shelter or covered and above ground?	☐	☐	☐
Are flammable/reactive materials stored properly?	☐	☐	☐
Are material containers in good condition (not rusted, damaged or leaking)?	☐	☐	☐
Are all construction debris collected and placed daily in covered dumpster?	☐	☐	☐

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY:

VEHICLE AND EQUIPMENT MANAGEMENT:

	YES	NO	N/A
Are vehicles and equipment cleaned before brought on-site?	☐	☐	☐
Are equipment fueled away from any drain or edge of harbor?	☐	☐	☐
Are spill cleanup material readily accessible?	☐	☐	☐
Are all equipment leak free or if leaking, a spill pan placed to catch the leaks?	☐	☐	☐

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY:

PROTECTED OR ENDANGERED SPECIES MANAGEMENT:

	YES	NO	N/A
Did the on-site observer observe any protected and/or endangered species (i.e. green sea turtle, hawksbill sea turtle, Hawaiian monk seal, etc.) prior to start of work? Time? :_____	☐	☐	☐
If protected and endangered species present, were photographs taken to assist with identification of the protected and endangered species? Photo IDs:_____	☐	☐	☐

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY_____ Date:_____

Photographs shall be date stamped and attached to the applicable Report Form.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

APPROVED BY:_____ TITLE:_____

SIGNATURE:_____ DATE:_____

Site Maps

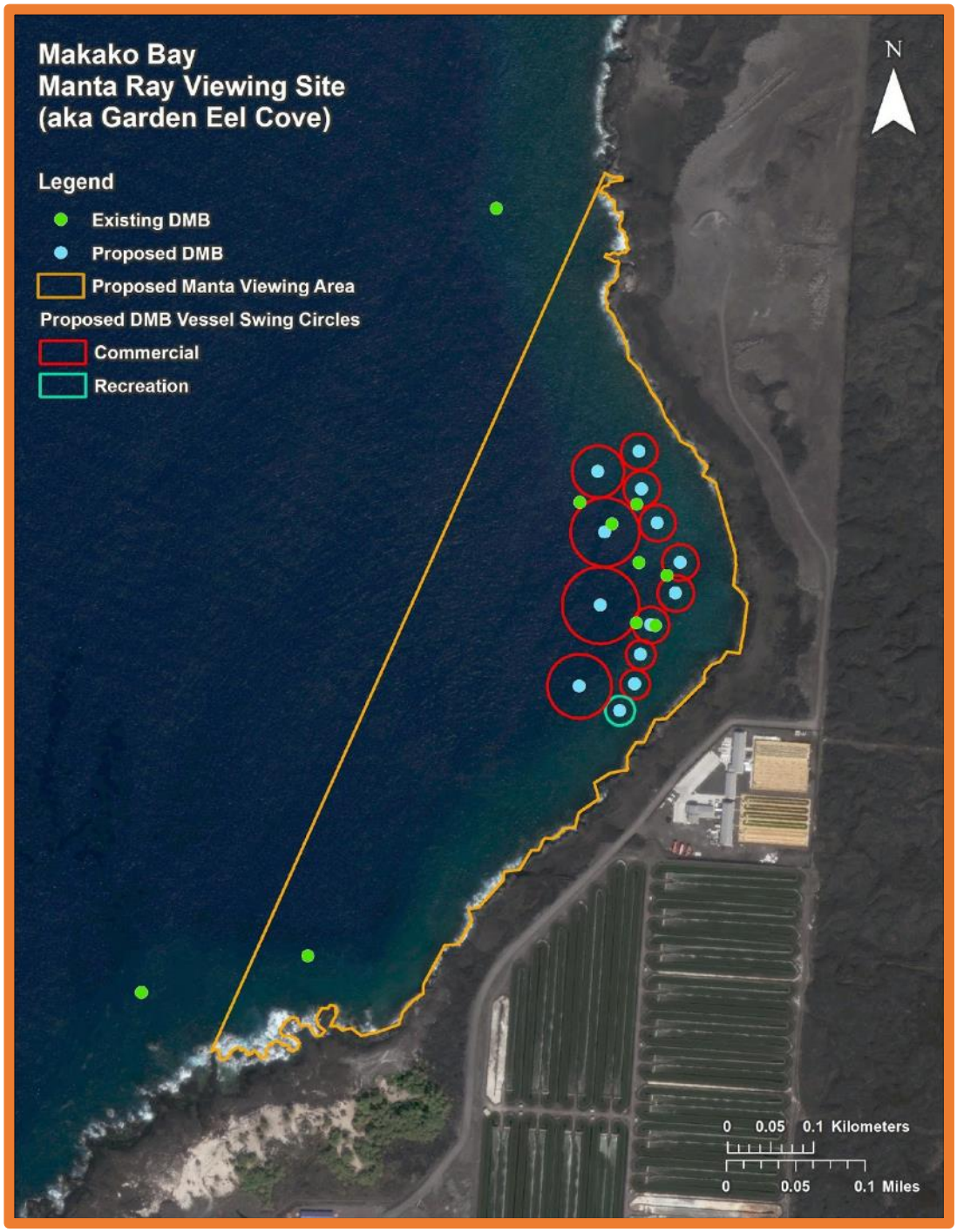


Figure 1: Map of the proposed mooring configuration and site location of the Makako Bay (Garden Eel Cove) site

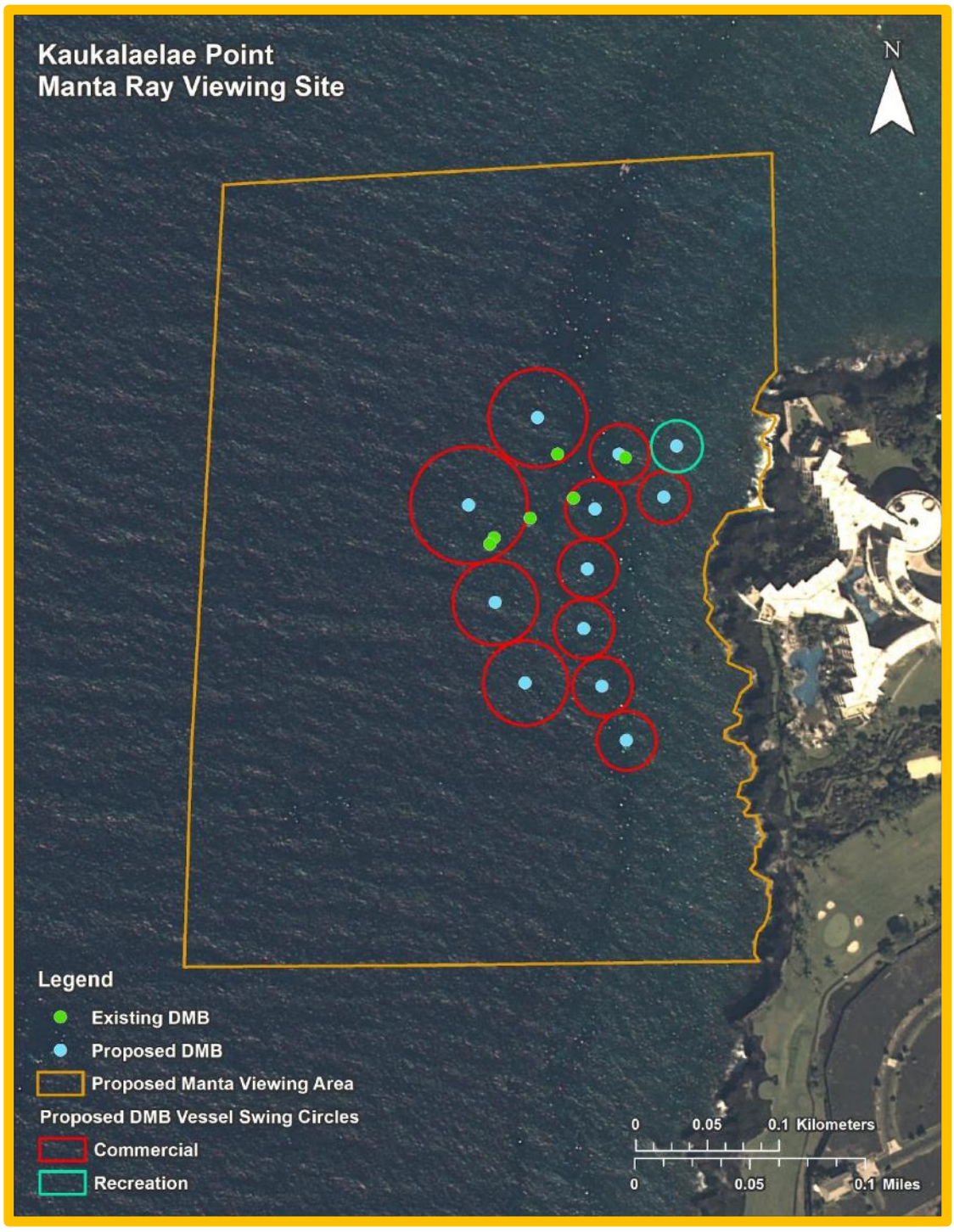


Figure 2: Map of the proposed mooring configuration and site location of the Kaukalaelae Point (Keauhou Bay) site

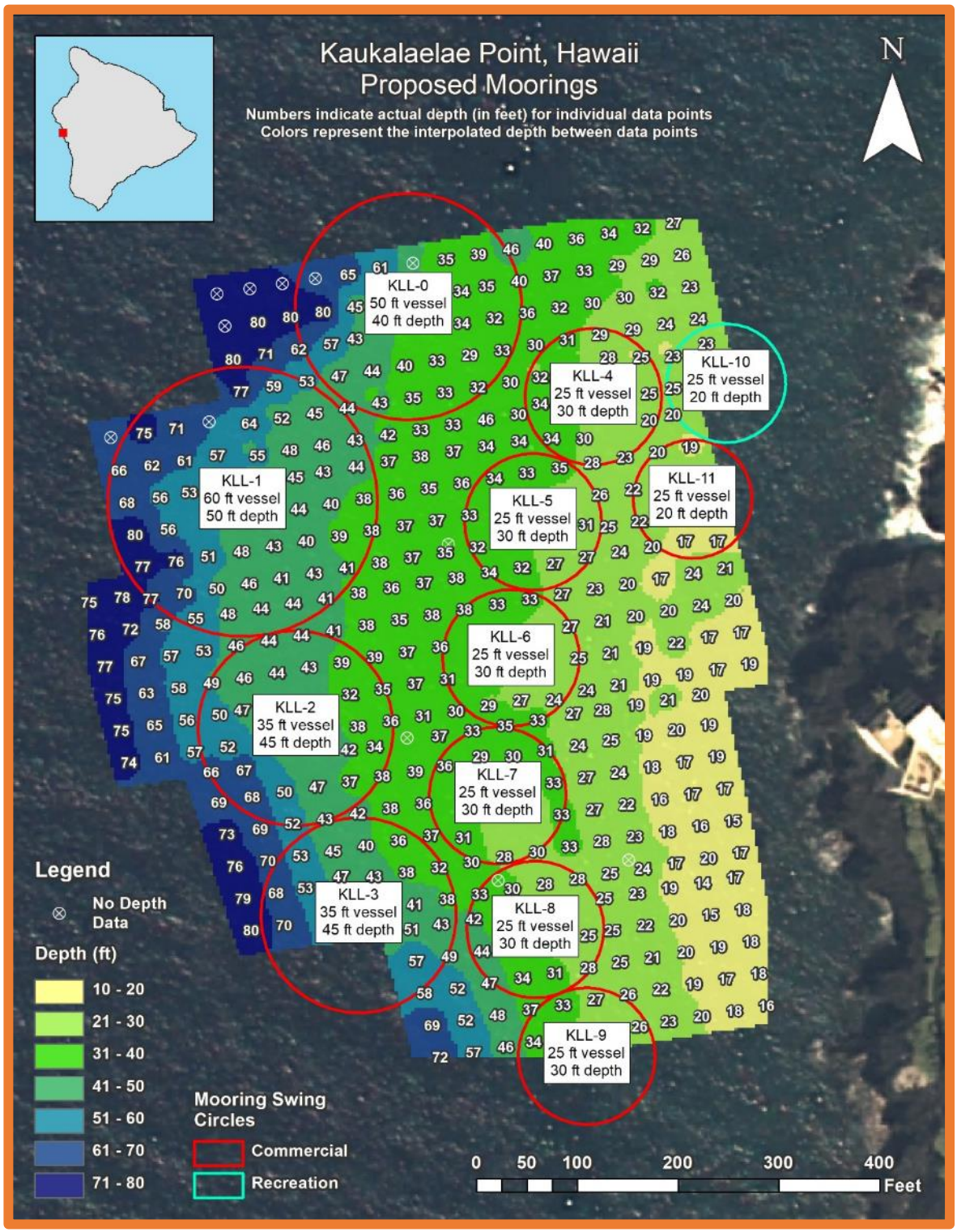


Figure 3: Map of the proposed mooring configuration with depths at Kaukalaelae Point.

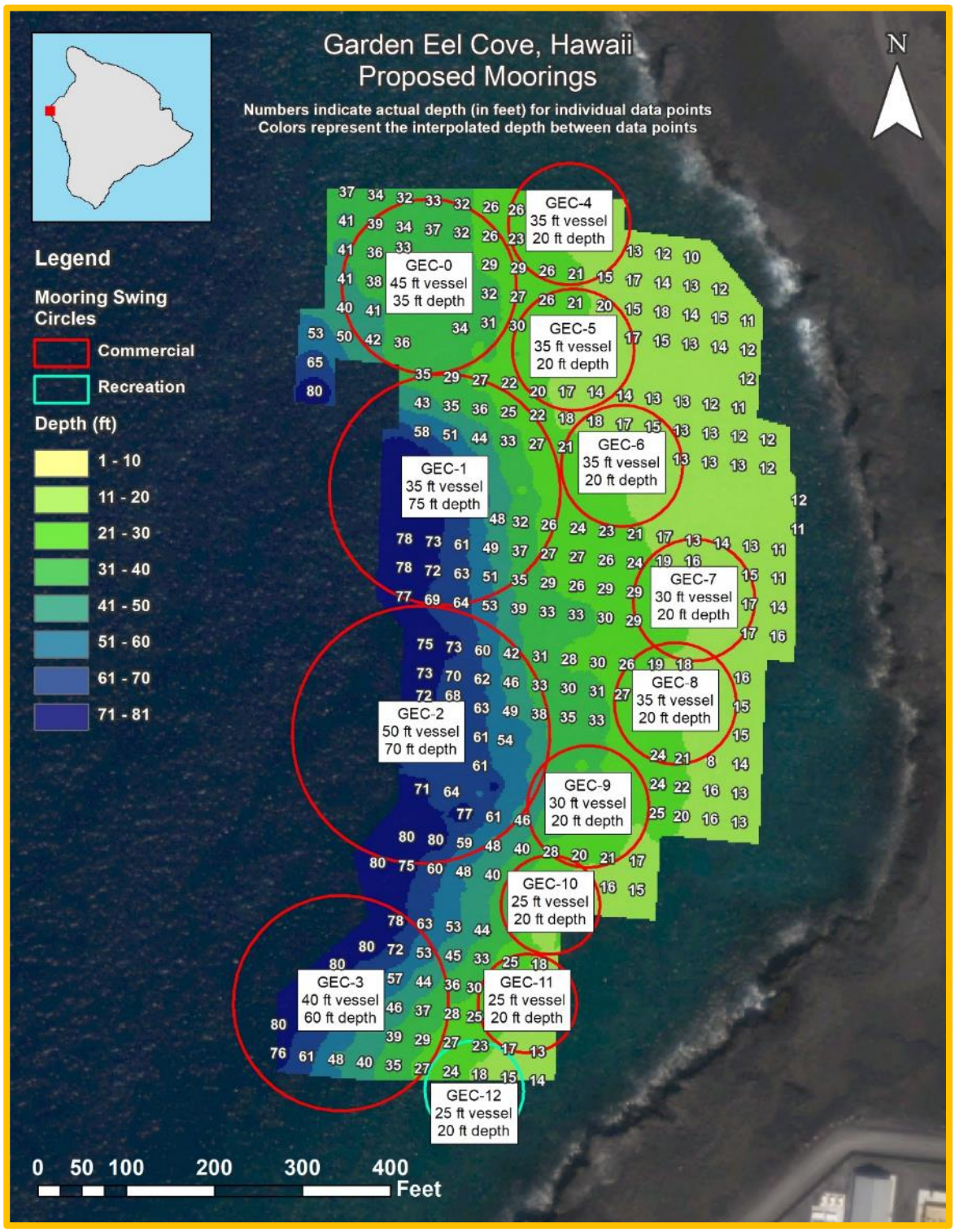
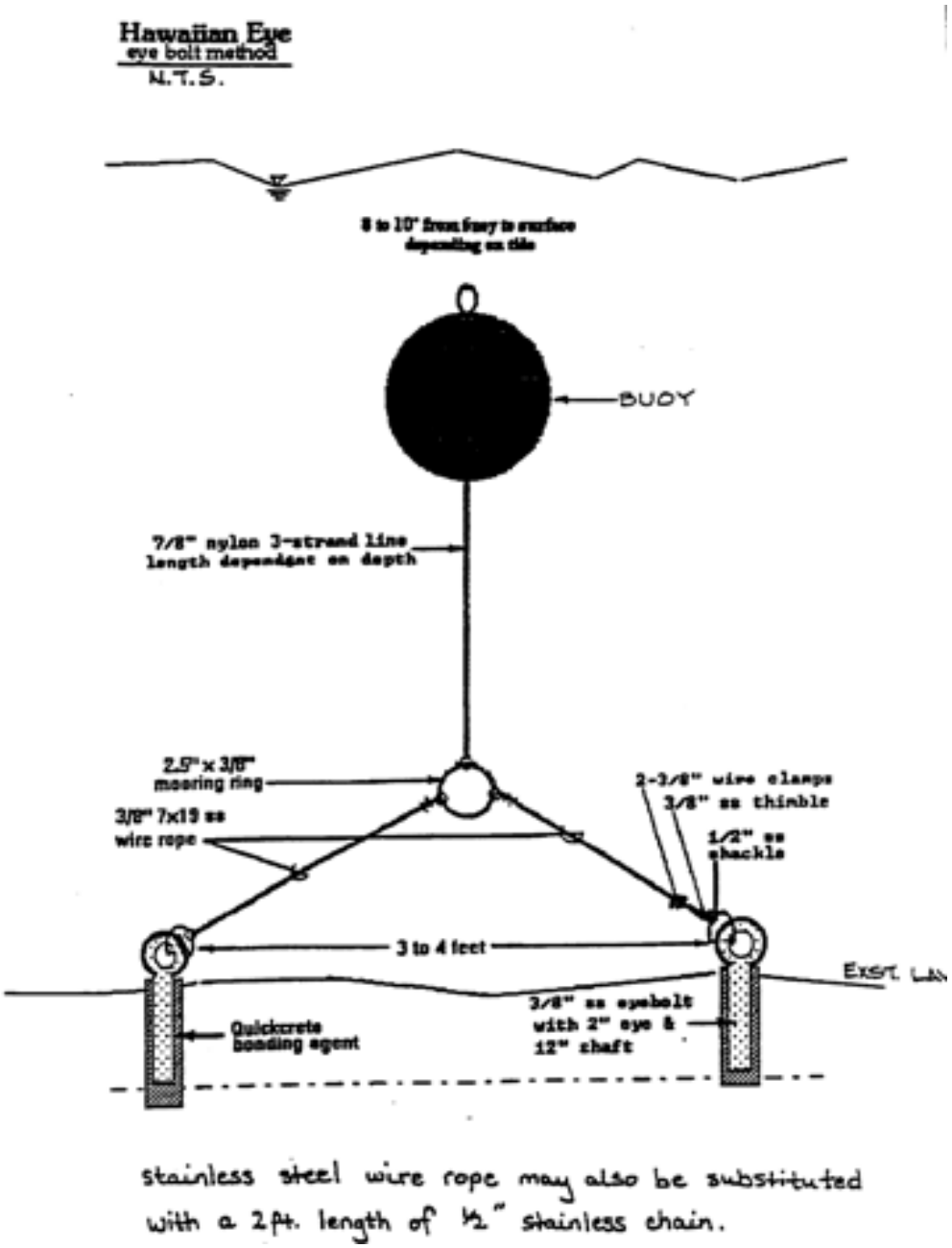


Figure 4: Map of the proposed mooring configuration with depths at Garden Eel Cove (Makako Bay)

Mooring Buoy Systems

HAWAII DAY-USE MOORING BUOY SYSTEM INSTALLATION PROCEDURES AND MAINTENACE GUIDE[1]

FIGURE 6. HAWAIIAN EYE ("PIN") MOORING SYSTEM



[1] This appendix is adapted from, Hawaii Day-Use Mooring Buoy System Background, Site Selection Criteria, Installation, and Maintenance Procedures Manual, Malama Kai Foundation February, 2009; and Mooring Buoy Planning Guide, International PADI, Inc., March 2005.

HAWAII DAY-USE MOORING BUOY SYSTEM INSTALLATION PROCEDURES AND MAINTENACE GUIDE[2]

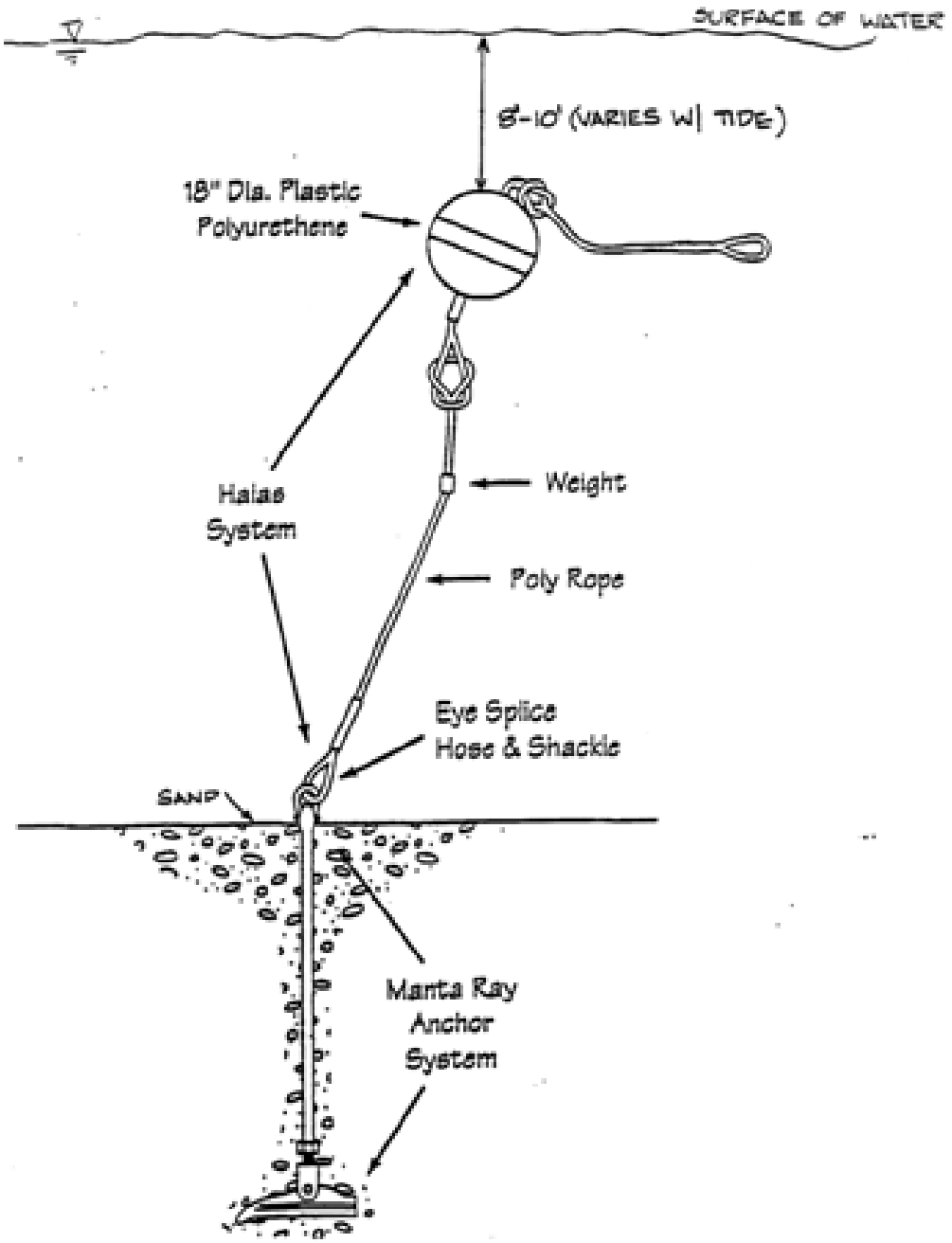


FIGURE 7. MANTA RAY MOORING SYSTEM

[2] This appendix is adapted from, Hawaii Day-Use Mooring Buoy System Background, Site Selection Criteria, Installation, and Maintenance Procedures Manual, Malama Kai Foundation February, 2009; and Mooring Buoy Planning Guide, International PADI, Inc., March 2005.