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DEPARTMENT OF HEALTH

FROM: FORD N. FUCHIGAMI, DIRECTOR
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER REMOVAL DRAFT ENVIRONMENTAL IMPACT
STATEMENT, HĀNA HARBOR, MAUI – JOB H.C. 30108

The Department of Transportation, Harbors Division hereby transmits the *Hāna Pier Deck Removal Draft Environmental Impact Statement (DEIS)* for publication in the next available issue of *The Environmental Notice*. It is our understanding that the Office of Environmental Quality Control (OEQC) will evaluate the DEIS for compliance with Chapter 343, Hawaii Revised Statutes and Title 11-200-23, Hawaii Administrative Rules (HAR) before making a recommendation to the Governor of Hawaii regarding the acceptability of this document. The project is situated adjacent to the north of Tax Map Key (2)1-4-004:036.

Enclosed is a completed OEQC Publication Form, an electronic copy of the same, and a hard copy and PDF file of the DEIS. Simultaneous with this memo, a summary of the action in a text file was sent via electronic mail to the OEQC.

The distribution list is included for the verification by your office under Title 11-200-20, HAR. Electronic copies of the DEIS will be distributed to agencies, organizations and individuals on the list in the form of a compact disc.

If there are any questions, please have your staff contact Ms. Sandra Rossetter of our Harbors Engineering Planning Section at 587-1886.

Enc.

17-546

AGENCY PUBLICATION FORM

Project Name:	Hāna Pier Deck Removal
Project Short Name:	Hāna Pier Deck Removal
HRS §343-5 Trigger(s):	Use of State lands and funds
Island(s):	Maui
Judicial District(s):	Wainanalua Ahupua'a, Hāna District
TMK(s):	N/A; North of TMK (2) 1-4-004:036
Permit(s)/Approval(s):	<p>Federal</p> <ul style="list-style-type: none"> • Department of the Army permit (Section 10, Rivers and Harbors Act - work in navigable waters of the U.S.) • National Environmental Policy Act environmental review • Private Aids to Navigation permit • Endangered Species Act, Section 7 consultation • Essential Fish Habitat consultation • National Historic Preservation Act Section 106 consultation • Hawai'i Coastal Zone Management Federal Consistency Review <p>State</p> <ul style="list-style-type: none"> • HRS Chapter 6E review • National Pollutant Discharge Elimination System Permit (potentially required for construction laydown/staging area if total area is greater than one acre) • Construction Noise Permit • Conservation District Use Permit (potentially required for construction laydown area) <p>County</p> <ul style="list-style-type: none"> • Special Management Area Assessment and/or Permit (potentially required for construction laydown area)
Proposing/Determining Agency:	State of Hawai'i Department of Transportation Harbors Division (DOT-H)
<i>Contact Name, Email, Telephone, Address</i>	Ms. Sandra Rossetter, Project Manager hanapiereis@hhf.com (808) 587-1886 Attn: Planning Section 79 South Nimitz Highway Honolulu, HI 96813
Accepting Authority:	Governor, State of Hawai'i
<i>Contact Name, Email, Telephone, Address</i>	The Honorable David Y. Ige http://governor.hawaii.gov/contact-us/contact-the-governor/ Telephone: (808) 586-0034 Governor, State of Hawai'i Executive Chambers State Capitol 415 South Beretania Street Honolulu, Hawai'i 96813
Consultant:	HHF Planners
<i>Contact Name, Email, Telephone, Address</i>	Gail Renard hanapiereis@hhf.com (808) 457-3167 733 Bishop Street, Suite 2590 Honolulu, HI 96813

Status (select one)
 DEA-AFNSI
Submittal Requirements

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.

- FEA-FONSI Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
- FEA-EISPN Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
- Act 172-12 EISPN
("Direct to EIS") Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
- DEIS Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
- FEIS Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
- FEIS Acceptance Determination The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
- FEIS Statutory Acceptance Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
- Supplemental EIS Determination The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
- Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.
- Other Contact the OEQC if your action is not one of the above items.

Project Summary

The proposed action is to remove the superstructure of Hāna Pier and access trestle at Hāna Harbor, Maui, Hawai'i. The concrete pier and its access trestle are currently condemned due to the deteriorated condition of its superstructure (i.e., deck, beams, pile caps, and trestle guardrails). The existing piles would remain in place to avoid adversely impacting corals that have colonized on the piles.

The project purpose is (1) to further address and resolve what could be a public safety hazard and potential legal liability and (2) to ensure all facilities under the jurisdiction and management of the DOT-H meet and support its mission and the requirements of Chapter 266, HRS, which defines a "commercial harbor," while simultaneously respecting the Hāna community's objections to the pier's use for commercial purposes.

In its current deteriorated state, the pier is a potential public safety hazard. To address this potential hazard and unsafe conditions, physical barriers and warning signs were installed and are periodically repaired by DOT-H; however, unauthorized access to the pier continues despite these efforts. The project is intended to further address this potential public safety hazard.

HĀNA PIER DECK REMOVAL

Draft Environmental Impact Statement

June 2017



State of Hawai'i
Department of Transportation
Harbors Division

HĀNA PIER DECK REMOVAL

Draft Environmental Impact Statement

June 2017

This environmental impact statement and all ancillary documents were prepared under my direction or supervision and the information submitted, to the best of my knowledge, fully addresses document content requirements as set forth in Section 11-200-17, Hawaii Administrative Rules.



State of Hawai'i
Department of Transportation
Harbors Division



Ford Fuchigami, Director
State of Hawai'i, Department of Transportation

6.26.17

Date

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- B** Environmental Noise Assessment Report (D.L. Adams Associates, Ltd.)
- C** Water Quality and Biological Resources Impact Analysis (AECOS, Inc.)
- D** Akule Fishery Study (AECOS, Inc.)
- E** Historic Properties Evaluation Materials and SHPD Correspondence
- F** Cultural Impact Assessment (Kaimipono Consulting Services, LLC)

ACRONYMS

Act 172 (12)	Act 172, Session Laws of Hawai'i 2012
ADA	Americans with Disabilities Act
BMP	best management practices
CDP	Census Designated Place
CIA	Cultural Impact Assessment
cm	centimeter(s)
CZM	Coastal Zone Management
dB	decibel(s)
dBA	A-weighted decibels
DBEDT	Department of Business, Economic Development and Tourism
DEIS	Draft Environmental Impact Statement
DLNR	Department of Land and Natural Resources
DLNR DAR	DLNR Division of Aquatic Resources
DLNR DOBOR	DLNR Division of Boating and Ocean Recreation
DO	dissolved oxygen
DOH	Department of Health
DOT	Department of Transportation
DOT-H	Department of Transportation, Harbors Division
DPS	distinct population segment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
ESA	Endangered Species Act
ft	foot (feet)
FTA	Federal Transit Administration
GHG	greenhouse gases
GPS	global positioning system
HAER	Historic American Engineering Record
HAR	Hawai'i Administrative Rules
HRS	Hawai'i Revised Statutes
IWSMP	Integrated Solid Waste Management Plan
L _{eq}	equivalent sound level
L _{max}	maximum noise levels

L-T	long-term
mi ²	square mile(s)
MECO	Maui Electric Company, Ltd.
MHHW	mean higher high water
MLLW	mean lower low water
MMPA	Marine Mammal Protection Act
mph	miles per hour
NOAA Fisheries	National Marine Fisheries Service
NAAQS	National Ambient Air Quality Standards
NOAA	National Oceanic and Atmospheric Administration
NOAA PIFSC	NOAA Pacific Islands Fisheries Science Center
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHA	Office of Hawaiian Affairs
PATON	Private Aids to Navigation
PEL	Probable Effects Level
PM _{2.5}	particulate matter less than or equal to 2.5 microns in diameter
PM ₁₀	particulate matter less than or equal to 10 microns in diameter
PSU	practical salinity units
RLS	Reconnaissance level survey
SF	square foot (square feet)
SHPD	State Historic Preservation Division
SHPO	State Historic Preservation Officer
SLH	Session Laws of Hawai'i
SMA	Special Management Area
SO ₂	sulfur dioxide
S-T	short-term
TSS	total suspended solids
TTS	temporary threshold shifts
UH Sea Grant	University of Hawai'i at Mānoa Sea Grant College Program
U.S.	United States
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

CHAPTER 1 INTRODUCTION AND SUMMARY

1.1 BACKGROUND

This Draft Environmental Impact Statement (DEIS) was prepared in accordance with the requirements of Hawai'i Revised Statutes (HRS) Chapter 343 and Chapter 200 of Title 11, Hawai'i Administrative Rules (HAR) in support of the proposal by the State of Hawai'i Department of Transportation, Harbors Division (DOT-H) to undertake the removal of the deck of Hāna Pier, Hāna, Island of Maui, State of Hawai'i. See Figure 1-1 for project location.

Act 172, Session Laws of Hawai'i (SLH) signed by the Governor on June 27, 2012 (Act 172 [12]), allows an agency to determine from the outset that an Environmental Impact Statement (EIS) is likely to be required, and to proceed directly to prepare an EIS. Under the provisions of Act 172 (12), DOT-H determined that an EIS was required for the proposed action. An Environmental Impact Statement Preparation Notice (EISPN) was prepared and published in the Office of Environmental Quality Control's (OEQC) bimonthly bulletin on October 8, 2016. The 30-day public consultation period ended on November 7, 2016.

1.2 PROJECT SUMMARY

Project Name:	Hāna Pier Deck Removal
Project Location:	Wainanalua Ahupua'a, Hāna District, Island of Maui, Hawai'i (See Figure 1-1.)
Proposing Agency:	State of Hawai'i Department of Transportation (DOT) Harbors Division (DOT-H) 79 South Nimitz Highway Honolulu, HI 96813
Owner:	State of Hawai'i
Accepting Authority:	The Honorable David Y. Ige Governor, State of Hawai'i Executive Chambers State Capitol Honolulu, Hawai'i 96813
Tax Map Key:	N/A (adjacent to the north of TMK (2) 1-4-004:036). See Figure 1-2.
Coordinates:	20° 45' 23.3" N, 155° 58' 55.5" W
Proposed Action:	Demolish and remove the deteriorated concrete pier deck and access trestle superstructure and pile caps. (See Figures 2-1 and 2-2.)
Existing Use:	Condemned commercial harbor pier under DOT-H jurisdiction; public access prohibited due to deteriorated condition of deck. No uses are currently allowed.
Proposed Use:	Not applicable

Land Use Designations:	<p>State Land Use District: Conservation (Note: Act 86 of the 2013 Hawai'i Legislative Session exempted all work involving submerged lands used for state commercial harbor purposes from State Conservation District permitting requirements.) (See Figure 5-1.)</p> <p>Maui Island Plan: None designated, but adjacent to Small Town Growth Boundary</p> <p>Hāna Community Plan: Park</p> <p>Special Management Area (SMA): Pier is not in SMA; potential construction laydown area is within SMA. (See Figure 5-2.)</p> <p>County Zoning: None designated, but adjacent to PK2 (Community Park)</p>
Flood Insurance Rate Map Zone:	Zone VE Special Flood Hazard Area Subject to Inundation by the 1% Annual Chance Flood, Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
Determination:	Under the provisions of Act 172 (12), DOT has determined at the outset that the proposed action requires the preparation of an EIS, based on the significance criteria set forth in Chapter 200, Title 11, State of Hawai'i Department of Health. The relevant significance criteria are 1) potential direct and secondary impacts that involve an irrevocable commitment to loss or destruction of a cultural resource and 2) may substantially affect the social welfare and cultural practices of the community (HAR §11-200-12 [b][1] and [4]).

1.3 SUMMARY OF PROPOSED ACTION

The State of Hawai'i DOT-H proposes to demolish and remove the superstructure of Hāna Pier and access trestle (i.e., deck, beams, pile caps, and trestle guardrails) at Hāna Harbor, Maui, Hawai'i (see Figure 1-3 for existing pier plan). The concrete pier and its access trestle are currently condemned due to the deteriorated condition of its superstructure. The existing piles would remain in place to avoid adversely impacting corals that have colonized on the piles.

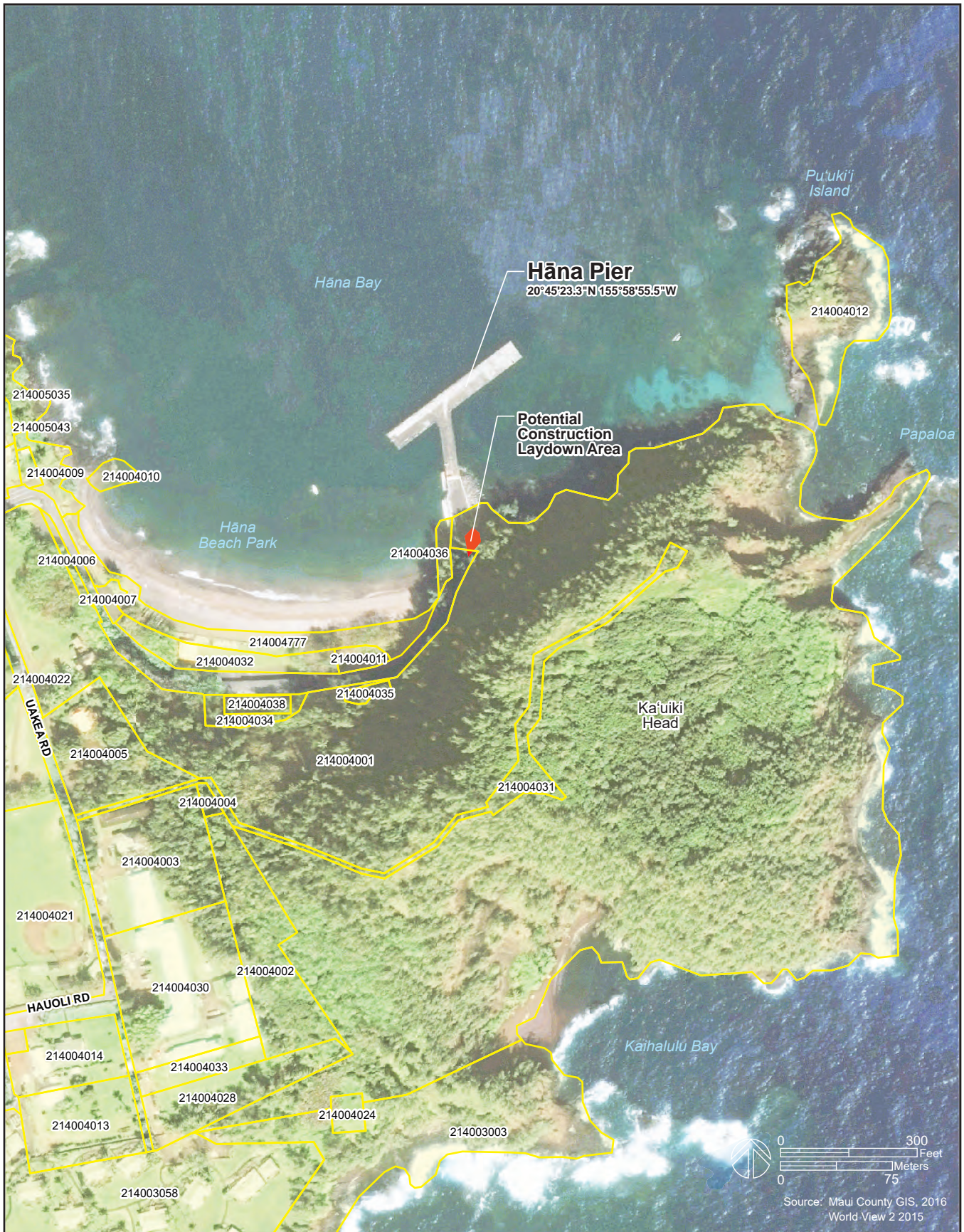
The purpose of the proposed project is two-fold: 1) to further address and resolve what could be a public safety hazard and potential legal liability; and 2) to ensure all facilities under the jurisdiction and management of the DOT-H meet and support the Department's mission and the requirements of HRS Chapter 266, which defines what is a "commercial harbor," while simultaneously respecting the Hāna community's opposition to commercial use that would be required under DOT-H's mission if the pier were to be repaired instead of demolished. The project is needed to address what could be a public safety hazard that places the State at legal risk. In its current condition, the pier attracts use by community members despite its condemned status, with potential hazards posed by its current condition—which condition the State is currently addressing through the physical barriers and warning signs installed, maintained, and repaired by DOT-H at the pier to prevent unauthorized use of the pier. The proposed project is a further effort to address any continued unauthorized use of the pier, which could place community members at risk of injury.



Regional Map

Hāna Pier Deck Removal Environmental Impact Statement
 Hāna, Maui, Hawai'i

Figure 1-1



Tax Map

Hāna Pier Deck Removal Environmental Impact Statement
Hāna, Maui, Hawai'i

Figure 1-2

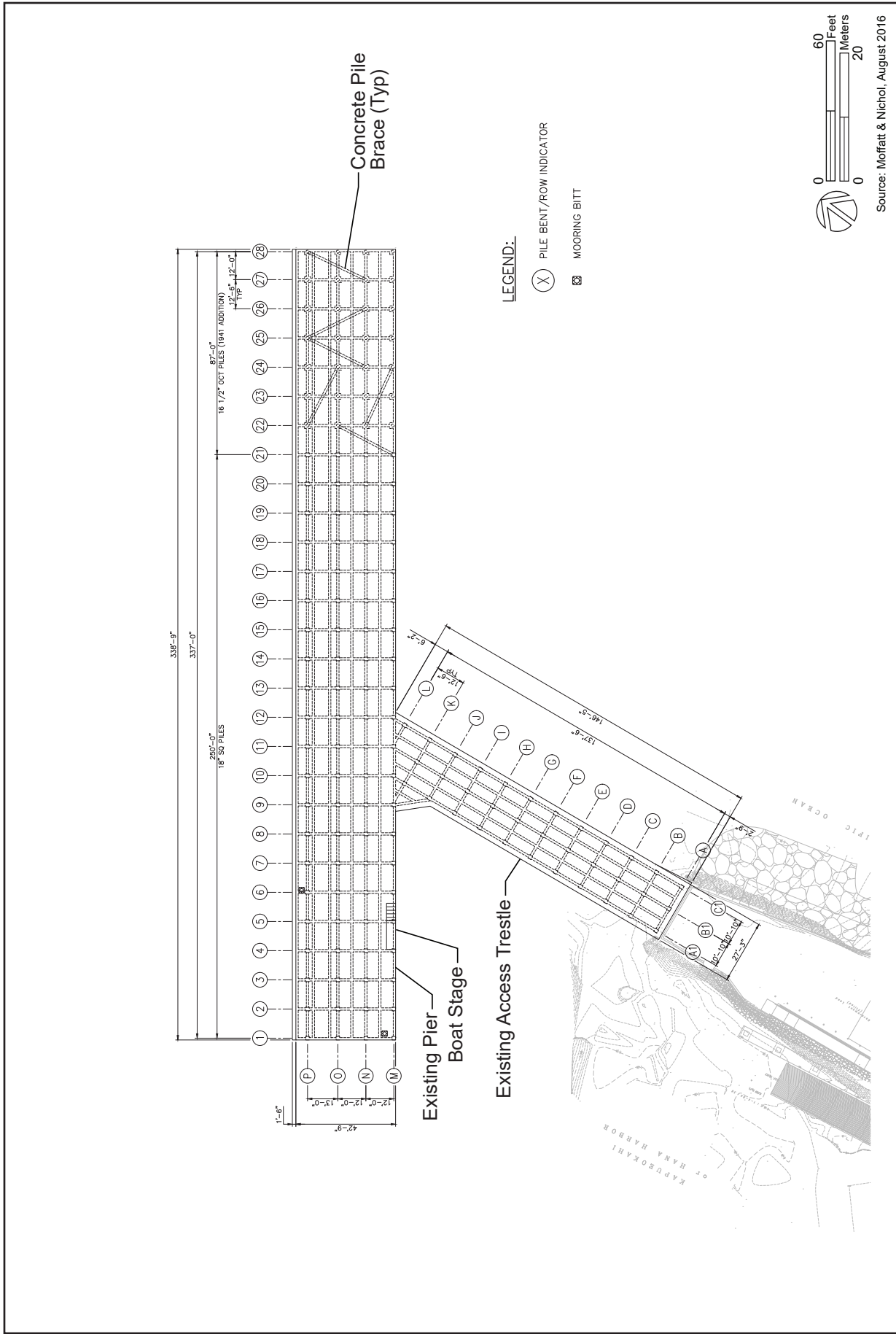


Figure 1-3

Existing Pier Plan
 Hāna Pier Deck Removal Environmental Impact Statement
 Hāna, Maui, Hawai'i

Because State funds and land would be used, this Environmental Impact Statement (EIS) has been prepared in accordance with the requirements of HRS Chapter 343 and Chapter 200 of Title 11, Hawai'i Administrative Rules (HAR).

The proposed action involves the removal of existing deteriorated pier superstructure and pile caps. The superstructure consists of the trestle guardrails, deck, and beams. The severely deteriorated superstructure would be demolished, thereby reducing the risks to the general public posed by the existing pier. The existing piles would remain in place to reduce adverse impacts to coral that have adapted to the habitat provided by the piles.

Pile caps would be removed and, with the exception of the seaward-most row of piles (Pile Row P), the tops of the piles will remain above water at Mean Higher High Water (MHHW). After the pile caps are removed, the top of piles in Row P would be approximately 1.5 feet below MHHW. The piles will be appropriately marked to provide navigational safety in compliance with United States Coast Guard (USCG) requirements. The abutment (headwall) at the shore end of the pier will remain. The adjacent small boat ramp and dock that are under the jurisdiction of the State of Hawai'i Department of Land and Natural Resources (DLNR) Division of Boating and Ocean Recreation (DOBOR) would remain.

1.4 LOCATION AND BACKGROUND

1.4.1 Location

Hāna Pier is located in the southeastern section of Hāna Bay (also referred to as "Hāna Harbor" in this document), which is in the District of Hāna on the eastern coast of the Island of Maui (see Figure 1-1). It is located in the town of Hāna, a small, remote community approximately 55 miles from the County seat in Wailuku, via State Highway 360 ("Hāna Highway"). The pier is located at the end of Keawa Place, which provides access to the neighboring Hāna Beach Park (County) (see Figure 1-4). A small boat ramp, two loading docks, an Americans with Disabilities Act (ADA) accessible parking stall, and boat trailer turnaround area are located at the shoreward end of the Hāna Pier access trestle (see Figure 1-5 for boat ramp photo). The small boat ramp is under the jurisdiction of the DLNR DOBOR. An access ramp connects the south loading dock to the ADA parking area.

The surrounding land use is primarily recreation, with commercial activities limited to ocean-related equipment rental and guided excursions, and a food service concession at the County of Maui's community center (Helene Hall), located across Keawa Place from Hāna Beach Park.

1.4.2 Pier and Project Background

Historical Use. Originally constructed in 1921 by the Territory of Hawai'i and owned by the Board of Harbor Commissioners, Hāna Pier is a concrete pier supported by driven concrete piles, with an angled T-shaped footprint. The main pier section is approximately 339' long by 43' 9" wide, running approximately parallel to shore (see Figure 1-3 for existing pier plan). It is connected to shore by a pile-supported, 24' wide by 137' 6" long access "trestle." During the 1920s, the pier was primarily used to haul sugar from an upland mill to transport ships in the harbor, although vessels carrying passengers and cargo (e.g., foodstuffs, building materials, fuel, etc.) also called at the pier. After Hāna Highway opened in 1926, which allowed travelers and small cargo to be more easily transported overland from Kahului, Hāna Pier was increasingly used for bulk goods shipment only. After the end of sugar production in the Hāna area in the mid-1940s, the pier's use for bulk shipments decreased over time, with livestock and general merchandise comprising most of the cargo (Mason Architects, Inc., 2017).



Project Vicinity Map

Hāna Pier Deck Removal Environmental Impact Statement
 Hāna, Maui, Hawai'i

Figure 1-4



1. Hana Pier from southwest.



2. Hana Boat Ramp with pier in background.



3. Warning signage and barrier



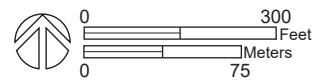
4. Hole in pier deck at shoreward end of trestle.



5. Topside view of pier deck hole in Photo 4.

Photo Source:

- 1, 3: HHF Planners, October 2014
- 2: Moffatt & Nichol, February 2013
- 4: Moffatt & Nichol, March 2013
- 5: DOT-H, 2013



Site Photos

Hana Pier Deck Removal Environmental Impact Statement
 Hana, Maui, Hawai'i

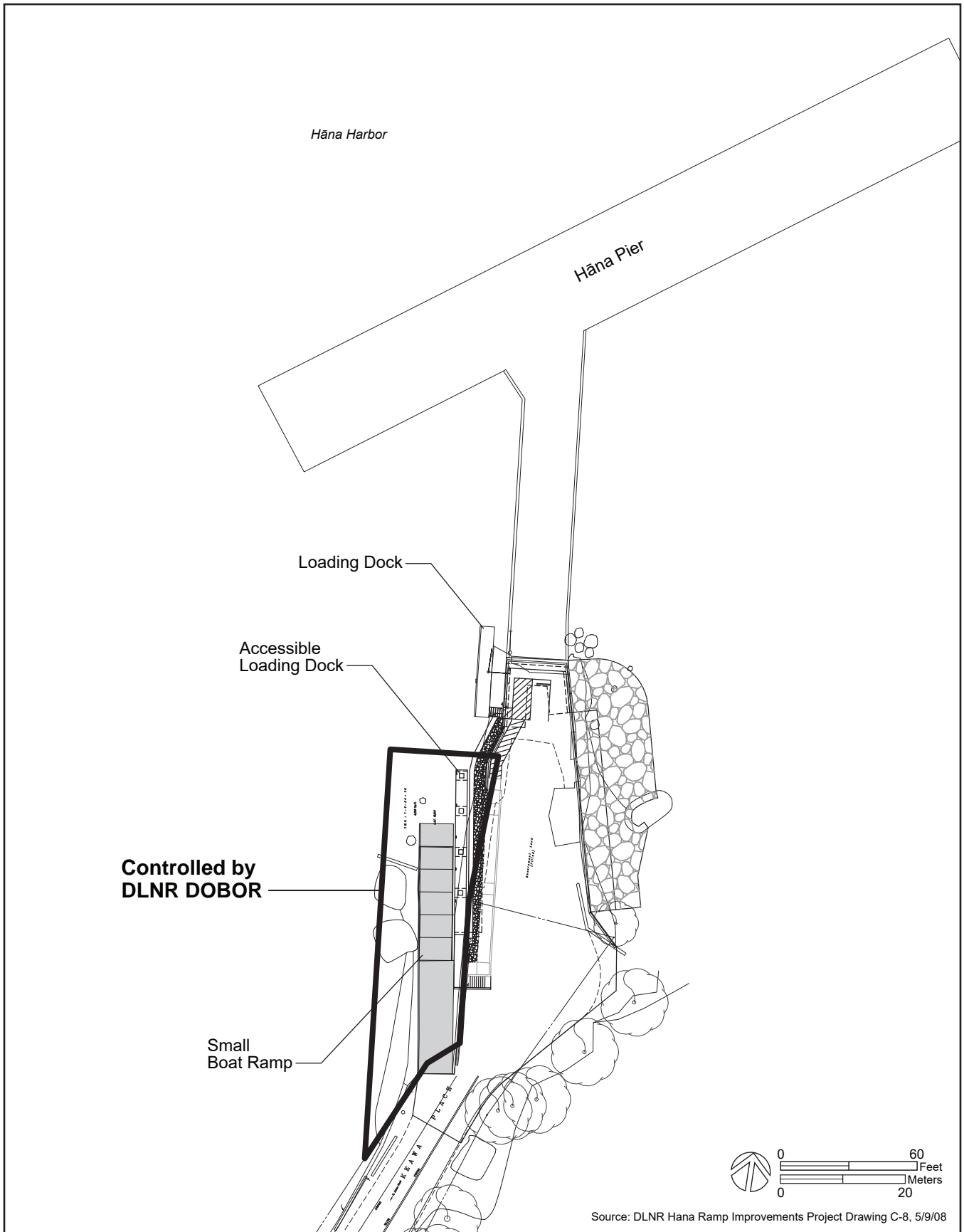
Figure 1-5

In the late 1950s, the pier was primarily used for importing fuel products; no goods were exported over Hāna Pier during that time (Mason Architects, Inc., 2017). Because of its location in Hāna Harbor and accessibility to the public, over the years the pier has become an important social, subsistence, recreational, and cultural asset to the community. Activities include fishing off the deck, canoe club training, walking on the pier, and cultural protocols to honor Queen Ka’ahumanu (whose birthplace is said to be within visual line-of-sight of the east end of the pier), among others. With the decline in its commercial use, the pier subsequently fell into disrepair. However, the clear hazard warning signs and physical barriers installed to prevent access and protect public safety are regularly ignored, damaged, and breached by individuals who desire access to the pier, thereby exposing individuals to potential risk of serious injury. (See Figure 1-5 for photos of barrier fence and pier deck condition.)

Transfer to DLNR DOBOR. Act 272, SLH 1991 transferred the administrative jurisdiction for recreational boating and related vessel activities from DOT-H to DLNR DOBOR, effective July 1, 1992. As a result, DLNR DOBOR acquired the administrative jurisdiction of Hāna Pier from DOT-H at that time. Hāna Pier was condemned while it was under DLNR DOBOR jurisdiction. Vehicular access has been prohibited since 1991 and all public access was restricted after a 2002 DOBOR inspection.

Transfer to DOT-H. Act 200, SLH 2008 addressed aging infrastructure in the State’s commercial harbors system by appropriating \$842 million for statewide expansion, improvements, and upgrades to the overall harbor system—i.e., implementation of the *Harbors Modernization Plan*. Because Hāna Harbor was then under the jurisdiction of the State of Hawai’i DLNR, it would not have been eligible for improvements funded by the measure. However, Act 200 also amended HRS Chapter 266 to transfer jurisdiction and administrative authority of Hāna Harbor (including Hāna Pier) to DOT-H and appropriated \$20 million in revenue bond funding specifically for Hāna Harbor improvements. Under Act 200, the Hāna Harbor small boat ramp facility (adjacent to Hāna Pier) remained under the jurisdiction and administrative authority of DLNR DOBOR. (See Figure 1-6 for the area under DLNR DOBOR jurisdiction.) After the transfer, DOT-H upheld the pier’s condemnation status. (Note: The \$20 million appropriation lapsed in 2012; however, there is a Fiscal Biennium 2018/2019 request for a Capital Improvement Project appropriation [i.e., proposed appropriation is entitled “Remove Hāna Pier Superstructure, Hāna Harbor, Maui”]). If appropriated, DOT would not be able to transfer or redirect the funds to another agency to use for improvements to the pier.)

Hāna Harbor Development Plan. After jurisdiction was transferred to DOT-H, a planning effort was conducted in 2010-2011 to determine whether there was consensus to improve access to Hāna via Hāna Harbor, and, if so, what physical improvements should be made to harbor infrastructure (i.e., Hāna Pier) to achieve this. In addition to meetings with Federal, State and County agencies and the business community, the planning process included small group and general community meetings in Hāna to learn how the community envisioned the pier as part of its future. The community emphasized the importance of maintaining the rural character of Hāna and identified the following primary concerns regarding any pier improvements: safety (correct physical deficiencies); no commercialization (protect existing community character, lifestyle and resources); provide for local community needs (social, cultural, subsistence uses of pier); accessibility to the pier; and limitations of existing roadway infrastructure (roadway conditions constrain transportation of goods over land). The outcome of the process is detailed in the *Hāna Harbor Final Development Plan* (November 2011), which identifies alternative conceptual plans and the preferred development alternative for improvements to the pier. The recommended improvements were to provide Hāna with safe, modern harbor infrastructure for the ocean-transport of cargo and commercial uses.



Area Under DLNR DOBOR Jurisdiction
 Hāna Pier Deck Removal Environmental Impact Statement
 Hāna, Maui, Hawai'i

Figure 1-6

It was evident during and after completion of the Development Plan that there was a disparity between the desires of the Hāna community and DOT-H's mission. While the Hāna community wanted the pier repaired and available for use in emergencies, they objected to commercial use of the pier. However, the pier would be subject to DOT-H's requirements and mission under HRS Section 266-1. As stated in HRS Section 266-1, under commercial harbor jurisdiction, the use of the pier would primarily be for the movement of commercial cargo, passenger and fishing vessels entering, leaving, or traveling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.

Hāna Pier Improvements Project. Subsequent to the completion of the Development Plan, DOT-H initiated a project to undertake improvements to Hāna Pier and access trestle to allow its safe use for berthing vessels transporting cargo and people to and from Hāna. Two public informational meetings were held in Hāna on June 10, 2013 and October 28, 2014 to present the pier improvements project and gather public comments on a forthcoming HRS 343 environmental review document. Due to concerns continually expressed by the local community opposed to the commercialization of Hāna Pier, DOT-H distributed a survey questionnaire in December 2015 to obtain a broader understanding of the community's sentiments. The survey was mailed to each household within the Hāna ZIP code (96713). In addition, DOT-H hosted a third public meeting on December 17, 2015 to discuss alternatives for the pier and answer questions about the survey. The results of the survey showed a majority of the community was opposed to any commercial use of the pier. Without commercial use of the pier, DOT-H has no mandate or justification to maintain or improve the deteriorating structure and subsequently recommended removal of the pier. DOT-H's current proposal to remove the pier deck is the outcome of this lengthy process.

1.4.3 Pier Condition Background

As far back as the early 1990s, the pier was recognized as a public safety hazard due to its deteriorated condition and was closed to vehicular traffic in 1991 (DLNR DOBOR letter to Maui Councilmember Morrow dated September 16, 1996). Steel bollards were likely installed around that time to prevent vehicular access. Above-water and underwater inspections were conducted in 1999 as part of a field investigation for a structural condition assessment of Hāna Pier (Arnold T. Okubo and Associates, Inc., 1999). The assessment concluded that the pier structure had extensive damage throughout the entire pier and was structurally unsafe for pier operation or as a fishing pier. The entire pier had extensive corrosion of its reinforcing bars, concrete cracks, and spalling of the deck slab, beams, girders, and pile caps. The assessment also found that several areas of the pier's reinforcing bars (e.g., deck slabs, beams, girders, and pile caps) were completely corroded. At that time, a cost analysis indicated that it was beyond economic repair.

In November 2002, DLNR DOBOR representatives conducted an inspection of the pier. The major findings were that the pier was structurally unsafe and posed liability risks if public access were allowed on the pier. The inspection revealed that major portions of the pier had only about three inches of asphalt with no structural concrete below providing support. The reinforcing steel bars in the concrete piers were in deteriorated condition. The inspection recommended demolition of the existing structure and reconstruction with a new pier facility. The metal fence between the steel bollards was erected sometime between 2002 and 2004, to prevent access to the pier. Due to lack of funds, DLNR DOBOR did not initiate a demolition and replacement project. The subsequent transfer of the pier to DOT-H was intended to provide a funding source for its repair/replacement (see Section 1.4.2 Pier and Project Background).

The deteriorated pier structure could be a public safety hazard that places the State at potential legal risk. DOT-H has installed, maintained, and repaired barrier fencing and warning signs to protect public safety;

however, individuals continue to access the pier for a variety of activities, including pole fishing, strolling, and jumping into the ocean (i.e., recreation). As seen in representative photos in Figure 1-5, there are holes in the pier deck, with exposed sharp edges. Other sections of the pier deck are compromised and have been determined to be unsuitable for public access.

1.5 SIGNIFICANT BENEFICIAL AND ADVERSE IMPACTS

Project implementation will result in potential impacts (discussed in Chapters 3, 4, and 6), both beneficial and adverse, to the natural and human environments. Measures to mitigate potentially significant impacts will be included in project implementation. A summary of beneficial impacts and potentially significant adverse impacts is presented in Table 1-1 according to resource area. They are also summarized in Sections 1.5.1 through 1.5.4, along with proposed mitigation measures.

Table 1-1 Summary of Potentially Significant Impacts

Resource Area	Direct	Indirect/ Secondary	Cumulative
Marine Biological Resources	S-T adverse, less than significant with best management practices (BMPs); L-T beneficial	L-T beneficial	
Harbor Navigation	L-T adverse, less than significant with mitigation		
Historic Properties	L-T adverse		L-T adverse
Cultural Resources	L-T adverse; less than significant		
Noise	S-T adverse, less than significant with mitigation		
Scenic and Visual Resources	L-T adverse, less than significant		L-T adverse, less than significant
Recreational Facilities	L-T adverse, less than significant		
Public Health and Safety	L-T beneficial		
Socioeconomic Characteristics	S-T adverse, less than significant with mitigation	L-T beneficial	

S-T = short-term / L-T = long-term

1.5.1 Beneficial Impacts

- Removal of a potential public safety hazard,
- Reduction of DOT-H's potential liability risk,
- Long-term improvement of marine habitat and resources, including to coral communities, due to removal of pier deck and its shading effects, and
- Long-term improvement of *akule* fishery in Hāna Bay, including to *akule* schooling, spawning and migration behaviors, which also reinforces the important community cultural, social, and economic community practice.

1.5.2 Potentially Significant Adverse Effects and Proposed Mitigation Measures

Marine Biological Resources. Direct impacts to the coral community could result from vibrations from pile cutting and placement of anchors for construction barges. Short-term impacts may occur due to the resuspension of fine sediment during in-water work. There is a low potential for direct impacts on Endangered Species Act (ESA)-listed species, such as sea turtles, through stressors such as physical injury

from demolition, behavioral changes due to human activity, equipment operation and turbidity, and exposure to noise levels and wastes/discharges. Impacts to subsistence fisheries, such as the *akule* fishery, during demolition of Hāna pier would be localized and temporary, and primarily due to temporary acoustical and water quality impacts in the areas surrounding the pier. No long-term adverse effects on marine resources are anticipated. Long-term indirect beneficial impacts to marine resources are likely to occur due to removal of the shading effects of the pier on the underlying marine habitat.

Proposed Mitigation. The vertical extent of coral growth should be field-verified and the piles marked by a biologist prior to construction to ensure that piles are cut well above the coral growth. The marking should include a safety margin above the coral growth. Any branching and plating corals that are disturbed during pile cutting could be re-attached to the pile. Barge anchors will be placed outside of areas of high coral cover. Best management practices such as those described in Section 2.2.4 will be employed to avoid or minimize adverse effects to marine water quality and protected species. They include, among other actions, water quality protection, providing qualified observers for protected species, limiting vessel speeds, and establishing 50-yard safety range for ESA-listed species during saw-cutting activities. Specific mitigation measures will be established during the project's U.S. Army Corps of Engineers (USACE) permit process.

Harbor Navigation. After the pier deck superstructure is removed, most of the remaining piles would be exposed and most would be visible above the water surface even at high tide. However, due to the existing configuration of the structure, the seaward-most row of piles (i.e., Pile Row P) would extend to 1.5 feet (ft) below the surface (i.e., not be visible at high tide). The piles could represent a potential hazard and obstruction to marine navigation, and will need to be marked for safety.

Proposed Mitigation. The USCG has established a system to assist navigation within waters of the U.S. through its Private Aids to Navigation regulations. Appropriate navigational markings for the remaining piles will be installed in compliance with the USCG requirements, along with any necessary notice to mariners and alterations of official navigation charts.

Historic Properties. Hāna Pier has been evaluated as a significant historic property eligible for listing in the National Register of Historic Places (NRHP) for its association with the economic growth of Hāna. The removal of the pier superstructure would result in the adverse effect of altering the characteristics that qualify the property for inclusion on the NRHP and substantially diminishes its integrity of design, materials and workmanship.

Proposed Mitigation. Historic American Engineering Record (HAER) documentation of the pier is proposed. The appropriate level of documentation would be determined by the State Historic Preservation Division (SHPD) in consultation with the National Park Service (NPS) and carried out by DOT-H.

Cultural Resources. In spite of its deteriorated and condemned status rendering it off-limits to the public, Hāna Pier has contributed to cultural practices of the community, particularly after cessation of its commercial use around the mid-20th century. Subsistence fishing, recreational use for jumping into the ocean, and enhancement of canoe paddling techniques via coaching from the pier have been identified as activities important to present-day Hāna cultural practices. In the past, the pier has also provided line of sight access to the area of Queen Ka'ahumanu's birthplace for practitioners performing cultural protocols. Removal of the pier deck would reduce, eliminate, or change the potential for some of these activities to occur, which is perceived as a significant adverse impact to cultural practices. There is also concern that demolition activities would adversely affect Ka'uiki Head, the cinder cone near the pier with cultural significance.

Proposed Mitigation. Recommended mitigation measures include monitoring the northwest face of Ka'uiki Head for cinder slides during deck removal activities that may cause vibration capable of being transmitted to fastland; ensuring that the project does not affect the large boulders with cultural significance to Hāna adjacent to DLNR DOBOR boat ramp; employing BMPs and water quality conditions required by USACE permit to prevent or minimize demolition period effects on marine water quality; and consulting with the community and fishermen prior to and during project activities to coordinate and reduce impacts to boat ramp users.

Noise. Demolition noise levels are expected to exceed State of Hawai'i Department of Health (DOH) Community Noise Control Rule, which stipulates maximum permissible noise limits at the property line. Noise levels during demolition are expected to exceed these maximum permissible limits, and a permit must be obtained from the DOH to allow operation of demolition equipment.

Proposed Mitigation. The project will comply with the DOH noise permit, including limiting operation of demolition equipment to daylight hours. If needed, noise source and path control methods will be employed (e.g., scheduling, equipment selection, retrofitting equipment with mufflers or enclosures, regular maintenance of equipment, and temporary noise barriers during activities located close to the property line).

Scenic and Visual Resources. The proposed action will not have an adverse impact on scenic resources in the project vicinity and will not obstruct or alter a visual resource identified for protection in the General Plan 2030 Maui Scenic Resources Inventory (County of Maui, 2006) or the Hāna Community Plan (County of Maui, 1994). However, the removal of the pier superstructure will change an important component of the coastal and community landscape of Hāna, which may be considered an adverse impact on visual resources.

Proposed Mitigation. Mitigation for the loss of the facility, in the form of Historic American Engineering Record documentation of the pier (which includes photo documentation), is proposed.

Recreational Facilities. The project would not impact recreational use of Hāna Beach Park or the DLNR DOBOR boat ramp or loading dock, or the launching of canoes and kayaks from shore. Although it is condemned and off limits to the public, the pier serves various recreational activities (e.g., jumping into the water) as individuals make their way past the barriers and warning signage. These unauthorized recreational activities would no longer be available. To many community members who use or have used the pier for these informal recreation activities, the demolition of the pier would represent a loss of a recreational facility.

Proposed Mitigation. No mitigation is proposed to replace the current unauthorized use of the pier for recreational purposes.

Socioeconomic Characteristics. The project is unlikely to significantly affect population, housing, or employment characteristics of Hāna or Maui County. There would be potential short-term adverse water quality, noise, and vibration impacts from sediment resuspension and pile cutting during demolition that may have temporary adverse impacts to subsistence fishing and gathering. Long-term secondary beneficial impacts to the *akule* fishery are anticipated from removal of the shading effects of the pier superstructure, which, in turn, would benefit the social and economic practice of *akule* fishing.

Proposed Mitigation. Specific BMPs identified during the project's future USACE permit process will be employed to protect water quality and marine species. Compliance with conditions of a Hawai'i Department of Health construction noise permit would mitigate impacts of demolition noise.

1.5.3 Cumulative Impacts

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. They can result from individually minor but collectively significant actions taking place over a period of time. Considered together with past, present and reasonably foreseeable actions, the loss of the pier deck and superstructure associated with the proposed action may have cumulative impacts on historic resources and visual resources.

1.5.4 Secondary Impacts

Secondary impacts include those that are caused by the project and occur later in time or farther removed in distance but are still reasonably foreseeable. Potential secondary impacts or indirect effects are discussed in Chapters 3, 4, and 6, and include: potential long-term beneficial impacts to marine resources and socioeconomic factors. In the long-term, the project is expected to have the secondary beneficial impact of improving benthic habitats, coral communities, and the *akule* fishery due to removal of the shading effects of the deck superstructure on the marine environment below. The improvement of the *akule* fishery would benefit subsistence fishers as well as community *akule* fishing, a practice that reinforces social bonds within the Hāna community.

1.6 ALTERNATIVES CONSIDERED

In addition to the proposed action, several alternatives were considered and evaluated for their feasibility and ability to meet project objectives:

- No Action
- Complete deck and pile removal
- Repair and retrofit the existing pier for commercial, recreational and emergency use
- Repair and retrofit pier for recreational and emergency use only
- Postponing the action pending further study
- Transfer pier to another agency's jurisdiction
- Transfer pier to non-governmental entity
- DOT-H repairs the pier and transfers it to another public agency

The project's objectives are to:

- Protect public safety by resolving the risks posed by a severely deteriorated existing pier
- Reduce the State's potential legal liability caused by the presence of a compromised facility that attracts unauthorized use
- Minimize impacts to the marine environment, including corals present on the pier piles, by minimizing in-water construction
- Minimize costs in order to facilitate timely implementation and reduce the potential public hazard
- Acknowledge and respect the Hāna community's concerns about unwanted development, potential changes to social and cultural character due to development, and its opposition to commercial use of the pier
- Avoid DOT investment in harbor improvements that are not consistent with DOT-H's mission

The **No Action Alternative** assumes no capital expenditures would be made to remove the aging and deteriorated pier deck. The pier would remain in place and continue to deteriorate over time,

exacerbating the potential hazard it poses to public safety as well as the potential liability it presents to DOT-H. Therefore, the No Action Alternative would not meet any part of the action's purpose, need or objectives and is not considered a "reasonable" alternative.

In the **Complete Deck and Pile Removal Alternative**, both the deck superstructure and all supporting piles and other structural components would be removed. The pile removal would involve extracting the piles (approximately 146 total). If removal is not feasible (i.e., cannot be dislodged from the seafloor), the piles would be broken or cut at the mudline. This alternative would require substantial in-water work to extract and/or cut the piles. The in-water work would generate greater in-water noise and sediment impacts than the proposed action, which would likely have greater impacts on protected marine species and subsistence fisheries. In addition, it would result in the removal of piles on which corals are present, and the removal of substrate that could support additional coral recruitment and colonization after the pier deck is removed. This alternative is also likely to involve much higher costs than the proposed action due to the additional labor and equipment required. Although it would meet the project's purpose and need, it would not meet all the project objectives and is not carried through the EIS analysis.

The following alternatives were determined as not meeting project's purpose and/or objectives:

Repair and Retrofit Pier for Commercial/Recreational/Emergency Use. Under this alternative, the existing pier would be repaired and retrofitted to allow its safe use to berth vessels, on-/off-load and temporarily stage cargo, and accommodate pedestrians. Use of the pier by commercial vessels would be allowed as long as DOT-H's rules and regulations were observed and the use was compatible with the pier's capacity. This alternative was DOT-H's original proposed action until it became clear that the Hāna community strongly objected to *any* commercial use of the pier. The alternative does not meet the project's purpose and objectives, as it would not respect the Hāna community's objections to commercial use of the pier; thus, it is not carried through the EIS analysis.

Repair and Retrofit Pier for Recreational and Emergency Use Only. Under this alternative, the pier would be improved similarly to the repair for commercial/recreational/emergency use alternative, but its use would be limited to recreational and emergency uses only. Because this alternative is not consistent with DOT-H's mission and the requirements of Chapter 266, HRS, and does not support the purpose or objectives of the project, it is not considered a "reasonable" alternative and is not carried through the EIS analysis.

Postponing Action Pending Further Study. Under this alternative, DOT-H would postpone implementing the project to conduct further study and community outreach to reach a consensus with respect to what should be done with the pier. In its present state, the pier presents a potential public safety hazard and liability concern because of the continued unauthorized access by members of the public, despite DOT-H's ongoing efforts to prevent public access and protect public safety. If the action were to be postponed, DOT-H may continue to face potential legal exposure should someone be injured during any continued unauthorized use of the pier. This alternative does not meet the project's purpose and need as it does not address the potential public safety hazard and DOT-H's potential legal liability; thus it is not carried through the EIS analysis.

Transfer Pier To Another Agency's Jurisdiction. Under this alternative, DOT-H would transfer Hāna Pier to a state or county receiving agency for repair and public use, without allowing for commercial use as would be required under DOT-H jurisdiction. While this alternative may appear to satisfy the community's desire to retain the pier for recreational and cultural uses (with no commercial use), no agency has been found that would be willing to accept the pier and prioritize investing limited capital improvements or repair and maintenance funds to rehabilitate the pier for safe public use.

Transfer pier to non-governmental entity. An EISPN comment suggested that a community group take responsibility for the pier and raise funds for its repair. Transferring State property to private control is a lengthy process and involves (among other things) appraisal and valuation; HRS 343 compliance; and evidence that the receiving entity has the financial means, structure, and expertise to carry out its intended repair and maintenance activities in perpetuity in compliance with federal, state and county requirements. While a non-governmental entity with adequate resources and expertise may eventually be established or step forward, DOT-H has a near-term responsibility to move forward with reducing its liability and risks to public safety that the pier currently presents.

DOT-H repairs pier and transfers it to another public agency. Under this alternative, DOT-H would fund and repair the pier and transfer it to another agency’s jurisdiction, whereby the pier would be used for non-commercial, recreational activities. This does not meet project objectives because it obligates DOT-H investment in improvements that are not consistent with its mission.

1.7 UNRESOLVED ISSUES

The issues listed below remain unresolved at the time of the preparation of this EIS; they will be resolved prior to undertaking the proposed action.

- Identification of specific BMPs and mitigation measures for potential noise, water quality, and marine resources impacts in consultation with relevant federal and state resource and regulatory agencies
- Confirmation of construction laydown area site
- Confirmation of state and county permits required for the construction laydown area (including associated State Land Use District boundary interpretation and shoreline certification, if required)
- SHPD concurrence on mitigation of adverse effects to historic properties

1.8 COMPATIBILITY WITH LAND USE PLANS AND POLICIES

The proposed action is generally compatible with relevant federal and state land use plans and policies, as described in detail in Chapter 5.

1.9 PERMITS AND APPROVALS

Permits and approvals anticipated for the proposed action are listed in Table 1-1, along with their respective jurisdictional agency or authority and the status of each approval.

Table 1-2 Required Permits and Approvals

Permit/Approval	Authority	Status/Notes
Federal		
Rivers and Harbors Act, Section 10 permit	USACE	to be requested after acceptance of Final EIS
National Environmental Policy Act (NEPA) Environmental Review	USACE	triggered by USACE permit; part of USACE permit process
Private Aids to Navigation (PATON) permit	USCG	to be requested during USACE permit process
Endangered Species Act, Section 7 Consultation	Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NOAA Fisheries) and Department of the Interior, United States Fish and	triggered by USACE permit; part of USACE permit process

	Wildlife Service (USFWS)	
Essential Fish Habitat (EFH) Consultation	NOAA Fisheries	triggered by USACE permit; part of USACE permit process
National Historic Preservation Act, Section 106 Consultation	State Historic Preservation Officer (SHPO)	triggered by USACE permit; part of USACE permit process
Hawai'i Coastal Zone Management Federal Consistency Review	Office of Planning	triggered by USACE permit; part of USACE permit process
State of Hawai'i		
Hawai'i Revised Statutes Chapter 6E Review	SHPD	consultation initiated
National Pollutant Discharge Elimination System (NPDES) Permit	DOH	potentially required for construction laydown/staging area if total area is greater than one acre
Construction Noise Permit	DOH	contractor to obtain prior to project implementation
Conservation District Use Permit	DLNR	potentially required for construction laydown area; DOT-H to coordinate with DLNR
County of Maui		
Special Management Area Assessment and/or Permit	Planning Department or Planning Commission	potentially required for construction laydown area; DOT-H to coordinate with Maui Planning Department

1.10 PUBLIC INVOLVEMENT

1.10.1 Government Agencies

DOT-H conducted early consultation with several federal, state and county government agencies prior to the preparation of the EISPN:

- U.S. Army Corps of Engineers, Honolulu District Regulatory Office
- U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- U.S. Department of the Interior, Fish and Wildlife Service
- U.S. Environmental Protection Agency (USEPA)
- State of Hawai'i DLNR Division of Boating and Ocean Recreation
- State of Hawai'i DLNR Division of Aquatic Resources
- Maui County Department of Planning

1.10.2 Hāna Community

DOT-H held a public informational meeting on July 10, 2013 at Helene Hall in Hāna, Maui where details about its previously proposed pier improvements project were presented, and the meeting attendees were invited to provide comments on the scope of the HRS 343 document (then assumed to be an environmental assessment [EA]). The comments on the scope of the HRS 343 document for the pier improvements project included these general categories:

- Impacts on recreational use of pier and harbor (e.g., canoe paddling, swimming)
- Secondary impacts on current Hāna lifestyle
- Construction period and operational period water quality

- Impacts on *akule* fishery and fishing
- Desire to limit pier use by vessels to emergency transport only
- Invasive algae
- Vessel groundings due to high surf or hurricanes
- Geotechnical stability of Ka'uiki Head

DOT held a joint public informational meeting at Helene Hall in Hāna, Maui on October 28, 2014 to present projects from its three modal divisions (i.e., Harbors, Highways, and Airports) that affect the Hāna community, including the formerly proposed Hāna Pier improvements project. At this meeting, DOT clarified for the Hāna community that, according to its mission founded on the requirements of HRS 266, commercial use would be allowed at the repaired pier. Community comments expressed at the meeting on the scope of the forthcoming HRS 343 document focused primarily on secondary impacts to the following resources/conditions that could result from commercial use of the repaired pier:

- Hāna lifestyle, community character, sense of place
- Fishing and gathering practices
- Native cultural practices
- Increased development and higher taxes

Due to concerns expressed by the local community against the commercialization of Hāna Pier, combined with its need to protect the public from hazards of the progressively deteriorating pier, DOT-H subsequently revised its proposal from the improvements project for the pier to removal of the pier.

1.11 EISPN CONSULTATION

Along with earlier agency meetings and Hāna community outreach and input, the project's EISPN served as Draft EIS early consultation for the current proposed action (i.e., pier deck removal). Notification of the availability of the EISPN was made to the following parties and substantive comments received during the public comment period have been addressed in the Draft EIS. In addition to the government agencies specifically contacted, 54 individuals provided substantive comments on the EISPN within the comment period. All written EISPN comments and DOT-H responses to the substantive comments received are included in Chapter 9.

Federal

- Army Corps of Engineers
- Department of Agriculture, Natural Resources Conservation Service
- Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- Department of Homeland Security, U.S. Coast Guard
- Department of the Interior, Fish and Wildlife Service
- Department of the Interior, National Park Service
- Department of the Interior, Geological Survey, Pacific Islands Water Science Center
- Department of Transportation, Federal Aviation Administration
- Department of Transportation, Federal Transit Administration
- Environmental Protection Agency

State

- Department of Agriculture
- Department of Accounting and General Services

- Department of Business, Economic Development and Tourism (DBEDT) Office of Planning
- DBEDT, Strategic Industries Division
- Department of Defense
- Department of Hawaiian Home Lands
- Department of Health
- DLNR
- DLNR, State Historic Preservation Division
- Department of Transportation
- University of Hawai'i, Water Resources Research Center
- Office of Hawaiian Affairs (OHA)

County

- Department of Fire and Public Safety
- Department of Environmental Management
- Department of Housing and Human Concerns
- Department of Parks and Recreation
- Department of Planning
- Police Department
- Department of Public Works
- Department of Transportation
- Department of Water Supply

Elected Officials

- U.S. Senator
- U.S. Representative
- State Senator
- State Representative
- Mayor's Office
- Maui County Council Members

Utilities/Other

- Maui Electric
- Hāna Community Association
- Hāna Cultural Center
- Hāna Ranch
- Public community meeting attendees who indicated they wanted project updates

Libraries

- University of Hawai'i Maui College Library
- Hawai'i State Library, Hawai'i Documents Center
- Kahului Regional Library
- Hāna Public and School Library

The main issues raised in the EISPN comments that are relevant to the EIS analysis are summarized below and addressed in the EIS.

- Protection of existing County utility infrastructure
- Flood hazard zone compliance

- State and county entitlements for demolition and construction laydown area
- Compliance with State public health regulations and standards
- Conformance with state and county plans, policies, and controls, including Coastal Zone Management objectives and policies
- Consideration of non-demolition alternatives to proposed action
- Disposition of demolition debris
- Navigation hazards of remaining piles
- Climate change and sea level rise
- Cultural, historic, and social value of the pier
- Health and safety impacts, including emergency access
- Loss of access for fishing (including subsistence), recreation, cultural practices
- Demolition period and long-term impacts on marine resources, including akule, and protected species
- Emergency access
- Wave protection during large swells

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CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

This chapter describes the proposed action, the purpose, need, and objectives of the action, and alternatives to the proposed action that were considered.

2.1 PROJECT PURPOSE, NEED AND OBJECTIVES

2.1.1 Purpose and Need

The purpose of the project is two-fold: 1) to further address and resolve what could be a public safety hazard and potential legal liability; and 2) to ensure all facilities under the jurisdiction and management of the DOT-H meet and support the Department's mission and the requirements of Chapter 266, HRS, which defines what is a "commercial harbor," while simultaneously respecting the Hāna community's objections to commercial use that would be required under DOT-H's mission if the pier were to be repaired instead of demolished.

The project is needed to address what could be a public safety hazard that places the State at legal risk. In its current condition, the pier attracts use by community members despite its condemned status, with potential hazards posed by its current condition—which condition the State is currently addressing through the physical barriers and warning signs installed, maintained, and repaired by DOT-H at the pier to prevent unauthorized use of the pier. In spite of DOT-H's efforts, individuals continue to access the pier for a variety of activities, including pole fishing, strolling, and jumping into the ocean (i.e., recreation). As seen in representative photos in Figure 1-5, there are holes in the pier deck, with exposed sharp edges. Other sections of the pier deck are compromised and, as described in Section 1.4.3, have been determined to be unsuitable for public access. The proposed project is a further effort to address any continued unauthorized use of the pier, which could place community members at risk of injury.

2.1.2 Objectives

The objectives of the project are to:

- Protect public safety by resolving the risks posed by a severely deteriorated existing pier
- Reduce the State's potential legal liability caused by the presence of a compromised facility that attracts unauthorized use
- Minimize impacts to the marine environment, including corals present on the pier piles, by minimizing in-water construction
- Minimize costs in order to facilitate timely implementation and reduce the potential public hazard
- Acknowledge and respect the Hāna community's concerns about unwanted development, potential changes to social and cultural character due to development, and its opposition to commercial use of the pier
- Avoid DOT investment in harbor improvements that are not consistent with DOT-H's mission

2.2 PROPOSED ACTION

The proposed action is to remove the superstructure (i.e., deck, beams, pile caps, and trestle guardrails) of Hāna Pier and access trestle at Hāna Harbor, Maui, Hawai'i (see Figure 1-4 for vicinity map). Removing the pier superstructure meets the project's purpose and need by resolving the potential public safety hazard and potential legal liability posed by the deteriorated pier and its continued unauthorized access by the general public.

The proposed action also satisfies the project's second stated purpose, which is to support DOT-H's mission, while respecting the Hāna community's objections to commercial use of the pier. DOT-H's mission is to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or traveling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels. Inherent in its effective management of the commercial harbor system is the duty to maintain its facilities in a safe condition. It is prudent for DOT-H to remediate this potential public safety hazard, as the public continues to access the deteriorated pier structure despite its condemned status. Because repair or reconstruction of the pier by DOT-H would require the facility be available for commercial use—to which the Hāna community has clearly expressed its opposition—DOT-H has opted to remove the compromised superstructure.

2.2.1 Project Description

The proposed action involves removing the existing deteriorated pier superstructure and pile caps. The superstructure consists of the trestle guardrails, deck, and beams. The severely deteriorated superstructure would be demolished, thereby resolving the potential risks to the general public posed by the existing pier. The existing piles would remain in place to reduce adverse impacts to coral that have adapted to the habitat provided by the piles. (See Figure 2-1 for proposed demolition plan and Figure 2-2 for typical demolition sections.)

Pile caps would be removed and piles cut to an elevation of +4.00 feet Mean Lower Low Water (MLLW), except Pile Row P (the most seaward row of piles), which will be removed to elevation +1.00 feet MLLW (approximately 12 inches below the bottom of the pile caps). The difference in final elevation is due to the configuration of the pile cap at the seaward edge of the pier—i.e., the pile cap at the seaward end of the pier extends lower than the other pile caps (see Pier Section A in Figure 2-2). With the exception of Pile Row P, the tops of the remaining piles will remain above water at Mean Higher High Water (MHHW).

After the pile caps are removed, Pile Row P would be approximately 1.5 feet below MHHW (i.e., below the water's surface during high tide). Navigational markings and notices to mariners required by the USCG will be affixed to the pier's remaining components to promote safe navigation in the area after the pier superstructure is removed. The abutment (headwall) at the shore end of the pier will remain.

2.2.2 Demolition Method

Overview and equipment. Demolition methods will likely consist of saw cutting of concrete and removal of larger pieces of the superstructure. No dredging or blasting will be conducted. The demolition will be accomplished using a barge-mounted crane. Equipment deployed will include a service barge, two to three barges for storage of demolished materials and a tug/pusher vessel to maneuver the barges. Barges will be anchored or spudded in place. A spud barge employs heavy steel piles mounted vertically within the deck (spud wells) on each corner of barge. The piles are then set in the seafloor to hold the barge in place. However, in areas of sensitive benthos, such as live coral, the barge can be anchored with anchors placed outside sensitive areas. These sensitive areas have already been identified in previous studies, and work can be planned to avoid or minimize adverse impacts. In addition, anchor lines are to be kept taut so that the lines do not drag the bottom. Service barges and storage barges will be tied alongside the crane barge and are only independently anchored when not in use. When not in use, the service and storage barges may be anchored off shore out of Hāna Harbor, if desired by the DOT-H or the community.

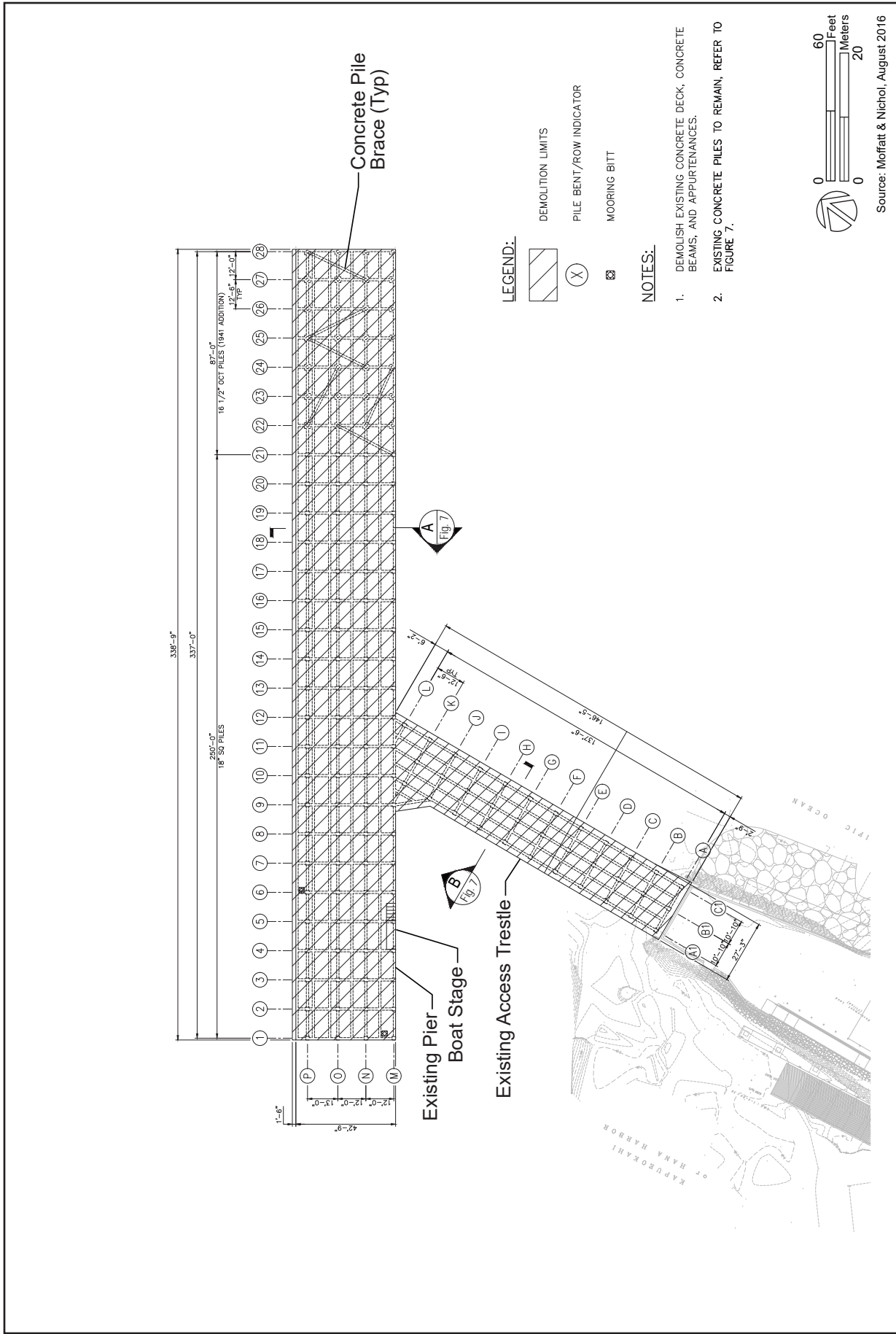
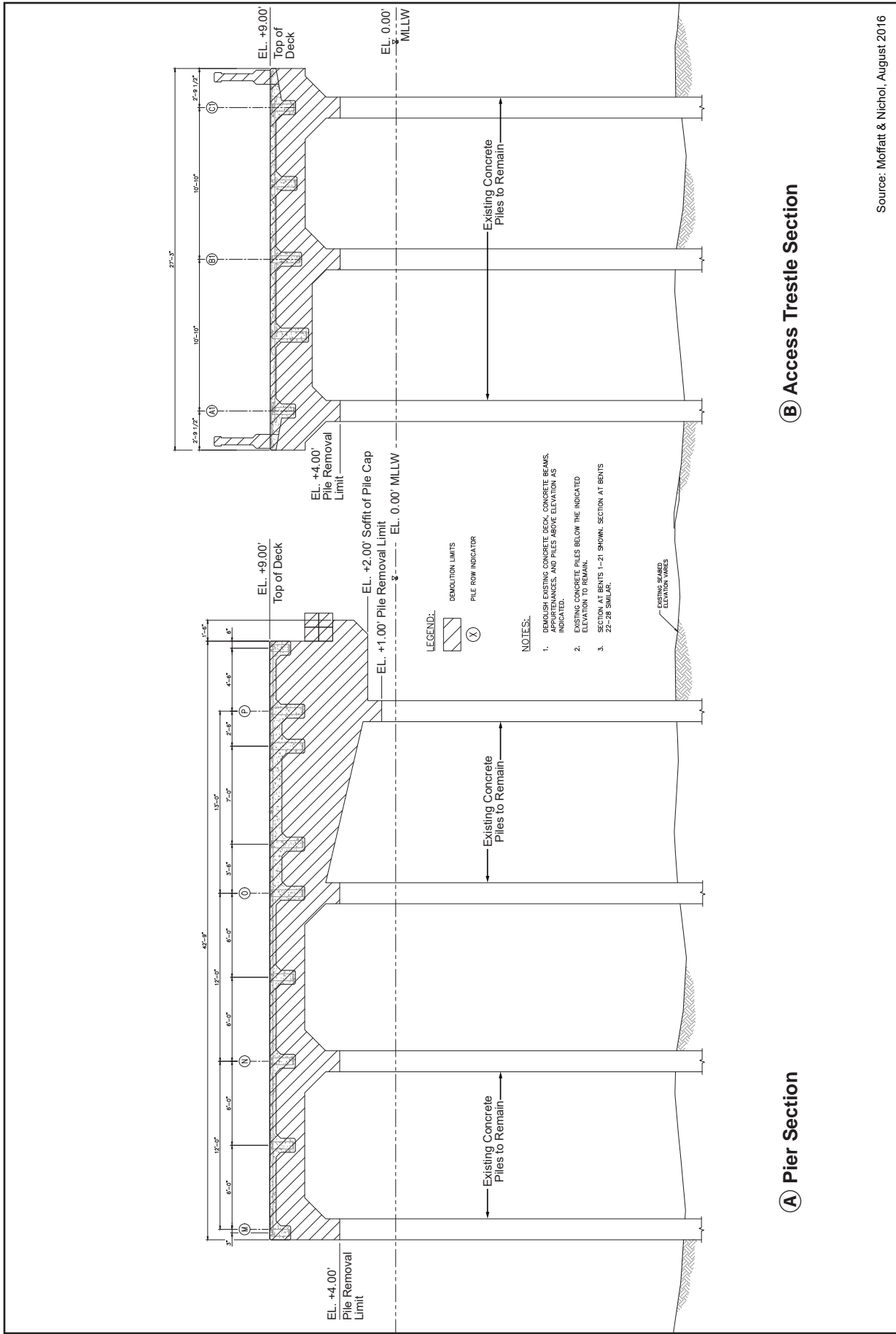


Figure 2-1



Source: Morfitt & Nichol, August 2016

Figure 2-2

Typical Demolition Sections
 Hāna Pier Deck Removal Environmental Impact Statement
 Hāna, Maui, Hawai'i

Upland or landside equipment will likely include power tools such as: a concrete saw; cutting torch; welding machine; gas-powered portable generator; and pickup and maintenance trucks.

Heavy construction equipment would likely be transported to the project area by barge due to the limitations of Hāna Highway, while small work trucks (i.e., less than 5 tons) may be more likely to use Hāna Highway.

Laydown/staging area. On shore, a small construction laydown area (approximately 1,500 square feet, or 0.03 acres) would be established in the general vicinity to accommodate an office trailer, enclosed storage, and open area for equipment maintenance and supporting work. A potential laydown area site is shown in Figures 1-2 and 1-4, at the south end of the pier trestle. This potential laydown area would not require the removal or clearing of trees or vegetation. To the extent possible, DOT-H will keep the laydown area within State-owned land. If use of non-State-owned lands is needed, DOT-H will coordinate with landowner(s) of the potential laydown area site and ensure that all the requirements for its use as a laydown area are met.

2.2.3 Demolition Process

Demolition process. The process of disassembling the existing pier will follow a systematic approach. Prior to the removal of any pier components, BMP devices will be put in place. These may include floating turbidity barriers and catchment platforms under active work areas to prevent materials from entering the water, and other devices as required.

Disassembly of the pier would begin with the removal of small deck-mounted features such as fenders, mooring hardware, ladders, etc. Depending on the contractor's means and methods, the individual pier components would be assessed for size, weight and geometry to determine how the structure should be cut in order to safely lift the components. Once determined, the contractor will saw cut the concrete members in the selected locations for removal and placement on the storage barge for transport to a disposal location. The contractor may elect to start at the landward or seaward end of the pier, but once started, work would proceed in a linear manner along the pier from one end to the other. This will minimize the number of times the barge would need to be repositioned.

The primary construction equipment will remain in place and be securely anchored when not in use.

In-water vessel movements. As work progresses during the estimated 2.5-month in-water work period, the crane and service barges would need to be repositioned periodically. The crane barge would likely be moved about once a week. This would involve moving the barge a short distance (either pushed by tug boat or small outboard motor boat, or pulled along the pier using lines) to adjust the reach of the equipment. Crane barge movements would likely take 30 minutes or less. The service barge holding the demolition debris would likely be moved off site every few days as it is filled with material. Because these vessel movements would be in close proximity to other floating equipment and the pier, they are typically done at slow speeds, which generate minimal propeller wash. Once they are further out in the harbor and clear of the pier structure and other vessels, vessel speeds would be increased. It would take about 15 minutes for service barges to be tied on to the tugboat and pulled clear of the work area.

The contractor's floating equipment would not be positioned landward of the existing DLNR DOBOR loading dock on the west side of the pier; therefore, access to the small boat ramp would be available during project activities.

Demolition debris. Once a storage barge has been loaded to capacity, the contractor would replace the loaded barge with an empty one, and transport the loaded barge to an approved location to offload and dispose of the material. It is estimated that approximately 800 cubic yards of concrete debris would be generated by the pier superstructure demolition. The material may be recycled or disposed in a landfill; the construction contractor will determine the specific method of transport and disposal (i.e., to a recycling facility or landfill). Concrete recycling companies are located on Kauaʻi and Oʻahu, and the Maui County Central Maui Landfill accepts demolition debris. Due to the conditions of the road and bridge load restrictions on Hāna Highway, the demolition debris is likely to be transported offsite by barge rather than by truck. If transported by barge, the material would be transported to a commercial port (e.g., Kahului) and then offloaded to trucks for transport to the selected disposal or recycling facility.

Contractor crew. Contractor personnel would likely commute to the job site by land and may make temporary accommodations in the local community. For a demolition project of this scope, the construction crew would be relatively small and would consist of six to eight workers day-to-day with the possible addition of two to four workers for specialized operations, such as wire sawing and pile cutting. Work will be conducted during daylight hours only, as practical.

2.2.4 Proposed Best Management Practices

During the demolition period, industry-standard Best Management Practices (BMP) will be employed to avoid or minimize adverse effects on the marine environment. The contractor will be required to develop a site-specific best management practices plan in consultation with Federal and State regulatory agencies to address specific conditions of the work proposed at the project site. Typical BMPs for this type of work include use of construction debris control devices such as catchments, underdeck platforms, floating turbidity barriers, tarpaulins, floats, or other devices to prevent demolition debris from entering the water and airborne materials from leaving the work vicinity. BMPs also include implementation of established protocols to prevent toxic materials including fuel, wastewater, etc., from spilling on land or entering into the water.

An acceptable water quality monitoring program for the basin and channel will be developed in consultation with regulatory agencies during the permitting phase. Demolition activities will comply with all permit conditions. The proposed action does not include any dredging or blasting.

The contractor will be responsible for clean-up of any materials deposited outside the work area or in the water, and restoration of the upland staging area to pre-construction condition. The contractor will be required to abide by all applicable local environmental protection standards, laws and regulations. Other BMPs may include:

- Install and maintain appropriate storm runoff protection measures around upland storage areas to minimize the release of surface pollutants into the ocean.
- Provide qualified observers for the presence of Endangered Species Act-listed (ESA-listed) marine protected species (e.g., Green sea turtles, Hawaiian monk seals) as required by Federal resource agencies during in-water demolition activities.
- Establish a 50-yard safety range that requires mandatory shut-down of saw-cutting if ESA-listed marine animals enter that area.
- If required, reduce construction-related vessel speeds within the harbor to 10 knots or less when piloting vessels in the proximity of sea turtles. If practicable, reduce construction related vessel speed to 5 knots or less when piloting vessels in areas of known or suspected sea turtle and marine mammal activity.

- Implement a contingency plan to control and contain hazardous material spills, including petroleum products.
- All project-related construction materials and equipment placed in the water will be free of pollutants.
- Fuel project-related construction vehicles and equipment at least 50 feet away from the water, preferably over an impervious surface. With respect to construction equipment (e.g., barges) that cannot be fueled out of the water, spill containment berms will be set up on the barges to contain any potential spills and prevent the release of fuel into the marine environment. Any fuel spilled on the barge decks will be cleaned up immediately.
- Contractor shall not obstruct access to the adjacent small boat ramp with floating equipment.
- Contractor will coordinate activity with the Hāna community to avoid conflicts with cultural activities.
- Contractor will provide early notice to the Hāna community of construction activities.

2.2.5 Estimated Timing, Cost, Phasing, and Duration

Project design would commence after the Governor's acceptance of the Final EIS, which is anticipated to be in 2018. The design and permitting phase would typically take about three years. ***As with all DOT-H projects, project implementation is subject to funding availability and prioritization.*** If funding is available, the project could be initiated around 2021. It is estimated that the demolition will cost \$3.5 million.

Once the contractor mobilizes to the site, it is anticipated that the project would take approximately 6 months to complete. The phasing and duration of the demolition activities may occur as follows:

- Contractor mobilization to the project site (1 to 2 months)
- Deploy in-water BMPs (1/2 month)
- Dismantle pier superstructure (2 to 2-½ months)
- Post-demolition – Demobilization (1/2 month)

2.2.6 Use of Public Funds and Lands

The proposed action involves work above State-owned submerged and fastlands and State funds will be used for the pier deck demolition. Therefore, it is subject to the State's environmental review process. An EISPN was published in the State Office of Environmental Quality Control's *Environmental Notice* on October 8, 2016. The proposed action was determined to require the preparation of an EIS based on the significance criteria set forth in Section 11-200-12 of Title 11 Chapter 200, HAR, State DOH. This EIS was prepared in compliance with Chapter 343, HRS, as amended, and the EIS regulations promulgated by Chapter 200 of Title 11, HAR.

2.3 ALTERNATIVES CONSIDERED

This section has been prepared following guidance provided by Chapter 343, HRS and its implementing rules, HAR Section 11-200-17(f). In addition to the Proposed Action, several alternatives were considered and evaluated for their feasibility and ability to meet action objectives:

- No Action (i.e., status quo)
- Complete deck and pile removal
- Repair and retrofit the existing pier
- Postponing the action pending further study

- Alternatives raised during the EIS early consultation period

With the exception of No Action, alternatives described below that do not attain the purpose, need, or objectives of the action listed in Section 2.1 are not carried through the EIS analysis.

2.3.1 No Action

The No Action Alternative assumes no capital expenditures would be made to remove the aging and deteriorated pier deck. The pier would remain in place and continue to deteriorate over time, exacerbating the potential hazard it poses to public safety as well as the potential legal liability it presents to DOT-H. In its present physical condition, the Hāna Pier and supporting structures are unable to support the State's transportation or commercial harbors functions. Therefore, the No Action Alternative would not meet any part of the project's purpose, need or objectives and is not considered a "reasonable" alternative. However, the No Action Alternative will be carried through the environmental analysis to provide a baseline for measuring the environmental consequences of the proposed action.

2.3.2 Complete Deck and Pile Removal

In this alternative, both the deck superstructure and all supporting piles and other structural components would be removed, as possible. The pile removal would involve extracting the piles (approximately 146 total). If removal is not feasible (i.e., cannot be dislodged from the seafloor), the piles would be broken or cut at the mudline. This alternative would require substantial in-water work to pull and/or cut the piles. The in-water work would generate greater in-water noise and sediment impacts than the proposed action, which would likely have greater impacts on protected marine species and subsistence fisheries. In addition, it would result in the removal of piles on which corals are present, and remove substrate that could support additional coral recruitment and colonization after the pier deck is removed. This alternative is also likely to involve much higher costs than the proposed action due to the additional labor and equipment required. Although it would meet the project's purpose and need, it would not meet all the project objectives (listed in Section 2.1.2) and is not carried through the EIS analysis.

2.3.3 Repair and Retrofit Pier for Commercial, Recreational and Emergency Use

Under this alternative, the existing pier would be repaired and retrofitted to allow its safe use to berth vessels, on-/off-load and temporarily stage cargo, and accommodate pedestrians. This would involve replacement of the severely deteriorated concrete pier and trestle superstructure, which includes guardrails, deck, beams and pile caps. The new superstructure would include new fenders and bollards and construction of two mooring dolphins within the footprint of the existing pier. The deck area of the new superstructure would have a similar footprint as the existing pier (approximately 2,100 square yards). It is anticipated that the existing piles could be reused to support the new concrete superstructure.

Under this alternative, use of the improved pier and access trestle by commercial vessels would be allowed (i.e., meeting DOT-H's mission and the requirements of HRS Chapter 266), along with use by the community for recreational, subsistence, and cultural purposes. This alternative would also allow an alternate means of access to the community in emergency situations. Natural disasters have caused temporary closures of the roadways to Hāna, and an operational pier would provide a means to bring in goods and materials during these emergency periods when roadways to Hāna are impassable for extended periods.

It should be noted that commercial uses at Hāna Harbor would be inherently limited. Due to the lack of demand and rough ocean conditions, regular cargo barge calls would be unlikely. Furthermore, harbor depth, pier design and strength, and limited landside area and infrastructure do not allow for intensive commercial use of the pier, including large cruise ships. The height of the pier would also prohibit smaller vessels from berthing as they would be too low to reach the height of the pier deck. However, an improved pier could support small commercial operations, such as smaller cruise operations, passenger vessels, and commercial fishing. Public access to the reconstructed pier for recreational and cultural uses would be permitted unless a commercial vessel was docked, making it available for cultural, subsistence fishing and other passive community uses.

Under this alternative, DOT-H would have to make the pier available to commercial activity as long as it met DOT-H's rules and regulations, and was compatible with the capacity of the pier. This alternative was DOT-H's original proposed action until it became clear that the Hāna community strongly objected to *any* commercial use of the pier. The alternative does not meet the project's purpose and objectives, as it would not respect the Hāna community's objections to commercial use of the pier; thus, it is not carried through the EIS analysis.

2.3.4 Repair and Retrofit Pier for Recreational and Emergency Use Only

In this alternative, the pier and access trestle would be improved as described above but its use would be limited to recreational and emergency uses only. The improved pier would be available to the Hāna community to continue and/or reestablish the recreational, subsistence and cultural uses that have occurred on the pier. However, this alternative is not consistent with DOT-H's mission and the requirements of Chapter 266, HRS, and thus does not support the purpose or objectives of the project. It, therefore, is not considered a reasonable alternative and is not carried through the EIS analysis.

2.3.5 Postponing Action Pending Further Study

Under this alternative, DOT-H would postpone implementing the project to conduct further study and community outreach to reach a consensus with respect to what should be done with the pier. In its present state, the pier presents a potential public safety hazard and liability concern to DOT-H. Delaying action would continue the current potential risks to public safety posed by the pier by not remediating a potential hazard in a timely manner. DOT-H may continue to face possible legal exposure should someone be injured during their unauthorized use of the deteriorated structure. This alternative does not meet the project's purpose and need as it does not resolve the potential public safety hazard and DOT-H's potential legal liability; thus it is not carried through the EIS analysis.

2.3.6 Alternatives Suggested During EIS Early Consultation

Several alternatives were raised during the EIS early consultation process. They are described below but not carried through the EIS analysis because they do not meet the project's purpose, need, or objectives and could not be implemented unilaterally by DOT-H.

Transfer pier to another agency's jurisdiction. Under this alternative, DOT-H would transfer Hāna Pier in its current condition to a state or county receiving agency for repair and public use, without allowing for commercial use as would be required under DOT-H jurisdiction. The *Hāna Harbor Final Development Plan* (State of Hawai'i, 2011) explored the possibility of two County of Maui agencies acquiring jurisdiction of Hāna Pier—Department of Parks and Recreation and Maui County Emergency Management Agency (formerly Maui Civil Defense Agency). It was concluded that the County agencies do not have the expertise and would not have adequate resources to maintain and manage the pier for recreational or

emergency purposes. Furthermore, jurisdiction over waters and related activities has traditionally resided with the state rather than the counties.

The most appropriate State agency under which jurisdiction of Hāna Pier should reside is DLNR DOBOR. DOBOR's mission is to "enrich the lives for Hawaii's residents and visitors by providing facilities for recreation boating and supporting opportunities for ocean activities." However, DLNR DOBOR is not amenable to taking back the pier in its current condition. Prior to its transfer back to DOT-H in 2010, the pier was under the jurisdiction of DLNR DOBOR to support recreational boating and ocean activities, and not subject to commercial usage requirements. DLNR DOBOR was aware of the pier's condition problems dating back to 1991 and closed the pier from all public access in the early 2000s. The pier was not a priority for repair at that time, and, should it be transferred back to DLNR DOBOR, its funding priority would not change. Given limited funds for capital improvements, repair, and maintenance, rehabilitation of the pier for safe public use under DLNR DOBOR would not occur in the foreseeable future. For reference purposes, the order of magnitude construction cost for removing and replacing the pier and trestle superstructure and installing two mooring dolphins is \$14.9 million (Moffatt & Nichol, 2015) and the pier superstructure removal cost is estimated at \$3.5 million.

Transfer pier to non-governmental entity. An EISPN comment suggested that a community group take responsibility for the pier and raise funds for its repair. Transferring State property to private control is a lengthy process and involves (among other things) appraisal and valuation; HRS 343 compliance; and evidence that the receiving entity has the financial means, structure, and expertise to carry out its intended repair and maintenance activities in perpetuity in compliance with federal, state and county requirements. While a non-governmental entity with adequate resources and expertise may eventually be established or step forward, DOT-H has a near-term responsibility to move forward with reducing its potential liability and the potential risks to public safety that the pier currently presents. This alternative does not meet project objectives and is not carried through the EIS analysis.

DOT-H repairs pier and transfers it to another public agency. Under this alternative, DOT-H would fund and repair the pier and transfer it to another agency's jurisdiction, where the pier would be used for non-commercial, recreational activities. This does not meet project objectives because it obligates DOT-H investment in improvements that are not consistent with its mission.

CHAPTER 3 PHYSICAL AND NATURAL ENVIRONMENT

3.1 CLIMATE AND AIR QUALITY

3.1.1 Affected Environment

3.1.1.1 *Climate*

Located at the margin of the tropics within a belt of persistent trade winds, Hawai'i's climate is characterized by low day-to-day and month-to-month variability in temperature. Two seasons are generally recognized in Hawai'i: a warm season with the sun almost directly overhead and winds typically from the northeast; and a cooler season with the sun lower overhead, more variable winds, and greater rainfall (University of Hawai'i, 1998). Average temperatures at Hāna Airport range from 67.4° Fahrenheit to 80.8° F. Rainfall in Hāna averages just under 81 inches annually (County of Maui, 2012).

3.1.1.2 *Air Quality*

Ambient air quality pertains to the purity of the general outdoor atmosphere, external to buildings, to which the general public has access. The U.S. Environmental Protection Agency has set national ambient air quality standards (NAAQS) for six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide (SO₂), lead, ozone, and particulate matter (PM₁₀ and PM_{2.5}). The State of Hawai'i has also established a State ambient air standard for hydrogen sulfide and conducts statewide monitoring to measure ambient air concentrations of these pollutants to ensure compliance with federal and state air quality standards. There are two air quality monitoring stations on the island of Maui, mainly to measure air quality impacts from agricultural activities. The station closest to Hāna is located in Pā'ia, approximately 27 miles to the northwest. Air quality in the State can be generally characterized as relatively clean and low in pollution. Excluding regular exceedances of the NAAQS for SO₂ and occasional exceedances of the NAAQS for PM_{2.5} at the monitoring stations in communities near the active volcano on Hawai'i Island, the State of Hawai'i was in attainment of all NAAQS (State of Hawai'i, 2015).

3.1.1.3 *Climate Change Considerations*

Climate is usually defined as the "average weather" in a place, including patterns of temperature, precipitation, humidity, wind and seasons. Climate change refers to a long-term shift in these patterns. Scientific observations show that earth's climate has been warming. Much of this warming trend has been attributed to rising levels of carbon dioxide and other "greenhouse gases" (GHG) generated by the burning of fossil fuels. These greenhouse gases trap heat in the atmosphere, causing the earth to warm, resulting in wide-ranging impacts which include: rising sea levels; melting snow and ice; more extreme heat events; fires and drought; and more extreme storms, rainfall, and floods. Scientists project that these trends will continue, potentially posing risks to human development patterns, health, forests, water supplies, coastlands, and other natural resources.

Island communities such as Hawai'i are especially vulnerable to the risks of climate change because of their small size, low elevation, remote geographical location, and concentration of infrastructure along coastlines (U.S. Environmental Protection Agency, 2016).

In Hawai'i, the effects of climate change include rising air temperatures and sea levels, and warmer, more acidic coastal waters. In 2014, the University of Hawai'i at Mānoa Sea Grant College Program (UH Sea Grant) prepared a climate change impacts report presenting the current state of scientific knowledge

regarding climate change and its anticipated effects in Hawai'i. The UH Sea Grant (2014) study provided the following summary of current and projected climate change impacts:

- The rate of warming air temperature in Hawai'i has quadrupled in the last 40 years to over 0.3° F (0.17° C) per decade. This warming could cause thermal stress for plants and animals and heat-related illnesses in humans as well as expanded ranges for pathogens (e.g., vector-borne diseases such as dengue fever) and invasive species.
- A decrease in the prevailing northeasterly trade winds, which drive orographic precipitation on windward coasts, has been recorded over the last 40 years.
- Hawai'i has seen an overall decline in rainfall in the last 30 years, with widely varying precipitation patterns on each island. It is projected that Hawai'i will see greater drought and heavy rain events which will cause more flash flooding, harm to infrastructure, runoff, and sedimentation.
- Declining precipitation trends have caused a decrease in stream base flow over the last 70 years. This could reduce aquifer recharge and freshwater supplies, and influence aquatic and riparian ecosystems and agriculture.
- Sea surface temperatures have warmed between 0.13° F and 0.41° F per decade in the Pacific for the last 40 years. This trend is projected to accelerate and can influence ocean circulation and nutrient distribution.
- Global ocean acidity has increased by 30% due to marine uptake of CO₂, correlating to a pH change of 0.1. Acidification is expected to continue and could trigger a wide range of impacts on marine biota.

3.1.2 Probable Impacts and Proposed Mitigation

Due to its limited scope, size, non-polluting operations, and temporary nature of the emissions associated with the demolition activities, the proposed action would not have significant short- or long-term local, regional, or global impacts on climatic conditions or air quality.

3.1.2.1 *Proposed Action*

Air Quality

There would be temporary, localized air quality impacts from project activities, which will generate dust from the movement of construction vehicles over unpaved areas, emissions from the operation of vehicles, water craft and equipment, and the generation of airborne particulates from concrete saw cutting and demolition. Concrete saw cutting will release crystalline silica dust, which can be a health and safety hazard for construction workers. These airborne particulates can also impact the air quality of surrounding areas and marine water quality if not adequately controlled. Engineering controls to minimize dust during saw cutting include wet cutting, using a hose to water the area, and/or dust collection systems on equipment. The construction contractor will follow applicable state and federal laws to ensure a safe working environment and the use of personal protective equipment by workers. The construction contractor will employ fugitive dust emission control measures in compliance with provisions of the State DOH Rules and Regulations (Chapter 43, Section 10) and Hawai'i Administrative Rules (HAR) Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33 on Fugitive Dust. These measures to prevent dust from becoming air-borne will apply during non-working hours as well, including on weekends and holidays.

The following BMPs will be implemented to minimize dust and air quality impacts:

- Employ wet cutting methods when demolishing the pier structures

- During site work, the contractor will sprinkle water, as necessary to control dust
- Provide an adequate water source at the site prior to start-up of construction activities
- Provide adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities
- Control dust from debris being hauled away from the project site
- Move construction equipment to and from the work sites during non-peak traffic periods, to the extent possible, in order to minimize disruption to area traffic and minimize vehicle emissions
- Minimize movement of barges, tugs and other water craft

All BMPs shall be in place throughout the demolition period.

Climate Change

The proposed action is not expected to impact global climate change as the greenhouse gas emissions anticipated from demolition equipment would be of a short-term duration and project-related vessels would be intermittently operated. No mitigation measures are warranted.

3.1.2.2 No Action Alternative

The No Action Alternative would not impact existing climate and air quality conditions because no new emissions-generating facilities or sources of air pollutants or GHGs would be introduced.

3.2 SOILS AND MARINE SEDIMENTS

3.2.1 Affected Environment

3.2.1.1 Terrestrial Soils

According to U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) data, soils in the fastlands adjacent to Hāna Pier are comprised of Hāna silty clay loam, moderately deep variant, 3 to 15 percent slopes (U.S. Department of Agriculture, 2015).

3.2.1.2 Marine Sediments

The project area is situated adjacent to a black sand beach along an otherwise exposed rocky coastline. During rough conditions, a small shore break and a light longshore current occasionally develop (Clark, 1980 in AECOS, 2017a), and the waters surrounding the project area are often murky with fine resuspended sediments (AECOS, 2017a). A coastal zone map prepared by AECOS in 1979 (AECOS, 1979 in AECOS, 2017a) indicates that an area west of the pier is solid or hard bottom; a massive rock surface and the adjacent shoreline is sand beach of predominantly detrital sediments.

An analysis of existing sediment quality of seafloor areas near the pier was conducted in May 2013 to characterize baseline conditions in the project area and aid in the assessment of potential impacts of sediment resuspension during project activities (see Appendix A). Three sediment samples were taken in May 2013 and analyzed for 49 analytes, including heavy metals, tributyltin, pesticides and polychlorinated biophenyls, and herbicides. A synopsis of the results is presented in Table 3 of Appendix A. The table also lists the U.S. Environmental Protection Agency (USEPA) Probable Effects Level (PEL), or the level at which toxicity to benthic-dwelling organisms is predicted to be probable.

All chemicals tested for in 2013 (i.e., mercury, selenium, silver, herbicides, pesticides, and polychlorinated biphenyls) were either not detected in the samples, or were present at levels below PEL values. All chemicals tested in the marine sediments at Hāna Pier were considered to be present in concentrations of no particular concern.

3.2.2 Probable Impacts and Proposed Mitigation

3.2.2.1 Proposed Action

Terrestrial Soils

Project activities will have minimal impact on terrestrial soils. All demolition activities will be conducted from anchored barges rather than from the shore. There will be minimal disturbance to soils by construction vehicles. Although large and heavy equipment (including cranes, drills, and wire saws) will be transported to the site, this will be done via existing roads, and the area between the terminus of Keawa Place and the waterfront is improved. If demolition debris is removed from the project site by truck rather than the more likely barge process, it would be transported via this route. Staging areas will be cleared to accommodate an office trailer and Conex box, but no excavation or grading is required. This cleared area will be approximately 1,500 SF in size. Following construction, the trailer and storage units will be removed and the site restored to its prior condition.

Project activities will not have adverse geotechnical impacts. The demolition process is not anticipated to require high energy methods which could produce large vibrations or ground disturbance. Demolition methods such as saw cutting of concrete and removal of the pier superstructure are not anticipated to result in settlement of the pier structure or the surrounding seafloor (Moffatt and Nichol, 2016).

Marine Sediments

During project construction activities, there will be temporary water quality impacts as some resuspension of marine sediments will occur due to the movement of tugs and barges, propeller wash, and the placement of barge anchors and spuds on the sea floor. The project proposes cutting the concrete piles below the existing superstructure deck, but does not include the complete extraction of the piles, which would result in much more disturbance to marine sediments.

Potential impacts to water quality from resuspended marine sediments will be mitigated through the use of construction BMPs, such as silt curtains, to completely enclose the work area during all in-water work, as well as other BMPs that will be required as part of the project's future USACE permit. The placement of the silt curtains will be determined by the construction contractor, based on their experience and evaluation of pertinent conditions and factors. During construction, if a plume is observed outside of the silt curtains and is caused by construction activity, work will stop and corrective action taken immediately. Work will resume only after corrections have been made. The chemical constituents in the sediments were considered to be present in concentrations of no particular concern; temporary re-suspension of the sediments would not have a significant adverse effect on water quality.

Once the project is complete, there will be no long-term impact to soils or marine sediments as no new sources of sedimentation or pollution would be introduced to the area as a result of the pier deck removal.

3.2.2.2 *No Action Alternative*

The No Action Alternative would not impact soils or marine sediments as it does not involve the movement or displacement of these resources.

3.3 COASTAL CONDITIONS

3.3.1 Affected Environment

Hāna Bay faces east toward the open ocean and is bordered to the north by Nānu‘alele Point (a lava outcrop) and to the south by Ka‘uiki Head (see Figures 1-1 and 1-4 for locations), a crumbling remnant cinder cone that rises approximately 386 ft above sea level. The shoreline of Hāna Bay is extremely rugged. The black sand beach at the south end of Hāna Bay provides a safe swimming area along an otherwise exposed rocky coastline. During rough conditions, a small shore break and a light longshore current occasionally develop (Clark, 1980 in AECOS, 2017a). Similar to the coastal conditions, the bathymetry in the bay is an irregular network of reefs with steep underwater relief. The waters of the bay are often murky with fine resuspended sediments.

Along the southeast curve of the bay past Hāna Beach Park and Hāna Pier facility, the coast around Ka‘uiki Head offers little to no shoreline access due to steep, unstable terrain and impinging waves. The waters beyond the wharf represent oceanic waters blown in by the northeast trade winds and provide snorkelers and divers excellent visibility and diverse flora and fauna (Clark, 1980 in AECOS, 2017a). Sea conditions change drastically seaward past Ka‘uiki Head and Pu‘uki‘i Islet with its light house, where strong currents and waves prevail (Clark, 1980 in AECOS, 2017a).

According to the *Hāna Harbor Final Development Plan* (State of Hawai‘i, 2011) the bathymetry in the immediate vicinity of the pier is complex. Depths of 15 to 20 feet in the bay and just off the pier end abruptly at a ledge just offshore of the ramp area. The ledge rises to a nominal 6-foot depth. The depths become gradually shallower closer to the pier. To the west of the pier, adjacent to the beach park, is a shallow reef that stretches for several hundred feet or more.

3.3.2 Probable Impacts and Proposed Mitigation

3.3.2.1 *Proposed Action*

Removal of the pier superstructure and pile caps would have minor effects on coastal conditions. The top elevation of the pier is at +9.0 feet MLLW and the bottom of the superstructure is at an approximate elevation of +6.75 feet MLLW. Presently, waves pass under the pier superstructure without contact and energy dissipation the majority of the time. During a storm event with high tide and a one-foot storm surge, a maximum wave height of three feet would be required for the crest of the wave to reach the underside of the superstructure. A potential difference in wave energy could only occur under storm conditions when storm surge, high tide and waves are high enough to reach the superstructure. Even in these conditions, the majority of the wave energy would pass under the pier because only the top of the wave would be impeded by the structure (Moffatt and Nichol, 2016).

Given these conditions, the removal of the pier superstructure will have little to no effect on coastal conditions leeward of the structure and no project-specific mitigation is proposed. Because the superstructure and pile caps are well above still water elevation, even with storm surge and high tide, currents will not be affected by their removal. As is the case now, the seafloor contours and the shallower water along the shoreline have a much greater influence on the behavior of waves and currents at the

site than the presence of the pier deck and pile caps (Moffatt and Nichol, 2016). However, coastal areas such as Hāna Bay are exposed to coastal hazards which over time may be exacerbated by sea level rise (see discussion of sea level rise in Section 3.4 Natural Hazards and Sea Level Rise).

3.3.2.2 *No Action Alternative*

The No Action Alternative would not impact existing coastal conditions because the pier piles and superstructure would remain in place without alterations.

3.4 NATURAL HAZARDS AND SEA LEVEL RISE

3.4.1 Affected Environment

3.4.1.1 *Natural Hazards*

Due to its coastal location, Hāna Bay (and subsequently Hāna Pier) is susceptible to a variety of natural hazards. The *Atlas of Natural Hazards in the Hawaiian Coastal Zone* (Fletcher, C.H. III, Grossman, E.E., Richmond, B.M., & Gibbs, A.E., 2002) reports on a program of research that assigns a relative ranking scale to the following natural coastal hazards: tsunami, stream flooding, high waves, storms, erosion, sea level, and volcanic/seismic activity. The ranking is based on historical trends and natural factors influencing site vulnerability and hazard intensity.

The following hazard intensity ranks were identified for Hāna Bay:

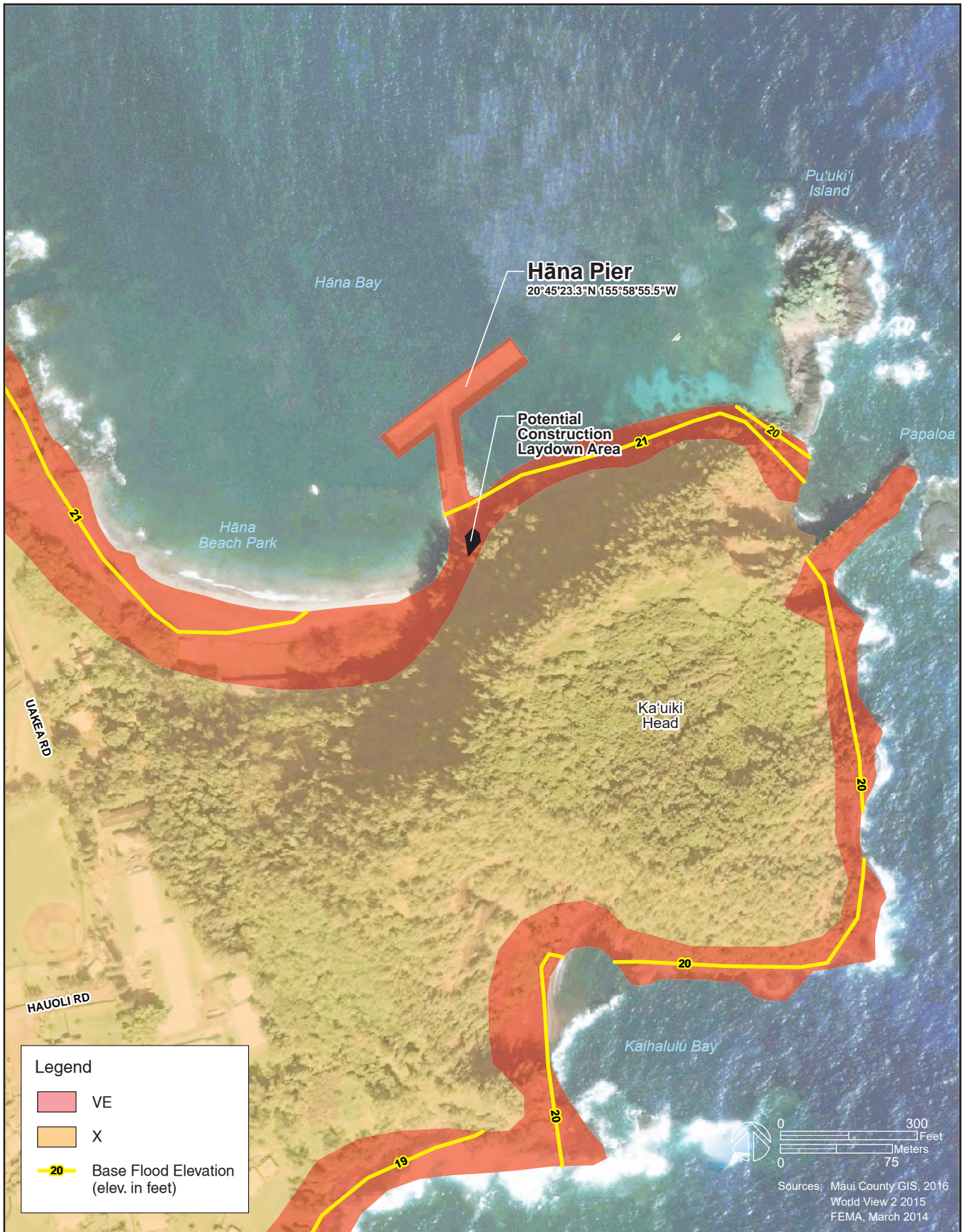
- High: tsunami, stream flooding, storms, and erosion
- Moderately High: high waves, sea level, volcanic/seismic activity

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map No. 1500030670E, the project area is located within a Special Flood Hazard Area subject to inundation by the 1% annual chance flood. Hāna Pier and access trestle are within Zone VE (coastal flood zone with velocity hazard [wave action]; Base Flood Elevations of 21 ft determined) (see Figure 3-1 for flood zone map). Inland and higher elevation areas near the pier are in Zone X (areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 ft or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood). In addition, County of Maui Civil Defense Agency tsunami evacuation maps indicate that the project area is located within a tsunami evacuation zone (County of Maui, 2015).

3.4.1.2 *Sea Level Rise*

Climate change-induced sea level rise will increase the occurrence and severity of coastal erosion and flooding, threatening natural resources and economic sectors located along low-lying shores (Interagency Climate Adaptation Committee, 2016). Tide gage data from individual islands indicates that Maui is experiencing higher rates of localized sea level rise compared to O'ahu and Kauai (Romine, B.M., Fletcher, C.H., Barbee, M.M., Anderson, T.R., & Frazer, L.N., 2013).

Coastal areas in Hawai'i are exposed to a wide variety of coastal hazards including high wave events, hurricanes, tsunamis, and extreme tides. The effects of these events can be exacerbated over time by climate change-induced sea level rise. The Interagency Climate Adaptation Committee (2016) identifies the following impacts of sea level rise on the coastal zone:



Flood Zones

Hāna Pier Deck Removal Environmental Impact Statement
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Figure 3-1

- Land loss due to flooding and inundation
- Land loss due to erosion
- Increased flood damage through extreme sea level events (extreme tides, storm surges, etc.)
- Saltwater intrusion into surface waters and groundwater impeding drainage
- Wetland loss and change

According to findings released by the University of Hawai'i at Mānoa's School of Ocean and Earth Science and Technology, beach erosion on Maui is occurring at a rate above the rest of the state. The study notes that Maui beaches are eroding at a rate of 13 centimeters (cm) per year, with 78% of beaches on Maui showing erosion over the past century (Romine, B.M., Fletcher, C.H., Barbee, M.M., Anderson, T.R., & Frazer, L.N., 2013). This rate is well above the 52% rate reported on O'ahu, where the average shoreline change rate was 3 cm of erosion per year. Other recently completed shoreline change studies indicate substantially higher erosion rates for the island of Maui compared to O'ahu and Kauai (Romine, B.M., Fletcher, C.H., Barbee, M.M., Anderson, T.R., & Frazer, L.N., 2013).

3.4.2 Probable Impacts and Proposed Mitigation

3.4.2.1 *Proposed Action*

Natural Hazards

The proposed action will not introduce new components or infrastructure vulnerable to natural hazards such as tsunami, stream flooding, storms, erosion, high waves, sea level, or volcanic/seismic activity. It would permanently remove public access to a facility that is currently within Zone VE. As noted above in Section 3.3, under normal conditions, the removal of the pier superstructure will make little difference in the amount of wave energy affecting coastal areas.

Sea Level Rise

The proposed action does not include the construction of components that are vulnerable to sea level rise and no project-specific mitigation is proposed. Deeper water in the project area resulting from sea level rise would be able to sustain a larger wave height (without breaking) in the future. In this scenario, wave conditions at Hāna Pier in the year 2100 could be more onerous than in present conditions. Although in theory, maintaining the deck and superstructure could be more beneficial for protecting the leeward uses (e.g., boat ramp) than removing it, given the long period swells and the shortness of the pier, it is likely that increased wave energy as a result of deeper water (sea level rise scenario in 2100) would enter the leeside of the pier with or without the pier superstructure.

3.4.2.2 *No Action Alternative*

Because the existing pier structure would not be altered and no new use or facility would be introduced, the No Action Alternative would not impact the frequency or intensity of natural hazards or sea level rise. Given the long time period of the year 2100 sea level rise scenario (i.e., 83 years), it is not likely that much of the pier superstructure would still remain, and under the No Action Alternative, it would not provide shielding for the leeward side of the pier (i.e., boat ramp).

3.5 GROUND AND SURFACE WATER

3.5.1 Affected Environment

Groundwater resources in Hāna consist of basal groundwater (i.e., a lens of fresh to brackish water that floats on seawater), which is the source of potable water wells serving the region. The project area is not located over a source of drinking water or areas identified by the County of Maui as a wellhead protection zone.

Hāna Bay receives inputs from the Kawaipapa Stream, a perennial stream at the north end of the Bay which drains the 7.2-mi² Kawaipapa Watershed (DLNR DAR and Bishop Museum, 2013 in AECOS, 2017a). Runoff is also known to sheet flow over land into the bay (Maria Orr in AECOS, 2017a).

3.5.2 Probable Impacts and Proposed Mitigation

3.5.2.1 *Proposed Action*

The removal of the pier superstructure or use of its supporting construction staging area will not impact ground or surface water resources as activities would not take place over drinking water sources or near surface water resources. No mitigation is warranted or proposed.

3.5.2.2 *No Action Alternative*

Because no changes to existing facilities or uses are involved in this alternative, the No Action Alternative would not impact ground or surface water resources.

3.6 MARINE WATER QUALITY

3.6.1 Affected Environment

According to HAR 11-54, Department of Health (DOH) Water Quality Standards (November 15, 2014), Hāna Harbor is classified as Class AA, open coastal waters with water quality criteria pertaining to “wet¹” coastal areas. The stated objective of Class AA waters is to “...remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected.” Hāna Bay (Geocode 996835) is not listed as impaired in the list of impaired waters in Hawai‘i prepared under Clean Water Act Section 303(d) (DOH, 2014). These waters are, however, listed as a “Category 3” water body, meaning that “there is [sic] insufficient available data and/or information to make a use support determinations [sic]” (AECOS, 2017b).

As noted in Section 3.5, Hāna Bay receives surface water inputs from Kawaipapa Stream. As a result, heavy rainfall can result in high volumes of freshwater and sediment discharging into the bay (AECOS, 2017a). Periods of calm conditions allow sediments to build up on the reefs, leaving deposits, which, due to low wave energy in the south portion of the bay, are only slowly removed from the system. Sediment loading, whether discrete or chronic, can be a key factor in determining the marine biota that resides in shallow Hawai‘i benthic environments (Jokiel, 2006 in AECOS, 2017a).

¹ Open coastal waters receiving more than 3 million gallons per day of fresh water discharge per shoreline mile.

3.6.1.1 Water Quality Analysis

The application of DOH water quality standards calls for a comparison of a given criterion with a geometric mean obtained through repetitive (i.e., minimum of three) sampling events at a specific location. There are limited water quality data available for Hāna Bay. Therefore, existing data should only be used to characterize the water at the time of the survey, and provide a general depiction of area water quality in comparison to the applicable standards. Applicable state water quality criteria for open coastal waters such as Hāna Bay are found in HAR Section 11-54-6 and reproduced in Table 11 of Appendix A.

Water quality in the nearshore area of Hāna Bay is influenced primarily by three processes: 1) nearshore groundwater seepage and periodic inflows from Kawaiapa Gulch following major storm events, which introduce sediments and dissolved nutrients into bay waters; 2) waves and currents, which suspend bottom sediments and circulate water in and out of the bay; and 3) biological processes, especially photosynthesis by marine algae and phytoplankton, which can alter nutrient and pH levels.

The water quality and biological resources impact analysis (AECOS 2017b) reports on data collected in 2006 and 2013 in the vicinity of the Hāna Pier. The discussion below summarizes the findings of the 2013 sampling and analysis (see Appendix A). In May 2013, water samples were collected and field parameters measured at three stations in the project vicinity: at the east and west ends of the pier T-head and adjacent to the west of the trestle where it meets the T-head (see Figure 3 in Appendix A for map of the sampling station locations). Surface samples were collected at a depth of one foot below the surface, and bottom samples were collected approximately one foot above the sea floor. Analyses were performed for the following chemical constituents and parameters specified in the DOH water quality standards. Temperature, salinity, pH, dissolved oxygen (DO), and turbidity were measured *in situ*.

- Temperature
- Salinity
- pH
- Dissolved Oxygen (DO)
- Turbidity
- Total Suspended Solids (TSS)
- Ammonia
- Nitrate + Nitrite
- Total Nitrogen
- Total Phosphorus
- Chlorophyll α

The sampling stations had similar water temperature, salinity, dissolved oxygen (DO), and pH. Mean water temperatures ranged from 25.2 to 25.8°C. Salinities were close to 34 PSU (practical salinity units), typical of seawater. DO ranged from 6.43 to 6.62 mg/L, representing saturation levels of 96 to 98%. pH ranged from 8.07 to 8.16. Chlorophyll α levels in the water column give an indication of the amount of phytoplankton biomass present and were low at all stations, ranging from 0.23 to 0.45 mg/L. Total suspended solids (TSS), turbidity, and nutrients (nitrate + nitrite, total nitrogen, and total phosphorus) were low at all stations. Concentrations of ammonia nitrogen (NH_3) were low at all stations, being at or below the limits of detection.

Water quality at the project site, as measured on May 1, 2, and 3, 2013, showed temperatures, DO, pH, and salinity values within normal ranges. Surface water salinities were less than 34 PSU on average, indicating input of some fresh and/or brackish water to the project area. The average bottom salinity values were greater than 34 PSU, which are indicative of minimal fresh water inputs to these deeper waters.

Turbidity values (see Table 2 in Appendix A) were less than the state geometric dry criterion at all stations, except at the station adjacent to the trestle. There are no specific state criteria for TSS in open

coastal waters, but this parameter is often monitored for construction projects to ensure that project activities do not significantly increase TSS in adjacent waters. The geometric mean concentrations reported herein for TSS are typical of coastal waters in Hawai'i.

Concentrations of ammonia, total nitrogen, total phosphorus and chlorophyll α were all less than the state geometric mean criteria at all stations. Nitrate-nitrate concentrations, on the other hand, were elevated, especially in the surface waters, and probably related to lowered salinities due to terrestrial inputs.

These water quality data provide the baseline for comparison during construction water quality monitoring that will be required as part of the project's USACE permit. Water quality samples will also be collected following project completion to monitor any long-term impacts resulting from the project.

3.6.2 Probable Impacts and Proposed Mitigation

3.6.2.1 *Proposed Action*

Probable Impacts

The project's potential impacts to marine water quality would be primarily related to disturbance of bottom sediments. Pile cutting, pier superstructure demolition and removal work would occur mostly above water, but create the potential for debris and other pollutants to enter the water. The movement of water craft and the placement of anchors and spuds would resuspend bottom sediments. The following are potential project impacts on water quality:

- Suspension of bottom sediments (turbidity and TSS) due to water craft movement in the vicinity of the demolition work area: silty sediments cover approximately 50% of the bottom under the pier and 35% of the bottom seaward off the pier and may be resuspended due to propeller wash. Boat wakes may also disturb sediments in shallow areas of the bay. Suspension of sediments may also result in increased nutrients in the water column;
- Suspension of bottom sediments (turbidity and TSS) due to barge spudding or anchoring and dragging of anchor lines;
- Suspension of concrete residue from concrete sawing during demolition operations which could affect turbidity levels throughout the water column;
- Spillage of oil, grease, or solvents.

The chemical constituents in the marine sediments in the project area were considered to be present in concentrations of no particular concern; temporary resuspension of the sediments are not expected to have a significant adverse effect on water quality. No long-term impacts to marine water quality are expected.

Mitigation

Potential adverse impacts to water quality will be mitigated through the use of BMPs during demolition activities. Best management practices will be developed in coordination with the appropriate federal and state agencies in order to avoid or minimize impacts to water quality. Typical BMPs may include:

- Utilize construction debris control devices such as catchments, underdeck platforms, floating turbidity barriers, tarpaulins, floats, etc. to prevent demolition debris from entering the water;
- Anchor storage barges clear of the work site when not in immediate use;

- Install and maintain appropriate storm runoff protection measures around upland storage areas to minimize the release of surface pollutants into the ocean;
- Implement a contingency plan to control and contain hazardous material spills, including petroleum products;
- Fuel project-related vehicles and equipment at least 50 feet away from the water, preferably over an impervious surface.

In addition, the construction contractor will be required to develop a site specific BMP plan in consultation with federal, state, and county regulatory agencies to address specific conditions of the work proposed at the project site. An acceptable water quality monitoring program for the area around the demolition work will be developed during permit phases with the regulatory agencies. All demolition activities will be conducted in a manner that conforms to the applicable permit conditions.

3.6.2.2 *No Action Alternative*

Under the No Action Alternative, no impacts to marine water quality are expected, as it does not involve in-water construction or new shoreside activities that may contribute pollutants or the resuspension of sediments into the water column.

3.7 MARINE BIOLOGICAL RESOURCES

3.7.1 Affected Environment

There have been several surveys of the marine environment around Hāna Pier over the last 11 years. A baseline marine biological survey was completed in 2006 for areas around Hāna Pier in association with DLNR DOBOR's boat ramp improvement project (AECOS, 2007). Survey areas included the nearshore seafloor on either side of the pier, inshore pilings, and boat ramp area. In 2010, a baseline coral study was conducted in the general vicinity of the pier (Marine Research Consultants, 2010). An environmental survey for the DOT-H's Hāna Pier project was conducted in 2013 (Appendix A). This survey was used as the basis of a 2017 water quality and biological resources impact analysis (Appendix C) for the current project plan (i.e., pier deck removal). An *akule* or (bigeye scad [*Selar crumenophthalmus*]) fishery study was also prepared to describe the existing subsistence fisheries in Hāna Bay and assess project impacts on these resources (Appendix D). The information in this section is drawn primarily from the 2013 environmental survey, 2017 water quality and biological resources impact analysis and 2016 *akule* fishery study.

3.7.1.1 *Benthic and Marine Biota*

Survey Methodology

Quantitative and qualitative benthic surveys were conducted of the marine environment potentially impacted by the project, focusing on coral and benthic composition in areas likely to be impacted either from barge anchoring or from demolition activities. The quantitative surveys were conducted in three areas, shown in yellow on Figure 3-2: 1) an area seaward of pier; 2) under the pier; and 3) under the trestle. The qualitative benthic surveys were conducted in two other areas: 1) west of the pier ("West reef") and 2) east of the pier ("East reef"), shown in orange in Figure 3-2. Within these areas, biologists conducted:

- Coral delineation survey to identify areas appropriate for construction barge anchor placement (i.e., having minimal coral resources)

- Quantitative benthic survey of coral and benthic composition in areas likely to be impacted either from barge anchoring (seaward of pier) or from demolition (or previously proposed construction activities [i.e., sea floor under the pier])
- Survey of the pier piles with efforts focused on the portion of piles most likely to be directly impacted
- Qualitative survey of the bottom to landward of the pier T-head (West reef and East reef)

Coral delineation. The coral delineation survey was conducted to identify areas appropriate for construction barge anchor placement (i.e., having minimal coral resources). The survey area extended from a point 360 ft west of the (i.e., base of the) trestle to a

point 100 ft north of the northeast pier corner and out to 260 ft seaward of the pier face. The seaward extent of coral cover was initially visually delineated. Divers utilized a hand-held Global Positioning System (GPS) in track mode to verify the visually determined line between coral presence and absence. One biologist swam offshore of the biologist towing the GPS to detect any offshore colonies, and correct the line as required. After conducting the delineation, divers spot-checked for corals in the area seaward of the coral/no-coral line. Any instances of coral cover were noted and the GPS points recorded. Figure 3-3 shows a solid yellow line which represents the delineation between inshore areas with live coral and an offshore area which was barren of corals.

Seafloor coral community and benthic composition. Divers collected data on percent benthic composition, coral abundance, and coral size-class distribution at ten stations around Hāna Pier. Five stations were located seaward of the pier, and the other five were located below the pier or trestle deck. Locations are shown in Figure 7 of the 2017 AECOS impact analysis in Appendix C. Five randomly placed 10-m transects were surveyed for each area (see Appendix A for the methodology used to randomize transect locations).

Percent benthic composition was measured using the line point-intercept method along each 10-m transect. The bottom or organism at each 0.1-m mark was categorized as one of the following: sand/mud, rubble, turf algae, macroalgae, crustose coralline algae, macroinvertebrate, live coral, dead coral, or other bare substrate. A total of 100 points was evaluated along each transect.

Coral size class distribution data were collected for all coral colonies observed within 0.5 m to either side of the transect line if at least 50% of the colony fell inside the 1-m wide transect area. A biologist swam along the 10-m transect, surveying 0.5 m to either side of the line, for a 10 m² (1 m x 10 m) survey area. The following parameters were recorded for coral colonies observed: species name, maximum diameter

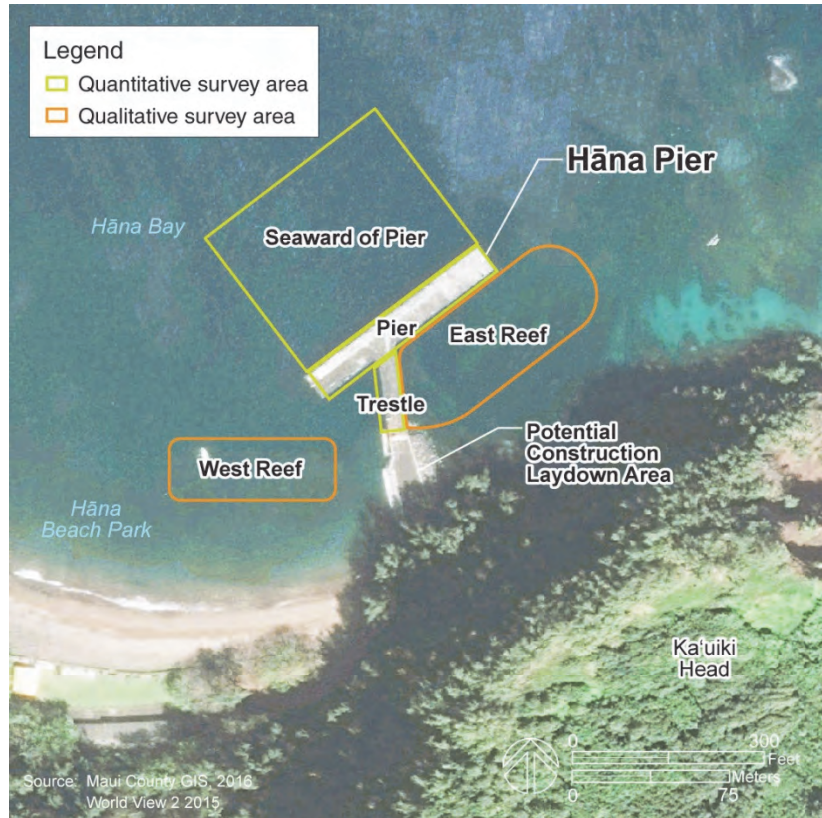


Figure 3-2 Marine Benthic Survey Areas

measured to the closest 5 cm, morphology, percent morbidity, and presence of disease. Coral colonies were then separated into size-classes (1 to 5 cm; 6 to 10 cm; 11 to 20 cm; 21 to 40 cm; 41 to 80 cm; 81 to 160 cm; or >161 cm). Photos of the general survey area and of notable coral communities can be found in Appendix A.

Pier pile coral community. The coral communities growing on the 148 piles of Hāna pier (4 rows with 28 piles each) and trestle (3 rows with usually 12 piles each) were evaluated. To record each pile, a diver began at the first pile of a row and videotaped the full height of each pile and the seabed between piles, along each row for the four rows of pier piles and three rows of trestle piles. To ensure data were collected from all piles in the limited time available, a rapid assessment method was achieved by video recording each pile for subsequent evaluation.

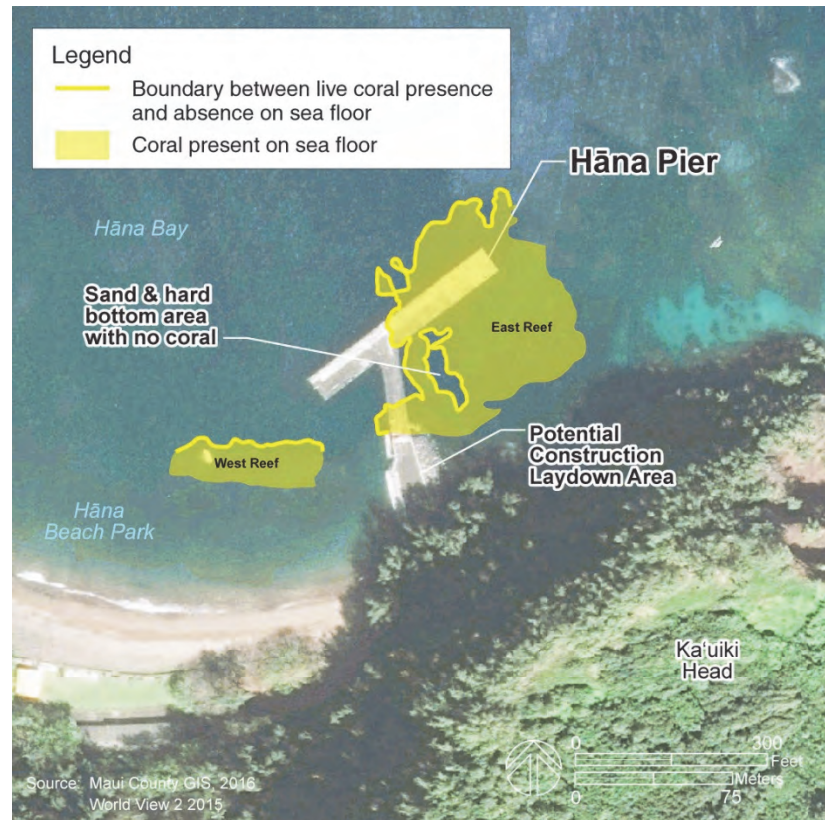


Figure 3-3 Coral Delineation Survey

Seven pile sets under the pier and four pile sets under the trestle were selected using a random number generator. Of the total of 148 piles, the biologists surveyed a total of 28 under the pier and 12 under the trestle. The presence of coral colonies was assessed in two areas of potential impact: (1) an area extending 2 m from the encrusting coralline algae intertidal zone and (2) pile surfaces below the upper impact area. In the first (upper) area, biologists surveyed the piles for corals, noting their species, size class, morphology, mortality and disease presence. In the second (lower) area, an inventory was done for corals, other macro-invertebrates and invasive and ESA-listed species.

Survey Findings: Benthic Composition

Under pier. The substratum under the pier is primarily silt (49% of bottom). Coralline and turf algae are found growing on silt-coated rubble. Assorted debris is present, especially towards the east end, including bicycles, tires, and broken concrete slabs. There are large mounds of broken concrete pieces and other pier debris. Average coral cover is low (4%) and corals rare.

The few coral assemblages under the pier are scattered encrusting colonies which adhere to silt-coated rubble and concrete. A total of 51 coral colonies from 6 different taxa were identified and measured: *Pavona duerdeni* (28), *Montipora flabellata* (7), *M. patula* (6), *Pav. varians* (6), *Cyphastrea ocellina* (3) and *Pocillopora meandrina* (1). *Pav. duerdeni* is the most frequently encountered coral species with mostly small (1- to 5-cm) colonies. Seven colonies of *M. flabellata* were encountered: one in each of the 1- to 5-cm and 11- to 20-cm size class, three in the 6- to 10-cm size class, and two in the 41- to 80-cm size class. Five colonies of *M. patula* were observed in the 21- to 40-cm size class, and one in the 41- to 80-cm size

class. A total of 4 colonies of *Pav. varians* occurred: three in the 21- to 40-cm size class and one in the 41- to 80-cm size class. Three small (1- to 5-cm) *C. ocellina* colonies and one colony of *Poc. meandrina* (6- to 10-cm) were encountered under the pier.

Under trestle. The substratum under the trestle includes rubble (78%), silt (21%), and turf algae (1%). The coral assemblage on the seafloor under the trestle is comprised of a few scattered colonies adhered to silt-coated rubble and concrete. Two colonies of *Leptoseris incrustans* were encountered on the one trestle transect, both in the 21- to 40-cm size class.

Seaward of the pier. Seaward of the pier, the bottom is dominated by rubble (57%) and silt (35%). Average coral cover in this area is 7%, consisting mostly of large (>20 cm) plating and encrusting *Montipora capitata* colonies and small *L. purpurea* colonies. Eight different taxa were identified and measured here: *M. capitata*, *M. patula*, *L. purpurea*, *Pav. varians*, *Pav. duerdeni*, *Poc. damicornis*, *Porites* sp., and *C. ocellina*. *M. capitata* is the most frequently encountered coral species in the vicinity, and is represented in all size classes. Most *M. capitata* colonies are in the 21- to 40-cm and 41- to 80-cm size classes. No macro-invertebrates were recorded.

Survey Findings: Pier Piles

In general, the outer faces of the piles along the pier margins host more coral than the inner rows of piles, many of which are void of coral colonies. Six of the 28 pier piles surveyed hosted no coral colonies on the upper 2 m (6 ft) of the pile; all six were inner piles. The coral assemblage on the remaining 22 piles located on the pier margins host coral colonies, mainly encrusting/plating *Montipora* colonies, encrusting *Cyphasastrea* colonies, and a few small *Pocillopora* colonies. The most common corals observed are *M. flabellata*, *M. patula*, and *M. capitata*. Also occurring in less frequency are *C. ocellina*, *Poc. meandrina*, *Poc. damicornis*, and *Porites lobata*.

In addition to corals, the littoral and splash zones on the piles include barnacle (*Chthamalus proteus*), limpet (*Cellana talcosa* and *C. exarata*), dotted periwinkle (*Littoraria pintado*), black nerite (*Nerita picea*), and rock crabs ('*ama'ama*; *Grapsus tenuicrustatus*). Urchins (*Tripneustes gratilla* and *Echinothrix calamaris*) are also found on the piles.

Damselfish and surgeonfish are the most abundant fish groups under the pier, with the most common being the blackfin chromis (*Chromis vanderbiliti*), Hawaiian sergeant (*Abudefduf abdominalis*), Hawaiian dascyllus (*Dascyllus albisella*), Hawaiian gregory (*Stegastes marginatus*), achilles tang (*Acanthurus achilles*), convict tang (*A. triostegus*), and bluespine unicornfish (*Naso unicornis*).

Survey Findings: Trestle Piles

All surveyed trestle piles host coral colonies in the upper 2 m of each pile. The coral assemblage on the piles consists mainly of encrusting and plating *M. patula* colonies and encrusting *Cyphasastrea* colonies. The most common coral on the trestle piles are plating colonies of *M. patula*. The three rows of piles under the trestle all host corals, and in 2013, biologists observed coral growth on all four sides of the piles.

The littoral and splash zones on the piles are occupied by barnacle (*C. proteus*), limpets (*C. talcosa* and *C. exarata*), dotted periwinkle (*L. pintado*), black nerite (*N. picea*), and rock crab ('*ama'ama*; *G. tenuicrustatus*). Zooanthids (*Zoanthus* sp.), urchins (*T. gratilla* and *E. calamaris*), and coralline algae are also found on the piles.

Five species of butterflyfish, eight species of damselfish, and six species of surgeonfish were observed, with a total of 30 fish species observed at the pier and trestle piles.

Survey Findings: West, East, and Seaward Reefs

West Reef. The coral reef located west of Hāna Pier is shallow with an abundance of *M. flabellata* and *Porites* spp. Present but not as common are *Poc. damicornis*, *Poc. meandrina*, and *M. capitata*. *Pav. varians*, *M. patula*, and *P. compressa* are rare. The seaward face of the reef has upwards of 60 to 70% coral cover (visually estimated), whereas the reef crest has coral cover of between 30 and 40%. *Pav. duerdeni* was common in the deeper areas of the reef face. Silt covers surfaces between live colonies and some live colonies had a thin layer of silt.

Few macro-invertebrates and only a few sea urchins (*Echinothrix calamaris*, *Echinometra mathaei*, and *Tripneustes gratilla*) and a sea cucumber (*Actinopyga mauritiana*) were observed. Fishes were seen to be moderately abundant, with four species of butterflyfishes, three species of goatfishes, and ten species of surgeonfishes observed. A total of 31 fish species was recorded.

East Reef. East of the Hāna Pier trestle are a number coral outcroppings interspersed with sand bottom. Outcroppings reach to within two to three feet of the water's surface close to the trestle. These outcroppings host a wide variety of coral, with *P. lobata* and *M. flabellata* being most common, followed by *Poc. meandrina*, *M. capitata*, *M. patula*. Further east, the reef becomes more continuous. In these deeper areas *Pav. duerdeni* and *P. compressa* occur.

Few macro-invertebrates were observed (*E. calamaris*, *E. mathaei*, *A. mauritiana*, and *H. atra*). A wide variety of fish were observed with greater concentrations observed in the far east of the survey area, where a more continuous reef with greater topographic relief occurs. The greatest fish species diversity in the survey area was observed over the East Reef, with seven species of butterflyfishes, six species of damselfishes, nine species of surgeonfishes, and five species of wrasses, with a total of 39 species observed.

Seaward Reef. The seafloor off the west end of the pier is primarily soft bottom with rubble and debris covered with a low-growing algal turf and fine sediment. *Acanthophora pacifica* is commonly observed here, with *Halimeda opuntia* and an unidentified wispy red cyanobacteria occasional. Off the east end of the pier, plating and encrusting *M. capitata* coral colonies are scattered on the seafloor. Some of these colonies are large, reaching 3 to 4 m (9.8 to 13 ft) in diameter. Many dead encrusting and plating colonies were observed with some clearly layered, the upper layer a living coral surface. *M. patula*, *Pav. varians*, *Pav. duerdeni*, *Poc. damicornis*, and *Porites* spp. also occur but are less common.

3.7.1.2 Protected Species

One marine protected species was observed in the 2013 survey: green sea turtle or honu (*Chelonia mydas*). Also known to occasion the marine waters off the project area are the Hawaiian monk seal (*Neomonachus schauinslandi*) and spinner dolphin (*Stenella longirostris*; pers. comm., Russell Sparks, Maui DLNR DAR in AECOS, 2017a).

Sea Turtles. Of the sea turtles found in the Hawaiian Islands, only the green sea turtle is common in the project vicinity. The hawksbill sea turtle (*Eretmochelys imbricata*) is rare in the Hawaiian Islands and only known to nest in the southern reaches of the state (NOAA PIFSC, 2010 in AECOS, 2017a). In 1978, the green sea turtle was listed as a threatened species under the ESA of 1973. Since then, the green sea turtle has become the most common sea turtle in the Hawaiian Islands with a steadily growing population

(Chaloupka et al., 2008 in AECOS, 2017b). In February 2012, NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS) received a petition from the Association of Hawaiian Civic Clubs to identify the Hawaiian green turtle population as a distinct population segment (DPS) and delist the Hawai'i DPS under the ESA. In April 2016, NOAA Fisheries published a final rule to reclassify the green sea turtle into 11 DPS, but continues protection of the Hawai'i DPS as a threatened species under the ESA (USFWS & NOAA, 2016 in AECOS, 2017b).

Monk Seal. The Hawaiian monk seal (*Neomonachus schauinslandi*) is known to occur in the marine waters off the project area. It is endemic to the Hawaiian Islands and is the only pinniped found in Hawaiian waters. The Hawaiian monk seal was listed as endangered throughout its range under the ESA in 1976 and remains listed as endangered. In that same year, it was designated as "depleted" under the Marine Mammal Protection Act (MMPA).

Spinner Dolphin. The spinner dolphin (*Stenella longirostris*) is protected under the MMPA and is known to visit Hāna Bay. During the day, spinner dolphins can be found in coastal waters and calm bays where they rest, care for young, and avoid predators. At night, they travel to deeper waters to hunt. Research indicates that pursuit and close approach of boats, swimmers and other ocean users to spinner dolphins may have negative impacts on their health and behavior. Other potential threats include entanglement in marine debris, anthropogenic noise, and fisheries interactions.

In August 2016, NOAA Fisheries published a proposed rule to enhance protections for Hawaiian spinner dolphins to prevent disturbance and harassment from dolphin-directed human activities (NOAA-NMFS, 2016a in AECOS, 2017b). The proposed rule would prohibit swimming with and approaching a Hawaiian spinner dolphin within 50 yards by any means (vessel, person, or other object) and would be implemented within two nautical miles from shore of the Main Hawaiian Islands and in designated waters between Maui, Lāna'i, and Kaho'olawe where spinner dolphins are found throughout the day.

Humpback Whale. The humpback whale (*Megaptera novaeangliae*) was listed as endangered in 1970 by the Endangered Species Conservation Act (predecessor to the 1973 ESA). Effective on October 11, 2016, NOAA Fisheries revised the listing status of the humpback whale, dividing the species into 14 DPSs, including a "Hawai'i DPS." Of the fourteen DPSs, one was identified as threatened, four as endangered, and nine as not warranted for listing. The Hawai'i DPS includes the humpback whales using waters surrounding Hawai'i as their breeding ground. Under the 2016 rule, the Hawai'i DPS was identified as not warranted for listing under the ESA as endangered or threatened (Endangered and Threatened Species; Identification of 14 Distinct Population Segments of the Humpback Whale, 2016). In order to replace ESA regulations that protected the Hawai'i humpback whale DPS from threats posed by approaching vessels, NOAA Fisheries published an interim final rule on September 8, 2016 that included approach restrictions in the MMPA that apply to waters within 200 nautical miles from the shore of the Hawaiian Islands (Approach Regulations for Humpback Whales, 2016).

The east end of Maui and Hāna Bay are not within the Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS, 2016 in AECOS 2017b). However, humpback whales are seen off the Hāna coast.

3.7.1.3 Critical Habitat

Critical habitat for Hawaiian monk seals has been designated (NOAA-NMFS, 2015) and includes the seafloor and marine habitat to 10 m above the seafloor from the 200-m depth contour through the shoreline and extending into terrestrial habitat 5 m inland from the shoreline between identified boundary points. These terrestrial boundary points define preferred pupping areas and significant haul-

out areas (NOAA-NMFS, 2015 in AECOS, 2017b). Terrestrial critical habitat along the shoreline of Hāna Bay falls within assigned boundary points MA 11 to MA 12 (Kuloa Point through Hāna Wharf and Ramp) and MA 21 to MA 22 (Hāna Wharf and Ramp through Kainalimu Bay). Hāna Wharf and ramp fall between boundary points MA 12 and MA 21, and is thus excluded from terrestrial critical habitat designation. Marine critical habitat in Hāna Bay starts at the waterline and extends from there out to the 200-m depth contour, including the seafloor and marine habitat to 10 m above the seafloor. As such, the project occurs in designated terrestrial (excluding the ramp) and marine critical habitat area. However, the Hāna Pier structure is excluded in the designation because this man-made structure does not meet the definition of critical habitat (NOAA-NMFS, 2015 in AECOS, 2017b).

3.7.1.4 Fisheries

The Hāna community has a long history of fishing and gathering, including *limu*, *‘opihi*, reef fishes, and especially *akule* or bigeye scad (*Selar crumenophthalmus*). The *akule* fishery remains a significant and relevant socioeconomic activity in Hāna, more so than other subsistence fisheries, and, as such, potential impacts to this fishery were identified as concerns during public community meetings and the early consultation period. An *akule* fishery study (Appendix D) was thus conducted to describe this important resource and assess the project’s potential impacts on the fishery. The study methodology included historical documentary research and extensive interviews of Hāna subsistence fishers (AECOS, 2016).

In North America, *Selar crumenophthalmus* is commonly referred to as bigeye scad. In Hawai‘i, names given to this fish vary by size. Small fish of 2 to 3 inches (5.1 to 7.6 cm) in length are known as *pa‘a‘a*, the intermediate sizes (5 to 6 inches) as *hahalalū*, and fish greater than 9 inches (22.8 cm) as *akule* (Titcomb, 1972 in AECOS, 2016). *Akule* are circumtropical in distribution in warm coastal waters of the Atlantic, Indian, and Pacific Oceans. In Hawaiian waters, the *akule* ranges throughout the archipelago from Kure Island to the island of Hawai‘i. It inhabits coastal waters from the shallow shore out to depths of 100 m (50 fathoms) and is relatively scarce in offshore waters (Kazama, 1977 in AECOS, 2016). They can form schools numbering from a few to tens of thousands of individuals (Shiota, 1986 in AECOS, 2016).

Akule is a relatively fast-growing fish. Individuals are between 10.2 and 17.5 cm when they first appear in shallow coastal waters in large schools and grow to 22.9 cm by the end of the first year and 30.5 cm by the end of the second year. These fish are not migratory but tend to remain in localized areas. Results of studies in the main Hawaiian Islands suggest that spawning occurs in the spring and summer. Before spawning, mature fish move into shallow water, where the adults form large schools in shallow, sandy, or flat-bottomed areas in the main Islands. The bulk of *akule* diet is composed of small fishes such as anchovies and holocentrids, and crustaceans such as copepods, crab megalops, stomatopods, and shrimps (Kawamoto 1973 in AECOS, 2016).

The *akule* fishery is among Hawai‘i’s primary inshore fishery resource, and the Hāna community has a long tradition of *akule* fishing. Due to Hāna’s remote location, fishing remains an important socioeconomic activity for many community members. Harvest methods today carry on many of the customs used throughout the 1940s, 1950s and 1960s, and represent an important link to the past.

Historical accounts describe schools of *akule* sighted by a “spotter” located on high ground through observing the ripples in the water or a change in water color. The spotter was responsible for coordinating the net setting operation through hand signals to the fishermen. This practice is still followed today in Hāna, although cell phones are more commonly used than hand signals. In Hāna, spotters are perched atop a hill above Hāna Bay in what is called the Akule Hale (see Figure 1-4 for location). This structure also serves as a fisherman’s club and social gathering place. Once fish are spotted from the *hale*, the community is notified and participants mobilized via cell phone and social media. Boats

loaded with nets are launched from the boat ramp at Hāna Pier. Large surround nets (called “*hukilau*”) are dropped from the boat to enclose the schools of *akule*, which are driven toward shore and into bag nets. Community participants help harvest the catch and bring it to shore, and the harvest is divided among them. The catch is never sold. Those interviewed as part of the *akule* fishery study indicated that the harvest occurs approximately once every six months. Because these activities are not commercial in nature, and due to Hāna’s remote location, there is no official information on the number of fish caught.

Although the *akule* fishery study was not intended to be a cultural review of the fishery, the study noted that interviews with the community revealed a strong connection to Hāna Bay that was worthy of mention. Multiple interviewees stated that Hāna Bay is the “heart of Hāna” and the community here has “cultural, religious, and subsistence” ties to it. One fisherman stated that “we are a fishing village, first and foremost.” Every person who was interviewed in April 2015 described the community’s strong connection to the environment, specifically the ocean and fishing (AECOS, 2016).

3.7.2 Probable Impacts and Proposed Mitigation

3.7.2.1 Proposed Action

Impacts to water quality, coral resources, protected species, and subsistence fisheries (including *akule*) during demolition of the pier deck will be localized and temporary during the demolition period. Project BMPs will be designed to avoid and minimize impacts to marine resources. After project completion, the elimination of the pier superstructure will allow light to reach the water column beneath the pier structures, enhancing marine resources there and contributing to long-term indirect beneficial effects on the marine community.

Coral and the Marine Environment

Direct impacts to the coral community could result from vibrations from pile cutting, placement of anchors for construction barges, and modifications in shading due to the removal of the pier superstructure. Direct impacts may occur due to the resuspension of fine sediment during in-water work.

Pile Cutting. The existing piles will be left in place, but most will be cut below the pier deck to an elevation of +4.00 feet MLLW. The most seaward row of piles along the pier’s T-head section will be removed to elevation +1.00 feet MLLW, approximately 12 inches below the bottom of the pile caps. When cutting piles or removing the deck-supported portion above the waterline, there is the potential to inadvertently destroy or damage coral growing on the piles.

To mitigate these impacts, the vertical extent of coral growth should be field-verified and the piles marked by a biologist prior to construction to ensure that piles are cut well above the coral growth. The marking should include a safety margin above the coral growth (AECOS, 2017b).

Branching corals (*Poc. damicornis* and *Poc. meandrina*) and plating corals (*M. capitata*, *M. patula*, *M. flabellata*) can be broken or dislodged by vibrations associated with the pile cutting. Any branching and plating corals that are disturbed during pile cutting could be re-attached to the pile (AECOS, 2011 in AECOS, 2017b).

Seafloor disruption. The use of anchors and spuds to secure construction barges could have a direct impact on marine resources on the seafloor. The coral delineation survey established a boundary between areas with coral presence and coral absence. To avoid damage to corals, barge anchors should be placed outside of high coral cover area (i.e., yellow areas in Figure 3-3).

Suspended sediments. There would be short-term water quality impacts due to resuspension of sediments (i.e., turbidity) in the water column from in-water activities such as barge repositioning and operation of work vessels (i.e., via propeller wash) (see Section 3.6.2.1 for specific potential water quality impacts). This increased sediment load can negatively impact corals in several ways: inhibit coral recruitment; reduce light required by zooxanthellae; reduce the ability of coral polyps to feed; increase respiration rates; reduce growth rates; and increase mucus production for sloughing away sediment (Rogers, 1983; Hodgson, 1990; Te, 1992; ISRS, 2004; Piniak, 2004 in AECOS, 2017b). In-water work is expected to be about three months in duration, although the repositioning of barges and work boats—which would be the primary cause of suspended sediments—will be brief in duration and done as-needed (i.e., not continuously). The vessel and barge movements would likely occur several times each week, depending on the actual floating equipment and vessels used. These vessel and barge movements would typically be less than 30 minutes in duration.

Turbidity barriers around the in-water work areas can minimize demolition impacts, but demolition activities should avoid peak coral spawning times (i.e. May through September). Peak reproduction of Hawaiian corals occurs during summer months, although reproduction continues year round for some brooders. *Montipora capitata* spawns May to September, at night during the new moon's 1st quarter. *Porites lobata* spawns June to August, two to three days after the full moon. *Pavona varians* spawns in June, at night during the full moon's 3rd quarter. *Montipora patula* spawns July to September, at night on the new moon's 1st quarter and 3rd quarter phase. *Pocillopora damicornis* spawns year-round, with all phases of the moon. The majority of larvae are released at night, but some are released throughout the day (Kolinski and Cox, 2003 in AECOS, 2017b).

Shading modifications. The removal of the pier superstructure will increase light exposure in marine areas beneath the structures. Overwater structures, such as the pier superstructure, create shade and reduce light levels below. Light is the single most important factor affecting aquatic plants. Light levels under piers have been found to fall below the threshold required for photosynthesis by diatoms, benthic algae, and associated epiphytes and other autotrophs. These photoautotrophs are an essential part of the nearshore and estuarine food chains that support many species of fishes. Removal of the Hāna Pier superstructure is anticipated to have a long-term beneficial impact by eliminating the pier shading, thereby increasing light and photosynthesis.

Removal of pier shading will also have long-term beneficial impacts on the coral community. As noted in the environmental survey conducted for the project by AECOS, Inc. (see Appendix A), the seafloor under the pier is dominated by non-living substrata with very low coral cover due to limited light levels. In the long term, the removal of the pier superstructure will increase light levels, which is expected to enhance the benthos, increase coral cover, and lead to cascading beneficial changes to marine assemblages.

Protected Species

No long-term direct, indirect or secondary adverse impacts to protected species are anticipated because the project does not introduce new in-water structures or activities (or induce such activities) that would likely harm protected species or diminish their habitats. The project has the potential to have short-term direct or indirect impacts on ESA-listed species, such as sea turtles, through the following stressors.

- physical injury from demolition
- behavioral changes in response to human activity and equipment operation
- physical and behavioral changes in response to elevated turbidity
- exposure to wastes and discharges
- exposure to elevated noise levels

- effects on monk seal critical habitat

Direct physical impact. Sea turtles and marine mammals must surface to breathe, and they are known to rest or bask at the surface. When at or near the surface within the project area, these animals are at risk of being struck by project equipment such as barge anchors. Additionally, chunks of concrete and other debris may inadvertently fall into the water during above-water demolition work. These activities and events have the potential to directly strike ESA-listed marine animals that are present in the area.

Best management practices recommended by the NOAA Fisheries Protected Resources Division require construction crews to watch for sea turtles and marine mammals 30 minutes prior to beginning work, and to halt or postpone that work when those animals are within 50 yards. It is expected that sea turtles and marine mammals will avoid the area during demolition operations, and therefore the risk to sea turtles and protected marine mammals of collision with the equipment is extremely low.

Disturbance from human activity and equipment operation. The proposed Hāna Pier deck removal includes work above and in marine waters where ESA-listed species may be directly exposed to project-related activity. These animals may experience a startle reaction and resulting stress if they encounter on-going demolition activities. Because sea turtles and marine mammals typically avoid human activity, it is anticipated that these encounters would result in avoidance behavior, where the exposed animal rapidly leaves the project area without injury.

Best management practices will reduce the likelihood of this interaction by watching for and avoiding protected marine life before commencing work and postponing operations when protected species are within 50 yards of project activities.

Construction barges, tugs, and other vessels will limit speeds within the harbor to 10 knots or less when piloting in the proximity of sea turtles. If practicable, vessel speeds will be reduced to 5 knots or less when in areas of known or suspected sea turtle and marine mammal activity.

Elevated Turbidity. Project demolition, propeller wash from tugs repositioning barges, and barge anchors may increase the amount of suspended sediment in the water column. This temporary degradation of water quality may impact marine resources, including ESA-listed species. Repositioning of barges will be brief in duration and done as needed (i.e., not continuously). Turbidity barriers such as silt curtains around in-water work areas can minimize demolition impacts. With the proper employment of BMPs, the project should not have a long-term negative effect on either the water quality or biological communities. Short-term exposure to elevated turbidity is not expected to have significant effects on ESA-listed sea turtles and protected marine mammals.

Elevated noise levels. Sound pressure waves in the water from pile cutting can produce high-intensity underwater sounds capable of causing injury or adverse behavioral modifications for marine mammals and sea turtles. Effects vary with the frequency, intensity, and duration of the sound, as well as the hearing characteristics of the affected animal. Potential effects may include: (1) physical injury and/or permanent hearing damage, (2) behavioral impacts through temporarily reduced sensitivity also referred to as temporary threshold shifts (TTS), temporarily masked communications or acoustical environmental cues, and modified behavior ranging from attraction to avoidance.

The effects thresholds currently used by NMFS are marine mammal specific and based on levels of harassment as defined by the MMPA. For exposure to sounds in water, >180 decibels (dB) and >190 dB are the thresholds for Level A harassment (i.e. injury and/or TTS) for cetaceans and pinnipeds, respectively. The thresholds for Level B harassment for all marine mammals in the form of TTS and other

behavioral impacts are >160 dB for impulsive noises and >120 dB for continuous noises. Currently, no acoustic thresholds have been established for sea turtles. Consequently, the marine mammal thresholds is used for sea turtles, under the assumption that they are likely to be conservative.

In order to mitigate noise impacts, the project BMPs will establish a 50-yard safety range that requires mandatory shut-down of saw-cutting should ESA-listed marine animals enter that area. Exposure to noise from saw-cutting activities is expected to result in no more than an insignificant level of behavioral modification in the form of temporary avoidance of the immediate area.

Effects on Hawaiian Monk Seal Critical Habitat. The proposed project is expected to have no long-term effect on the foraging characteristics or upon the quality or quantity of monk seal prey (e.g., fish, mollusks, crustaceans). Marine waters in the depth range of 0 to 500 m are the only essential feature of monk seal critical habitat that may be impacted by the planned work. Project-related in-water noise levels may temporarily deter monk seals from entering the project area. The area that might be avoided is not known to provide significant monk seal forage resources, and the project is not expected to have any impact on monk seal forage resources. Avoidance of the ensonified area would not hinder monk seal access up and down the coast past the bay. However, because the area surrounding the pier is designated as monk seal marine and terrestrial critical habitat, ESA Section 7 consultation with NOAA Fisheries and USFWS is necessary and will be conducted during the project's USACE permitting process. Specific mitigation measures for effects to monk seal critical habitat, if any, will be determined during the consultation process.

Fisheries

The *akule* fishery study noted that impacts to subsistence fisheries during demolition of Hāna pier would be localized and temporary. Project BMPs are intended to avoid or at least minimize impacts to the habitat. With effective implementation, BMPs will limit adverse impacts to *akule*, their associated habitat, and fish catch. In the long term, the removal of the pier superstructure will increase sunlight below the pier. This will have long-term beneficial effects on *akule* and other Hāna Bay marine resources.

Demolition period impacts. Demolition activities would have short-term, temporary acoustical and water quality impacts in the areas surrounding the pier. The extent of impact is influenced by factors such as species, fish size, physical condition, peak sound pressure and frequency, shape of the sound wave, depth of water, location of fish in the water column, amount of air in the water, size and number of waves on the water surface, bottom substrate texture, currents, presence of predators, and pile type and size (NMFS, 2004 in AECOS, 2016). Noise and vibrations generated during pile cutting can disturb the normal behaviors and mask sounds from other members of the same species or from predators. This could result in behavioral changes such as avoidance and deflection behavior. Before spawning, mature *akule* move into shallow water in Hāna Bay. Acoustical impacts from pile-cutting are expected to be temporary and localized, but could cause *akule* to avoid the shallow waters of Hāna Bay, which could impact spawning.

There will be short-term increases in suspended sediments in the vicinity of active work areas due to the project demolition, propeller wash from tugs repositioning barges, and anchoring systems. *Akule* prefer clean, clear waters, and it is anticipated that they (as well as other demersal and pelagic fishes) will avoid active in-water work areas. As noted earlier in this section under "Coral and the Marine Environment," the repositioning of barges and work boats (the primary cause of suspended sediments) will be typically less than 30 minutes in duration and likely occur several times each week during the 3-month in-water work period, depending on the actual floating equipment and vessels used.

In-water work occurring during the spring and summer spawning periods may result in temporary displacement of the large *akule* schools. In the short term, this may have adverse cascading effects, both ecologically and socially/culturally if turbidity is not limited to the immediate work area.

Turbidity barriers around the in-water work area can minimize these water quality impacts. In addition to the employment of industry-standard BMPs during construction (listed in Section 2.2.4), a site-specific BMP plan will be developed in consultation with federal and state regulatory agencies and implemented by the contractor.

The displacement of fish could result in temporary declines in *akule* catches. The impact is expected to be limited to in-water work periods.

Long-term impacts. The project is likely to have long-term indirect beneficial impacts to the *akule* fishery. The elimination of shading caused by the pier superstructure will increase photoautotrophic organisms occurring at the location, enhancing the marine food chain and fish diets. Fishes rely on visual cues for spatial orientation, prey capture, schooling, predator avoidance, and migration. The reduced-light conditions found under an overwater structure (such as the existing pier deck) limit the ability of fishes, especially juveniles and larvae, to perform these essential activities. In the long term, the removal of the superstructure is anticipated to enhance the physical environment, resulting in beneficial changes in *akule* schooling, spawning and migration behaviors.

3.7.2.2 No Action Alternative

Under the No Action Alternative, there would be no short-term, temporary adverse impacts to marine biological species or their habitats. This alternative does not involve in-water or above-water work that could contribute pollutants or suspended sediments, elevated noise levels, additional vessels, direct or vibration impacts to the marine habitat or resources, or other disturbances into the marine waters and substrate in the pier vicinity. However, the No Action Alternative would forego the long-term beneficial impact on the coral community and fisheries that would result from removing the shading effects of the pier superstructure and increasing light exposure to the marine areas below.

3.8 TERRESTRIAL BIOLOGICAL RESOURCES

3.8.1 Affected Environment

A survey was conducted to identify existing terrestrial biological resources that may be affected by the proposed action (AECOS, 2017a) (see Figure 3-4 for survey area). The survey included terrestrial plants and terrestrial mammals and birds at Hāna Pier and an adjacent location that may be used for laydown and staging. The survey area includes the uplands from the Hāna Beach Park sea wall (fronting Helene Hall) in the west to the base of Hāna Pier in the east (to the boat trailer turn around area). The report is included as Appendix A and findings are summarized below.

3.8.1.1 Botanical Resources

The flora of the project area is comprised of flowering plants dominated by alien (non-native) species. The May 2013 survey recorded a total of 48 plant species, and a detailed plant list is included in Appendix A. Only five (10%) of these species are known from the Hawaiian Islands before 1778 (i.e., the start of European contact with the Hawaiian Islands). No species of plants were noted that are of particular concern or are listed as threatened or endangered (AECOS, 2017a).

3.8.1.2 Avian Biota

Naturalized, urban dwelling birds comprise the bulk of species encountered in the Project vicinity. No species protected by State of Hawai'i Administrative Rules (DLNR, 1998, 2007 in AECOS, 2017a) nor federally endangered or threatened species (USFWS, 2015 in AECOS, 2017b) are present. A total of 42 individual birds of six different species was recorded in the 2013 surveys (AECOS, 2017b). An additional 65 birds, including two additional species, were observed as incidental sightings as biologists walked between survey areas. Approximately 70% of the individual birds identified in the project area were Common Myna (*Acridotheres tristis*) and House Sparrow (*Passer domesticus*). The former were ubiquitous throughout the area, utilizing the beach, parking lot, and false *kamani* trees (*Terminalia catappa*) in the park. Red-crested Cardinals (*Paroaria coronata*) and Zebra Doves (*Geopelia striata*) frequent the lawn at the beach park.

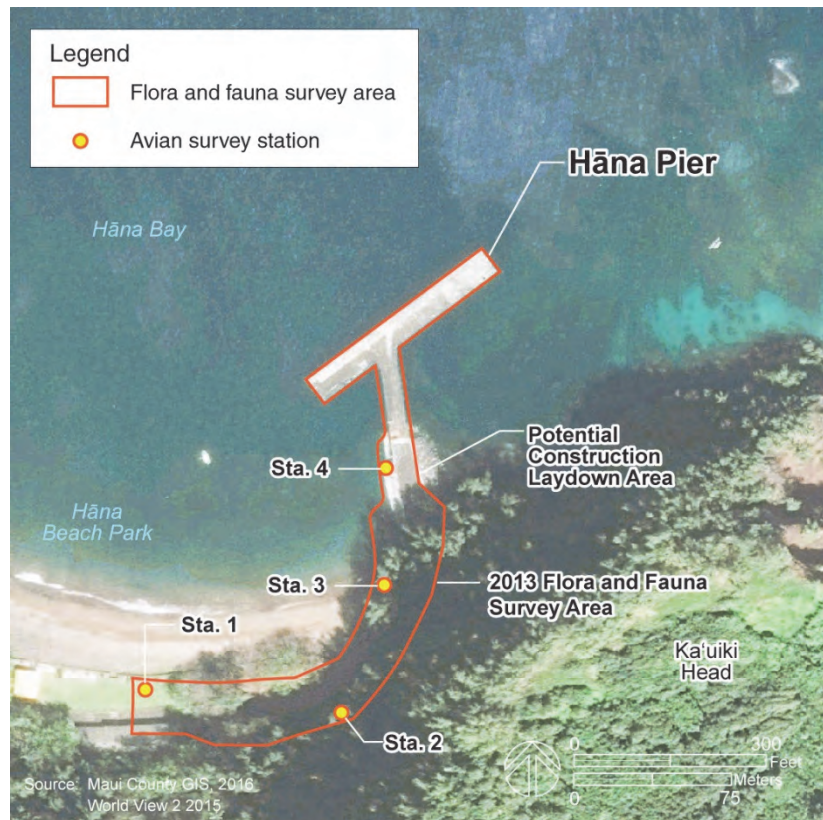


Figure 3-4 Terrestrial Biological Survey Area

Though naturalized urban dwelling birds comprised the majority of species encountered, three native species were encountered. One Wandering Tattler (*Tringa incana*) was observed foraging on boulders near the boat ramp. Several Great Frigatebirds (*Fregata minor palmerstoni*) were sighted soaring above the project site and into areas *mauka* of Hāna Bay. Similarly, two White-tailed Tropicbirds (*Phaethon lepturus dorotheae*) were observed circling above the shoreline of the bay along the steep slopes of nearby Ka'uki Head. All three native species encountered during the survey are known to be common throughout the Main Hawaiian Islands (Denny, 2010 in AECOS, 2017b).

3.8.1.3 Terrestrial Mammals

With the exception of the endangered Hawaiian hoary bat or 'ōpe'ape'a (*Lasiurus cinereus semotus*), all terrestrial mammals found on the Island of Maui are alien species, and most are ubiquitous. The 2013 survey of mammals was limited to visual and auditory detection, coupled with visual observation of scat, tracks, and other animal sign. A running tally was kept of all terrestrial vertebrate mammalian species detected within the project area during the survey. The domestic cat (*Felis catus*) and domestic dog (*Canis lupus familiaris*) were the only terrestrial fauna observed in the project vicinity. No bats were observed.

3.8.1.4 *Protected Species*

No protected terrestrial species of plants, birds, or mammals were observed, nor are any known to occur in the project area and vicinity with the exception of bats that might roost in nearby trees and seabirds that fly over the project area.

3.8.2 Probable Impacts and Proposed Mitigation

3.8.2.1 *Proposed Action*

The project is not likely to have an adverse impact on terrestrial plants, birds or mammals. Demolition activities will take place at the pier and within surrounding developed areas. Almost all of the species observed during the 2013 biological surveys are introduced. No plant or avian species were noted that are of particular concern or are federally- or state-listed species. The three native bird species observed are common throughout the Hawaiian Islands.

Removal of vegetation may temporarily displace individual bats, which may use the vegetation as a roosting location. During the pupping season, females carrying their pups may be less able to rapidly vacate a roost site while the vegetation is being cleared. Additionally, adult female bats sometimes leave their pups in the roost tree when they forage. Very small pups may be unable to flee a tree that is being felled. Potential adverse effects from such disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 meters (15-feet), between June 15 and September 15, the period in which bats are potentially at risk from vegetation clearing.

The biological survey found no suitable bat roosting habitat within the project area, but noted that bats are known to occur in Haleakala National Park in the Kipahulu section, some 10 km (6.2 mi) away (Fraser et al. 2007 in AECOS, 2017a). Impacts to this listed species are not anticipated as the construction laydown area is expected to be in the vicinity of the pier and not require vegetation removal. However, if a different staging area is established that requires clearing of trees or vegetation over 15 feet in height, the presence of bats will need to be considered.

3.8.2.2 *No Action Alternative*

The No Action Alternative would not impact terrestrial biological resources, as it does not involve changes to land uses, facilities, or activities in the vicinity of Hāna Pier.

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CHAPTER 4 HUMAN-MADE ENVIRONMENT

4.1 BUILT ENVIRONMENT AND ADJACENT LAND USES

4.1.1 Affected Environment

Hāna Pier is located on the southeastern section of Hāna Bay (also referred to as “Hāna Harbor” in this document), which is in the District of Hāna on the eastern coast of the Island of Maui (see Figure 1-1 in Chapter 1). It is located in the town of Hāna, a small, remote community approximately 55 miles from the County seat in Wailuku via State Highway 360 (“Hāna Highway”). The pier is located at the end of Keawa Place, which provides access to the neighboring Hāna Beach Park.

Hāna Pier is under the jurisdiction of the State of Hawai‘i, Department of Transportation, Harbors Division (DOT-H). It is of concrete construction and supported by driven concrete piles. The pier is comprised of two sections: the main section and the access trestle. The main section runs parallel to shore, and is about 339 feet long by 43 feet wide. The concrete pier deck has a railroad track along its length, and it sits about 9 feet above Mean Lower Low Water (MLLW). The main section of Hāna Pier is connected to the shore by an access trestle, about 145 feet long and about 27 feet wide. The trestle joins the main section of the pier at an angle, giving the overall pier a slanted T-shape.

The Hāna Pier structures are in poor condition. Many of the concrete piles have extensive spalling and exposed steel reinforcing that is severely rusted. There is a large hole through the deck of the access trestle at its shoreward end. Additional holes through the deck of the main section of the pier are at the east end and at the concrete platform of the small boat landing.

On shore, a paved, earthen approach of riprap boulders and fill provides vehicle access from the end of Keawa Place to the edge of the pier. This approach area is about 135 feet in length. A metal fence located at the end of this approach, at the beginning of the access trestle, prevents vehicle access onto the pier.

On the west (shoreward) side of the access trestle there is a small boat ramp, two loading docks, and a boat trailer turnaround area (see Figure 1-5 for boat ramp photo). These structures are under the jurisdiction of the State DLNR DOBOR, and are not part of the current project area.

Land uses surrounding the project area are primarily recreation, with commercial activities limited to ocean-related equipment rental and guided excursions, and a snack shop concession. Hāna Beach Park, which is under the jurisdiction of the County of Maui, includes a picnic pavilion, picnic tables, restrooms, changing rooms with showers, a parking lot and unmarked roadside parking areas. Helene Hall, the County’s community center, is located across Keawa Place from Hāna Beach Park, and includes meeting rooms, restrooms, and the aforementioned food concession.

4.1.2 Probable Impacts and Proposed Mitigation

4.1.2.1 Proposed Action

During the demolition period, the contractor will not be allowed to obstruct access to the adjacent DLNR DOBOR small boat ramp and loading dock with project-related floating equipment; public access to the boat ramp will be maintained.

In the long-term, the proposed action would remove the Hāna Pier superstructure, leaving the supporting piles remaining in place. Adjacent land uses such as the DLNR DOBOR small boat ramp and loading docks,

Helene Hall, and use of Hāna Beach Park for recreation and commercial guided tours and equipment rental would not be affected. Use of the pier itself has been prohibited from public use since 2010, and there are currently no authorized uses of the pier. Removal of the pier deck and superstructure will permanently end current unauthorized uses of the pier (e.g., jumping off into the water, pole fishing, recreational strolling, and aiding in the coaching of canoe paddling crews).

During the demolition period, DOT-H and the construction contractor will coordinate the in-water activities schedule with the Hāna community to minimize impacts to users of the boat ramp and loading dock. All required USCG navigational markings and notices to mariners will be implemented prior to construction activities and those required for permanent placement will remain after removal activities are completed (or be changed to meet USCG requirements). No mitigation measures are proposed to offset the loss of unauthorized uses. As described in Section 3.7.2.1 Marine Biological Impacts, the removal of the pier deck structure would improve the marine habitat under the current deck footprint by allowing light to pass through the water column and enhancing the marine food chain, fish diets, and visual cues for essential fish behavior. This would have a beneficial effect on the fisheries of Hāna Bay and possibly enhance other recreational, subsistence, and cultural uses of the surrounding area.

4.1.2.2 *No Action Alternative*

The No Action Alternative would not impact the built environment and adjacent land uses because there would be no changes in facilities or authorized access.

4.2 HARBOR NAVIGATION

4.2.1 Affected Environment

Hāna Harbor (also known as Hāna Bay) is under the jurisdiction of DOT-H, with the exception of the small boat ramp adjacent to Hāna Pier, which is under the jurisdiction and administrative authority of DLNR DOBOR. The bay is open to the east and is marked by Kau'iki Head on the south and Nānu'alele Point on the north. This eastward orientation exposes the bay to ocean swells from the north, which can make launching small boats challenging.

A navigational light ("Ka'uiki Head Light") is located on Pu'uki'i Island, approximately 250 yards northeast of Hāna Pier. According to NOAA Navigation Chart 19341 (U.S. Department of Commerce, 2005), the Hāna Harbor entrance channel is unmarked and located approximately 200 yards northwest of Ka'uiki Head Light between geographical features called "Twin Rocks" (see Figure 1) and an unmarked shoal about 350 yards north of the light. The turning basin in the harbor is about 20 to 30 feet deep and 600 ft by 800 ft in area (U.S. Department of Commerce, 2016). The bay does not provide desirable anchorages because it is exposed to northeast winds and sea, and during strong southwest winds, vessels are likely to drag anchor (U.S. Department of Commerce, 2016). Small vessels sometimes anchor in the southwest part of the bay, but swinging room is limited (U.S. Department of Commerce, 2016).

Small boats are launched from the DLNR DOBOR boat ramp adjacent to the pier and from the two sandy beaches (e.g., kayaks and canoes). Users of the DLNR DOBOR boat ramp have reported that, after the 2010 improvement project (which replaced the launch ramp and inner rock revetment and installed new security lighting, loading dock, and accessible ramp), launching and retrieving small boats via the ramp have become more hazardous. Anecdotally, this is due to a change in the ramp geometry and replacement of a rock revetment with a near vertical concrete bulkhead, which exacerbate wave and surge action in the boat ramp area. DLNR DOBOR has proposed a second phase to its earlier boat ramp improvement project to address the unintended consequences of the 2010 project. Phase II is proposed

to include boat ramp concrete slab replacement and replacement of rock revetment below the pier access trestle. The replacement of the rock revetment is intended to restore site conditions to pre-2010 conditions by reducing waves and currents passing under the trestle to the boat ramp loading zone from the north through east direction.

Swimmers in the area seaward of the boat ramp—including individuals who jump from the trestle side walls into the ocean—can sometimes conflict with or cause delays for boats approaching the ramp from the ocean.

4.2.2 Probable Impacts and Proposed Mitigation

4.2.2.1 *Proposed Action*

The proposed action is not expected to have significant short- or long-term adverse impacts on navigation in the bay. During the demolition period, there would be barges and a pusher vessel anchored or tied up near the pier (see Section 2.2 for anticipated vessels). The vessels and floating equipment will not be allowed to obstruct access to or from the small boat ramp, although vessels operating in the area will need to maneuver around the equipment. All required USCG navigational markings and notices to mariners will be implemented prior to construction activities.

In the long-term, demolition of the pier superstructure will expose existing concrete piles, which may impact marine navigation. The project calls for removal of the pier deck and pile caps, leaving most of the remaining piles exposed above the water at an elevation of +4.00 feet MLLW—i.e., approximately 4 feet above the water surface). Due to the existing configuration of the structure, the seaward-most row of piles (i.e., Pile Row P) will be cut to elevation +1.00 ft MLLW. At mean higher high water (MHHW), the tops of the piles will remain approximately 1.5 ft above the water surface, with Pile Row P extending to 1.5 ft below the surface. The piles represent a potential hazard and obstruction to marine navigation, and they will need to be marked for safety. The USCG has established a system to assist navigation within waters of the U.S. through its Private Aids to Navigation (PATON) regulations. Appropriate markings for the piles will be installed, in compliance with the PATON guidance. Coordination with the Coast Guard has been initiated, and will be finalized during the Department of the Army permit process. Because the proposed action does not represent an introduction of new in-water infrastructure, and because the remaining infrastructure will be adequately marked and appropriately recorded in navigational maps, significant long-term adverse impacts to navigation are not anticipated.

Removing the pier deck may have a long-term beneficial impact on access to the boat ramp from the ocean, as the trestle and pier deck will not be used for jumping into the water in the area near the approach to the ramp.

4.2.2.2 *No Action Alternative*

The No Action Alternative would not impact current harbor navigation as there would be no new facilities or uses introduced at the pier or bay.

4.3 ARCHAEOLOGICAL AND HISTORIC RESOURCES

4.3.1 Affected Environment

4.3.1.1 *Archaeological Resources*

According to the *Hāna Harbor Final Development Plan* (State of Hawai‘i, 2011), very little archaeological work has been conducted in the Hāna area. Previous archaeological work conducted in the vicinity includes investigations by Walker (1931), Sochren (1963), Sterling (1969), Cordy (1970), Pearson (1970), Bevacqua (1972), Chapman and Kirch (1979), Landrum (1984), and Kolb (1991). The majority of these archaeological endeavors focused on Pi‘ilanihale *heiau*, which is located about four miles north of the project area. None of the previous archaeological work focused on the current Hāna Pier project area.

Ka‘uiki Head, located to the east of the Hāna Pier on the south side of the Hāna Bay entrance is the birthplace of Queen Ka‘ahumanu, considered the favorite wife of Kamehameha I. Ka‘uiki Head was one of the most fought-over pieces of territory in the Hawaiian Islands. It was especially hard-fought in 1765 when Kalaniopu‘u of Hawai‘i invaded East Maui, occupying Hāna and Kīpahulu. Later, in the Battle of Makaolehua, Maui warriors fighting for Kamehamehanui retook Hāna, but only reoccupied Ka‘uiki Head after a prolonged siege (State of Hawai‘i, 2011).

4.3.1.2 *Historic Properties*

A Reconnaissance Level Survey (RLS) of historic properties was undertaken by Mason Architects, Inc. to evaluate the historic significance¹ of Hāna Pier. The report is included as Appendix E. It includes a detailed history of the pier, which is summarized below.

History of Hāna Pier. Hāna Pier (historically referred to as “Hāna Wharf”) was constructed in 1921 by the Territory of Hawai‘i. The pier replaced an earlier landing located near the foot of Keawa Place, about 250 yards to the west. In this area, a series of landings, jetties, and pier had been in use since at least 1882 (Mason Architects, Inc., 2017). The original pier was 250 feet in length, and was extended east to a total of 339 feet in 1941. At that time, the double railroad track on the main pier was changed to a single track and extended to the new finished end of the pier. A toilet building was constructed and an existing warehouse was relocated to accommodate the railroad track.

When the pier was constructed in 1921, sugar had been grown commercially in Hāna for about 70 years. The Kaeleku Plantation Company was then the only plantation operating in the Hāna vicinity. Bagged sugar from the Kaeleku mill was transported to Hāna Pier via the plantation railway system. From the wharf, the bagged sugar would often be lightered to a waiting transport ship anchored a short way offshore. Between 1922 and 1945, all of Kaeleku Plantation Company’s bagged sugar was shipped out of Hāna Pier. It is estimated that about 5,000 tons of sugar was shipped in 1935 and between 7,000 and 7,500 tons during the years just prior to World War II.

In April 1946, a tsunami struck Hawai‘i, causing damage along the Hāna coast. The pier apparently received little damage, and the warehouse and toilet building remained intact. The pier was also used to ship livestock (cattle, horses, mules), but by the late 1950s, the only commodity passing over Hāna Wharf was liquid fuel.

¹ In this analysis, a property would be deemed to have historic significance if it were considered “eligible” for listing in the National Register of Historic Places.

When the pier was constructed in 1921, passenger service was provided by Matson Navigation Company, which operated three 2,500-ton ships that served the small sugar ports. Inter-Island Steam Navigation Company (Inter-Island) operated smaller vessels that called at 47 Hawaiian ports and landings, including Hāna. Inter-Island's smaller vessels were able to service the smaller ports and to land passengers and cargo directly on shore instead of relying on lighters. In 1925, the larger Matson Navigation Co. acquired controlling interest in Inter-Island. With the opening of the Hāna Highway in 1926, travelers and small cargo could be economically carried overland from Kahului. Hāna Wharf was increasingly relegated to shipping bulk goods only.

In the 1970s and late 1980s, the existing DOBOR concrete boat ramp and the fixed piers were added, both at the west side of the approach. The ramp is located near the base (south end) of the infilled approach with the fixed piers adjacent to it. In 2003, a concrete slab of the boat ramp was dislodged by strong surf and later placed back in position. Waves have also knocked holes in areas of the concrete deck of the pier and approach. In the early 1990s, the Hāna Pier (as it is now called) was closed to auto access with the installation of steel bollards, and then restricted from pedestrian access in the early 2000s. A metal fence consisting of vertical bars with pipe posts at the end of the infilled approach prevents vehicle and pedestrian access onto the pier. The fence was likely installed between 2002 and 2004.

Historical Significance. To qualify as eligible for listing on the National Register of Historic Places (NRHP), an historic property must meet at least one of the following four NRHP criteria:

- (a) *associated with events that have made a significant contribution to the broad patterns of our history; or*
- (b) *associated with the lives of persons significant in our past; or*
- (c) *embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
- (d) *have yielded, or may be likely to yield, information important in prehistory or history.*

A property must also retain its historic integrity and generally be at least 50 years old in order to be eligible for the NRHP. Integrity ensures that the property conveys its significance through its physical features. The NRHP's seven aspects of integrity are location, design, setting, materials, workmanship, feeling, and association.

Findings from the RLS indicate that Hāna Pier is eligible under Criterion A for its association with the economic growth of Hāna. The pier served as the only shipping point for local sugar from the Kaeleku Plantation Co. from 1921 until 1947 when the plantation closed. In addition, until the 1926 construction of the Hāna Highway, shipping by means of the pier was the source of most all of the goods consumed in Hāna. It also supported Hāna's personal transportation needs as it hosted weekly passenger service until 1929.

Members of the Hāna community are in the process of petitioning to have Hāna Pier listed on the Hawai'i Register of Historic Places.

4.3.2 Probable Impacts and Proposed Mitigation

4.3.2.1 Proposed Action

Archaeological Resources

No archaeological resources are expected to be encountered during project activities. The project will establish a shoreside equipment storage area, but it will not involve subsurface excavation that could impact archaeological resources that may be present. The proposed demolition of the Hāna Pier deck will not impact the historically important Ka'ūiki Head area. Unlike pile driving activities (that are not part of the proposed action), project activities such as saw-cutting are not expected to be significant sources of vibration that could affect surrounding geologic features such as Ka'ūiki Head.

Historic Properties

The RLS by Mason Architects, Inc. assessed whether the proposed project would have an adverse effect on the historic Hāna Pier, a NRHP-eligible property. Criteria of adverse effect, as defined by the Advisory Council on Historic Preservation, are as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR 800.5(a)(1)).

The proposed action is the removal of the concrete pier deck and pile caps with the retention of existing concrete piles (approximately 146). The proposed action would have the direct impact of the physical destruction of a highly visible and sizable portion of an eligible property, which directly alters the characteristics that qualify the property for inclusion on the NRHP and substantially diminishes its integrity of design, materials and workmanship. Therefore, the proposed action would have an adverse effect on a historic property.

The project would impact the historic character of Hāna. Although Hāna is not recognized as a separate historic district, it is a community that is tuned in to its cultural and historic identity with several individual structures listed on the NRHP. The demolition of the deck and superstructure of Hāna Pier, which contributes to the historic character of Hāna as a whole, would adversely affect Hāna's sense of place.

Proposed Mitigation

To mitigate the adverse effects of the proposed action on historic properties, Historic American Engineering Record (HAER) documentation of the pier is proposed. The appropriate level of documentation would be determined by the SHPD in consultation with the National Park Service (NPS) and carried out by DOT-H. DOT-H has initiated consultation with SHPD (see correspondence in Appendix E).

4.3.2.2 No Action Alternative

The No Action Alternative would not impact archaeological resources or historic properties; there would be no alteration of Hāna Pier and no ground-disturbing activities.

4.4 CULTURAL RESOURCES AND PRACTICES

4.4.1 Affected Environment

Cultural Impact Assessment Purpose and Methodology. Article XII, Section 7 of the Hawai'i State Constitution (as amended) addresses traditional and customary rights, and states: "The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua'a* tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights." HRS Chapter 343 requires disclosure of the effects of a proposed action on the cultural practices of the community and State.

A Cultural Impact Assessment (CIA) was conducted by Kaimipono Consulting Services, LLC ("Kaimipono") to gather information about traditional cultural practices, ethnic cultural practices, and pre-historic and historic cultural resources that may be affected by the implementation of the proposed project (see Appendix F). The CIA was prepared in accordance with the State of Hawai'i Environmental Council's *Guidelines for Assessing Cultural Impacts* (adopted on November 19, 1997). The effort included ethnographic research (oral histories) and an archival cultural/historical literature review.

Ethnographic interviews with 10 individuals were initially held in 2013 and focused on the impacts of the original proposal to repair and improve Hāna Pier and make it available for both emergency and commercial use (per DOT-H's mission). As explained in Section 2.2 Location and Background, DOT-H subsequently changed the project to removal of the deteriorated pier superstructure without replacement, based primarily on public concerns regarding commercial use of the pier. A second round of ethnographic interviews was held in 2016 to address the current pier deck removal project. The original 2013 interviewees were invited to participate in the 2016 interviews and three individuals were able to participate. Both rounds of interviews are summarized in the CIA report (Appendix F).

Location. Hāna Pier is located in the district of Hāna on the eastern coast of the island of Maui, in the *ahupua'a* of Wananalua, in the town of Hāna on State Highway 360, better known as Hāna Highway, in the southeastern section of Hāna Bay (Kapueokahi). The District of Hāna or East Maui, is made up of five *moku'āina* or *okana* (Kahikinui, Kaupō, Kīpahulu, Hāna, and Ko'olau) each radiating from a large rock called Palaha (see Figure 1 of Appendix F), on the northeast brim of the crater of Haleakalā (Alexander, 1891 in Kaimipono, 2017).

Pre- and Post-Contact Use of the Project Area. According to the literature, in pre-contact times, the Hāna District was well known and sought after for its abundant resources, food crops, and products from different ecological zones. The rich marine resources of Hāna Bay, including an abundance of fish, *limu*, crab and *'opihi*, would have more than supplemented the seasonal crops. Many stories, or *mo'olelo* that were passed down through the centuries speak of these abundant resources, and also of the "gods" (*akua*), and of many battles fought by the people of Hāna to protect their sacred places, resources and lifestyle. After contact with foreigners, a variety of diseases, such as smallpox and measles, decimated large populations within the Hāna District. Western values, systems, and technologies influenced warfare, political regimes, and traditional lifestyles. Subsistence crops growing in *kula* (upland) areas were replaced by monocrops such as sugar cane. Western missionary stations, churches, and schools were

established. These shifts in land tenure and use adversely affected traditional places of worship, access to resources and fishing grounds, and subsistence lifestyle, with modern facilities (such as Hāna Pier) and immigration by various ethnic groups introduced to support the growing sugar plantations. The end of the sugar era in Hāna in the mid-1900s precipitated a shift in Hāna from a plantation town to the beginning of the cattle ranching/tourist industry. Throughout the changes, the Hāna community has been able to retain a lifestyle that includes traditional cultural practices of their ancestors, though on a smaller scale. They complement their modern western lifestyle with hunting, fishing, and gathering practices and some home gardens.

The ethnographic interviews described below—along with anecdotal community comments provided in public meetings and the EIS preparation process—reinforce the understanding of the role Hāna Pier plays in cultural practices customarily and traditionally exercised for subsistence, cultural, or religious purposes.

Ethnographic surveys. The data obtained from the CIA’s ethnographic surveys (oral history interviews) were essential in determining if the proposed undertaking would impact cultural properties and practices. Ten participants were originally interviewed in 2013 because of their specific connection(s) to the project area, including cultural fishing practices, cultural gathering practices, and boating in the bay. They were identified on the basis of recommendations by other cultural resource people and their ties to and knowledge of the project area. Interviewees were asked about their personal and family background, Hawaiian connection (if any); knowledge or memories of the lands of Wananalua or Hāna Pier; their knowledge of legends/songs/chants associated with the area; past or ongoing cultural activities; and cultural sites. As noted above, the 2013 interviews focused on the previous proposal to repair the pier and make it available for commercial use and the 2016 follow-up interviews addressed the current pier deck removal project. Summaries of all interviews are included in the CIA in Appendix F. Specific comments, memories, and historical information provided by the participants were organized into five research categories or themes for subsequent determinations on impacts to cultural resources and/or practices (including access): ***land resources and use, water resources and use, marine resources and use, cultural resources and use,*** and ***cultural properties and practices.*** The following are brief summaries of participants’ input within these general themes, with specific focus on the Hāna Pier area.

Land resources and use. The Hāna Bay area was, and continues to be, a place for cultural practices and recreation, although historically there were industrial facilities such as warehouses and fuel storage facilities in the area. The pier itself supported the transport of sugar cane, and later cattle, out of Hāna. More recently, it has been a place for fishing and a swimming/snorkeling area. Other notable landmarks in the area are the large boulders adjacent to the boat ramp, Ka’uiki Head and trail, *akule* lookout points, and Pu’uki’i (Lighthouse) Island.

Water resources and use. Although Ka’uiki was known to have a fresh water source, the interviewees focused on the bay and pier area (i.e., not fresh water).

Marine resources and use. The ocean is an important community resource, providing access for fishing and gathering. Wananalua Ahupua’a was part of a coastal settlement, where the ancient inhabitants fished and gathered at Hāna Bay and the nearby islets. They were also connected to the area surrounding the bay, Ka’uiki Head, and *mauka* lands mentioned in legends. The fishing, gathering, and recreational activities at Hāna Bay, and around the pier in particular, have continued with the current population of Hāna, as expressed by the interviewees. Fishing and gathering activities include net, spear, and pole fishing, launching fishing boats from boat and sand ramps, crabbing, and *limu* and *’opihi* gathering. Recreational activities include swimming, canoe paddling, jumping off the pier, surfing, snorkeling, and other ocean sports.

Cultural resources and use and cultural properties and practices. These categories represent traditional Hawaiian cultural resources and practices (including pre- and post-contact era practices) and other ethnic resources and practices. Cultural resources can be the traditional *wahi pana* (sacred places), any cultural gathering place, or any tangible remains of the ancient past. The majority of the ethnographic consultants considered fishing and gathering (which are addressed in the previous section) to be cultural practices. Additional cultural resources and practices are described here.

Pu'u Ka'uiki (i.e., Ka'uiki Head) is considered significant to Maui's traditional history as the *wahi pana* of the gods Maui and his mother Hina, the ancestral homeland of Maui's royal family (identified in the CIA as the "Pi'ilani Line" although it precedes Pi'ilani by several generations), and for its role in important battles. A cave at the northern base of Ka'uiki Head is the birthplace of Queen Ka'ahumanu. Although it is no longer easily accessible by land, Queen Ka'ahumanu's birthplace remains the focus of the Ka'ahumanu Society's ceremonies held in her honor. These ceremonies were held on Hāna Pier (which afforded a view of the cave) prior to its condemnation and are now held at the end of Keawa Place, at a point nearest the cave. Other cultural practices with specific ties to Hāna Bay and/or Hāna Pier include canoe paddling and racing, pole fishing for children, and fishing tournaments.

4.4.2 Probable Impacts and Proposed Mitigation

(Note: At the time the CIA was initiated, the proposed project was to repair and improve Hāna Pier. As such, many of the comments expressed and recorded in the 2013 interviews focused on possible adverse impacts to Hāna's rural lifestyle if the pier were improved and used by commercial vessels as would be required by DOT-H's mission. Concerns were expressed about an increase in the number of "outsiders" coming to Hāna. Since that time, the DOT-H modified its Hāna Pier project to eliminate pier reconstruction. The current project proposes demolition of the existing substandard superstructure, but no new construction. The 2016 follow up interviews focused on impacts of the current pier deck removal project.)

4.4.2.1 Proposed Action

Probable Impacts

The CIA results indicate that Hāna Pier plays a role in ongoing cultural practices in the community. Interviewees identified several potential demolition period and long-term impacts to identified traditional cultural resources and practices. The interviewees also identified potential impacts unrelated to traditional cultural resources and practices, but that were perceived to affect their community's interests. They are listed below, followed by a discussion of project conditions and BMPs addressing each impact.

Potential demolition period impacts:

- Water quality and noise impacts on Hāna Bay marine biological resources (including the *akule* fishery)
- Demolition debris washing ashore
- Loss of access to the boat ramp
- Access to the bay for fishing, gathering and recreation
- Impacts to Ka'uiki Head (landslides and damage to the trail due to demolition activities)

Discussion: As described in Section 3.6 Marine Water Quality and 3.7 Marine Biological Resources, the proposed action will have localized and temporary impacts to water quality, coral resources, protected

species, and subsistence fisheries (e.g., *akule*). In-water work during *akule* spawning periods may result in temporary displacement of large schools, which could lead to temporary declines in *akule* catches. The impact is expected to be limited to in-water work periods (total of approximately three months). Project BMPs, such as turbidity barriers, will avoid, minimize, or restrict resuspended sediments in the water column to the area immediately around the work area and prevent demolition debris entering the water and affecting marine waters and shoreline areas. A site-specific BMP-plan will be developed in consultation with federal and state resource agencies to avoid or minimize demolition period impacts to water quality and marine resources.

The demolition contractor will not be allowed to have equipment or vessels block access to the DLNR DOBOR boat ramp during project activities. Fishing and other small boats will be able to use the ramp and associated loading docks during the demolition period. For safety reasons, the immediate work area would not be available for public use; any necessary notice to mariners and navigational markings will be coordinated with USCG and implemented as required.

As described in Section 4.5 Noise, the specific construction equipment anticipated to be used in the proposed demolition activities are not expected to produce substantial amounts of vibration, and do not usually result in adverse effects on people or structures. Noise, rather than vibration, is likely to be more noticeable during project activities. The project does not include pile driving or blasting that would have greater potential for vibration impacts on surrounding uses and features.

Potential long-term impacts:

- Loss of structure used for fishing and recreation
- Improved conditions for marine resources and vegetation due to more light penetrating the water column
- Loss of line of sight access to Queen Ka’ahumanu’s birthplace for cultural ceremonies
- Navigational hazards of the remaining pier structural piles

Discussion. The removal of the pier deck will not change the current allowable uses of the pier; it is currently condemned and restricted from public access. In spite of its official restriction from public use, members of the community continue to access it for recreation and fishing and its removal will adversely affect current cultural practices.

As described in Section 3.7 Marine Biological Resources, in the long term, the proposed action would (through the elimination of shading caused by the pier structure) enhance the marine food chain and fish diets, leading to long-term beneficial impacts on *akule* schooling, spawning, and migration behaviors in the bay. This could lead to improved *akule* catches by the community in the long-term. Cultural protocols related to Queen Ka’ahumanu’s birthplace are currently not held on Hāna Pier and the proposed action would not alter this. Navigational markings and notices to mariners will be implemented as required by the USCG to reduce boating hazards that could be caused by the remaining piles.

Potential, non-cultural impacts that the interviewees thought may result from the proposed action (includes interviewee mitigation recommendations):

- Loss of protection of the boat ramp from large waves or storm surge
 - Interviewee recommendation: Build breakwater to protect boat ramp and serve community’s cultural practices (fishing, recreation)

- Interviewee recommendation: Dispose of demolition debris in place (in the water) to serve as wave protection for boat ramp and artificial reef for marine biotic community
- Loss of historic structure and visual landmark

Discussion. As described in Section 3.3 Coastal Conditions, removal of the pier superstructure and pile caps would have minor effects on coastal conditions because the majority of the time, waves pass under the pier superstructure without contact with the deck. During storm conditions when storm surge, high tide, and waves are high enough to reach the superstructure, the majority of wave energy would still pass under the pier because only the top of the wave would be impeded by the superstructure. In these conditions, it is unlikely that boats would be launched from the adjacent boat ramp into the bay and the removal of the pier deck would not impact boat launching safety. If the estimated 800 cubic yards of demolition debris were to be disposed of in place over the footprint of the existing pier (as suggested by an interviewee), it would decrease the water depth by an average of 1.2 feet. This would have minimal impact on the wave climate, especially at the seaward end of the pier. In addition, the size of the debris (i.e., broken pieces of concrete) would not likely be large enough to prevent displacement by the wave energy from larger waves, and could be moved to the leeward side of the pier and potentially obstruct the end of the boat ramp. Because the pier superstructure does not currently serve as a breakwater for the boat ramp, the suggestion to dispose of the demolition debris into harbor waters to serve as a wave protective device is not related to the cultural impacts of the proposed action, and outside the scope of this EIS.

The removal of the pier superstructure would have an adverse effect on a historic property (see discussion in Section 4.3 Archaeological and Historic Resources). The removal of the pier superstructure will have an adverse impact on visual resources (see Section 4.6 Scenic and Visual Resources).

Proposed Mitigation

Proposed mitigation for demolition period and long-term impacts include:

- Implement demolition period BMPs to avoid and minimize temporary water quality and marine biological resource impacts (to be determined in consultation with federal and state resource agencies)
- Maintain access to DLNR DOBOR boat ramp during project activities to support subsistence fishers
- Monitor northwest face of Ka'uiki Head during project activities for impacts associated with ground vibration
- Ensure boulders flanking boat ramp are not affected by project activities
- Communicate project schedule and activities with community and fishermen prior to commencement
- Implement necessary navigational markings, navigation chart revisions, and notices to mariners, as required by the USCG
- Conduct HAER documentation of pier in consultation with SHPD (including photo documentation)
- Make the CIA document available for scholars, researchers and the Hāna community, as it provides comprehensive information on Hāna's history, historical and traditional (cultural) literature, a comprehensive history of Hāna Pier, and the results of ethnographic oral history interviews

4.4.2.2 No Action Alternative

The No Action Alternative would have minimal impacts to cultural resources and practices. Although the pier would remain in place without improvements, the structure would continue to deteriorate, becoming less safe for the unauthorized uses (including those related to cultural practices) that occur. Under the No Action Alternative, secondary beneficial impacts to the marine environment (including the *akule* fishery) that would result from removing the shading effects of the pier deck would not be realized.

4.5 NOISE

4.5.1 Affected Environment

An environmental noise assessment was prepared for the project by D.L. Adams Associates, Ltd. (D.L. Adams, 2016), and is included as Appendix B. The study measured ambient noise levels in the project vicinity and estimated anticipated noise levels at various receptor locations during demolition activities.

The project is located near several noise sensitive land uses: Hāna Beach Park, a popular recreational area; Helene Hall, a local community meeting facility; and a snack concession at Helene Hall. There are private residences to the west of the project site at the corner of Uakea Road and Keawa Place adjacent to the beach park. The Travaasa Hāna Hotel and The Spa at Travaasa Hāna are both located to the southwest and uphill from the project area. See Figure 4-1 for locations of these land uses.

Ambient noise level measurements were conducted at two locations on Keawa Place in the vicinity of the proposed project site (see Figure 4-1 for locations of sound level meters; Location L1 was adjacent to Helene Hall and Location L2 was near a picnic area at the western edge of Hāna Beach Park). Long-term measurements (taken continuously over multiple days) were taken to establish a baseline of existing ambient noise levels in the area. The ambient noise levels near the existing pier are typical of an oceanside park environment and vary with the time of day based on environment noise sources, such as surf and wind noise, and to a lesser extent, vehicle traffic volumes and noise from the park users at the beach and in the parking lot. Daytime noise levels measured at the project site ranged from 54 A-weighted² decibels (dBA) to 76 dBA and nighttime levels range from 53 dBA to 64 dBA. The average day-night level, Ldn, on the project site was found to be 62 dBA near Helene Hall and 67 dBA near the beach park entrance and parking lot (see Figure A-1 in Appendix B for chart of common outdoor/indoor sound levels for comparison).

4.5.2 Probable Impacts and Proposed Mitigation

4.5.2.1 Proposed Action

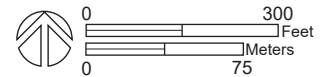
Demolition activities will produce noise that is audible in the surrounding areas but is not expected to create significant impacts due to its short-term duration. Transportation-related noise is likely to be minimal and of brief duration. Adverse vibration impacts are unlikely due to the types of construction equipment anticipated for use in the proposed action. After project completion, no long-term noise impacts are expected.

² Because humans are generally more sensitive to certain higher frequency (e.g., speech, horns, whistles) sounds than most lower frequency sounds (e.g., motors and engines) at the same level, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations (D.L. Adams, 2016).



Legend

- Pier Demolition Activities Boundary
 - L1 / R1 Meter L1/Receiver R1 Location
 - L2 / R2 Meter L2/Receiver R2 Location
 - R3 Receiver R3 Location
- R4 Receiver R4 Location
 - R5 Receiver R5 Location
 - R6 Receiver R6 Location
 - R7 Receiver R7 Location



Sources: World View 2 2015
D.L. Adams Associates,
Dec. 2016

Noise Measurement and Receiver Locations

Hāna Pier Deck Removal Environmental Impact Statement
Hāna, Maui, Hawai'i

Figure 4-1

Demolition-Related Noise

The demolition activities may cause insignificant, short-term impacts at the closest receiver locations. An environmental noise model was created that incorporated the existing ambient noise level measurement data described in the previous section along with predicted equipment noise levels to create a predicted future noise level that is expected during demolition activities. The demolition of Hāna Pier will utilize various types of construction equipment, including water-based barge-mounted equipment, pneumatic hammers, concrete saws and heavy equipment such as cranes, barges and tug boats. The equipment types that are anticipated to be used for the project are listed below. (Note: Anticipated equipment types are based on the project description provided by Moffat and Nichol and represent typical equipment for the project type. Actual equipment and methods used by the contractor may vary.)

- Crane
- Concrete Saw
- Welder/Cutting Torch
- Generator
- Air Compressor
- Air Hammer
- Drill/Motors greater than 5 horsepower

Construction (demolition) noise was estimated using noise prediction software that takes into consideration site topography and sound sources. Noise modeling software was used to calculate hourly daytime and maximum construction noise levels for various noise receptor sites and the results are summarized in Table 4-1. The receptor site locations are shown in Figure 4-1 and include Helene Hall (R1), Hāna Beach Park (R2 and R3), Akule Hale (R4), The Spa at Travaasa Hāna (R5), Travaasa Hāna Hotel (R6), and residences along the *makai* side of Uakea Road (R7).

Although worst case conditions were assumed to occur when all equipment are operating simultaneously and in close proximity, in reality, construction equipment will likely not operate simultaneously for extended periods of time and noise will be more dispersed. Maximum sound levels were calculated based on the expected noise levels of the operation of the concrete saw (the loudest expected piece of equipment). Tug and barge operations are not expected to significantly contribute to overall noise levels because of their limited active operating times compared to the majority of the demolition equipment. Therefore, only the typical construction equipment expected to be operated on a frequent basis were considered in the noise model. The sound levels represent impacts before any mitigation measures or shielding provided by buildings.

Table 4-1 Construction Noise Analysis Results

ID	Noise Receptor	Approx. Distance ^{N1} (ft)	Existing Ambient Noise ^{N2} (dBA)	Maximum Predicted Construction Noise per Stage ^{N3} (L _{max} dBA)		Worst Case Hourly Equivalent Predicted Construction Noise per Stage ^{N4} (Leq dBA) ³		FTA Construction Noise Impact Threshold (dBA)
				Northeast (NE) End	Southwest (SW) End	NE End	SW End	
R1	Helene Hall	580	60	63	67	61	65	Residential: 80 Commercial: 85
R2	Hāna Beach Park (Farthest from construction)	720	61	62	65	60	63	
R3	Hāna Beach Park (Nearest to construction)	383	N/A	65	70	63	68	
R4	Akule Hale	775	N/A	61	64	59	62	
R5	The Spa at Travaasa Hana	875	N/A	60	63	58	61	
R6	Travaasa Hāna Hotel	1050	N/A	59	62	57	60	
R7	4991 Uakea Road	850	N/A	61	64	59	62	

Notes:

- N1. All distances are taken from the closest point on the pier to the receiver location.
- N2. Existing ambient noise is the average Leq measured at the project site for receptors R1 and R2 based on data collected from the measurements. Ambient noise measurements were not conducted at or near noise receptors R3-R7. It is assumed that ambient noise levels at these locations will be similar or slightly less than R1 and R2 based on proximity to roadways and the shoreline.
- N3. The maximum construction noise levels are represented as L_{max}. The predicted L_{max} is the worst-case noise level that a receptor is expected to be exposed when the loudest construction operations take place, which is expected to be from the operation of the concrete saw.
- N4. The predicted hourly construction noise levels are represented as Leq and take into account the usage factor of each piece of equipment. These levels can be compared to the Federal Transit Administration (FTA) Construction Noise Impact Threshold to determine an impact.

The noise analysis indicated that construction noise levels at all receptors will be well below the Federal Transit Administration (FTA)⁴ noise impact threshold of 80 dBA for residential land uses and 85 dBA for commercial land uses. Nevertheless, construction noise levels will exceed the existing ambient noise level at the receptor locations closest to the site by up to 7 dBA at sites near Helene Hall and potentially higher at the areas of the beach park shore in the immediate vicinity of the pier (D.L. Adams, 2016).

Intermittent construction noises are expected to be audible especially during the use of the concrete saws and pneumatic hammers. The maximum noise levels (L_{max}) expected during any single demolition operation, are expected to be approximately 2 dB higher than the worst case hourly Leq levels. During times of maximum noise, people may need to raise their voice or reduce the talker-to-listener distance in order to communicate effectively when in locations close to the pier. Construction noise level averages are expected to be similar in level to the existing average ambient noise level at the closest residences on Uakea Road for the demolition of the pier sections that are the furthest away, and increase 2-3 dB during the demolition of the closest sections of the pier. The study noted that although noise disruption would occur over the duration of the project, the impact would be minor and of a short-term duration.

³ The Equivalent Sound Level (Leq) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual instantaneous noise levels typically fluctuate above and below the measured Leq during the measurement period. The A-weighted Leq is a common index for measuring environmental noise.

⁴ Although Hāna Pier construction activities are not associated with mass transit, the criteria developed by the FTA was used as a relevant guideline for assessing construction noise (D.L. Adams, 2016).

Construction noise from demolition of the pier must comply with the State of Hawai'i DOH Community Noise Control Rule (HAR 11-46), which stipulates maximum permissible noise limits at the property line. Noise levels during construction are expected to exceed these maximum permissible limits, and a permit must be obtained from the DOH to allow operation of construction equipment. Operation of construction equipment will be limited to daylight hours, as required by the permit.

Noise mitigation for project activities should be addressed using good management practices to control the noise source. Source control methods include scheduling, equipment selection, retrofitting equipment with mufflers or enclosures, and regular maintenance of equipment. Path control measures include temporary noise barriers during activities located close to the property line.

Transportation-Related Noise

Trucks transporting demolition material from the project site are another potential source of noise. Traffic-related noise could increase adjacent to roadways leading from the pier to Hāna Highway, including the residences along Keawa Place. Because of the volumes and relative cost, demolition debris is likely to be transported by barge to off-site disposal or recycling facilities rather than hauled via Hāna Highway. Therefore, because project-related traffic volumes are expected to be low on an hourly and daily basis, its overall impact is not expected to be significant.

Vibration

Construction activities may generate varying degrees of ground vibration, which will depend on the equipment and methods used. The specific construction equipment anticipated to be used in the proposed demolition work do not usually result in adverse effects on people or structures. Unlike if pile driving activities were involved, the planned demolition activities should not produce substantial amounts of vibration. Air hammering is the greatest source of vibration associated with the demolition of the pier superstructure. However, these impact activities will be located a significant distance away from the nearest receiver. During pier demolition, noise from the construction equipment will likely be more noticeable than any perceived vibration. Furthermore, any ground vibration from demolition activities would be temporary (D.L. Adams, 2016).

4.5.2.2 No Action Alternative

Under the No Action Alternative, there would be no short-term demolition period noise impacts as no deconstruction activities would take place. As with the Proposed Action, the No Action Alternative would have no long-term noise impacts.

4.6 SCENIC AND VISUAL RESOURCES

4.6.1 Affected Environment

The visual environment in the vicinity of Hāna Pier is dominated by natural features such as the waters and shoreline of Hāna Bay with the Pacific Ocean beyond to the north and east, and Pu'uki'i Island and Ka'uiki Hill to the east and south. To the west, upland agricultural areas can be viewed against the backdrop of the upper slopes of Haleakalā. The immediate vicinity of Hāna Pier is characterized by the open space of the County of Maui's Hāna Beach Park and associated low-density structures (e.g., County of Maui community meeting space and carry-out snack concession at Helene Hall). Scenic upland, shoreline, and ocean views are accessible from numerous locations within the greater Hāna area and contribute to residents' quality of life and cultural fabric, as well as to the area's appeal to visitors.

Beyond Hāna Town, Hāna Highway provides a wealth of scenic resources along its East Maui segment (e.g., ocean, forest, waterfall, valley, cliffs).

The Scenic Resources Inventory and Mapping Project (County of Maui, 2006) was prepared to support the Maui County General Plan 2030 update by identifying “scenic roadway corridors” based on an inventory and ranking of public views from major state and county roadways. The information will be utilized to develop General Plan policies and tools to better protect the island’s scenic resources for future generations. Near the project area, the 2006 Scenic Resources Inventory assessed Keawa Place, which was rated to have “high” resource value and thus classified as a “Scenic Resource Corridor.”

While the pier itself is not listed in the Maui Island Plan (County of Maui, 2012b) as a scenic resource to be protected, it is part of the vista accessible from Keawa Place, a “Scenic Resource Corridor.” For several decades since its use for commercial transportation ceased, Hāna Pier has played an important role in the community’s social, recreational and cultural activities. In this way, it has value as a visual resource within a natural setting of Hāna Bay as well as a visual landmark within the Hāna community.

4.6.2 Probable Impacts and Proposed Mitigation

4.6.2.1 *Proposed Action*

The project will remove the deck and pile caps of Hāna Pier and its approach trestle, and leave the supporting piles intact. As a result, about four feet of most piles will be visible above the waterline at low tide (about 1.5 feet above water at high tide). Figure 2-2 illustrates the sections of piles to be removed.

The proposed action will not have an adverse impact on scenic resources in the project vicinity and will not obstruct or alter a visual resource identified for protection in the General Plan 2030 Maui Scenic Resources Inventory (County of Maui, 2006) or the Hāna Community Plan (County of Maui, 1994), which generally discourage development that obstruct scenic *mauka-makai*, coastal views, and views of significant natural features. However, the removal of the pier superstructure will change an important component of the coastal and community landscape of Hāna, which may be considered an adverse impact on visual resources.

As noted in Section 4.3, Archaeological and Historic Resources, mitigation for the loss of the facility, in the form of Historic American Engineering Record (HAER) documentation of the pier (which includes photo documentation), is proposed.

4.6.2.2 *No Action Alternative*

The No Action Alternative would have no impacts to scenic and visual resources, as the existing pier superstructure would be retained.

4.7 UTILITIES AND INFRASTRUCTURE

4.7.1 Affected Environment

4.7.1.1 *Electrical*

Electrical power throughout Maui is produced and delivered by Maui Electric Company, Ltd. (MECO) through a network of generators, transformers, switches, and power lines. MECO owns and operates two

generating stations and a distributed generation site on Maui. The transmission grid serving Hāna originates from the Kahului power plant, around the base of Haleakalā, then through Pā'ia to Hāna (State of Hawai'i, 2011). The Hāna Substation No. 41 has two diesel units totaling 1.94 megawatts of capacity, which serve the community primarily during transmission maintenance and system disturbance (MECO 2014).

4.7.1.2 *Water*

Potable water is provided to Hāna by the Maui County Department of Water Supply (DWS), Hāna Water Resources, and Hāna Water Company, with deep wells drawing from basal groundwater serving as the drinking water sources (State of Hawai'i, 2011). According to a comment letter dated October 27, 2016 from the DWS, water infrastructure in the area includes a 2.5-inch pipe within the project area, as well as a 3-inch valve within or near the project area.

4.7.1.3 *Wastewater*

There is no municipal wastewater collection system currently serving Hāna, including the project area; individual cesspools and septic tanks are used for wastewater management (County of Maui, 2012b).

4.7.1.4 *Solid Waste*

The County of Maui, Department of Environmental Management, Solid Waste Division, is responsible for solid waste management in the County. The department provides residential curbside pick-up in Hāna. As of 2009, the county served 249 of 670 homes in Hāna with one truck. Refuse was collected manually by the County's Highway Division staff. (Source: <http://www.co.maui.hi.us/DocumentCenter/Home/View/8722>)

Refuse from Hāna, as with most residential waste on Maui, is taken to the County's Central Maui Landfill in Pu'unene for disposal. The Central Maui Landfill accommodates residential and commercial waste, construction waste, motor oil recycling, and greenwaste. It also includes a recycling center. The Central Maui Landfill is projected to reach capacity in 2026, and the County is presently negotiating for the purchase of additional property.

There is also a landfill located at Waikoloa Road, off Hāna Highway (Highway 360). The Hāna Landfill and Refuse and Recycling Center is located across Waikoloa Road from the old Hāna landfill (now closed). According to the County's 2009 Integrated Solid Waste Management Plan (ISWMP), the Hāna Landfill has much remaining space with capacity projected until year 2096. Because its capacity extends beyond the scope of the 2009 ISWMP, no landfill improvements were proposed.

The County's ISWMP set a goal to divert 60% of waste to recycling, composting, etc. to prolong landfill capacity. The goal includes use of a waste-to-energy facility. Even with this goal, some portion of the municipal solid waste stream will require landfill disposal. The current County strategy for Hāna, per the ISWMP, is to haul municipal solid waste from Hāna to the Central Maui Landfill, preserving the capacity of the Hāna Landfill indefinitely. This concept, known as "Standby with Permit," involves keeping a landfill's solid waste permit open but not actively disposing municipal solid waste on site. The advantage is that the County retains the ability to use the Hāna Landfill for short-term storage as needed in the future, without having to renew the facility's operating permit. Under this scenario, the Hāna Landfill would be managed to maintain compliance with DOH regulations. The landfill would periodically accept inert and other selected materials. The key long term function of the Hāna Landfill would be to provide short-term storage and ultimate disposal for debris generated by storms and other natural disasters.

The use of the Central Maui Landfill to accommodate Hāna’s solid waste frees up Hāna Landfill employees to operate a refuse and recycling center, in support of the County’s diversion goal. This convenience center was established in 2012 and recycles newspaper, cardboard, aluminum, bi-metals, and some plastics. Several times a year, the convenience center also accepts appliances, tires, batteries, electronics and scrap metal.

Finally, the use of the Central Maui Landfill alleviates the County’s problem in finding landfill cover material. The Hāna Landfill has a limited supply of dirt to use for cover material. Currently, the County takes dirt from a nearby cinder cone, but it has no long-term agreement and access to this material can be stopped at any time.

4.7.2 Probable Impacts and Proposed Mitigation

4.7.2.1 *Proposed Action*

The project will not have long-term impacts on electrical, water, or wastewater systems as it does not involve new uses that would generate demand for these facilities or utilities. Project activities are not anticipated to impact existing electrical or potable water infrastructure near the project area, as only the pier superstructure will be removed and no subsurface work is planned. There would be short-term solid waste impacts, as approximately 800 cubic yards of concrete debris would be generated from the demolition. This will be the responsibility of the contractor to dispose of. It is likely that the demolition debris would be disposed of at a concrete recycling facility on Kaua’i or O’ahu. The debris may also be disposed of at the Central Maui Landfill, which accepts construction and demolition debris. Truck transport from Hāna is unlikely due to the condition and limitations of the road to Kahului. If recycled off-island, the demolition debris would be transported to a commercial port where the debris would be offloaded to trucks for transport to the recycling facility. If disposed of at the Central Maui Landfill, the debris would be transported by barge to Kahului Harbor, offloaded to trucks, and transported to the landfill. If possible, concrete demolition debris would be recycled and reused on-island. Prior to disposal or reuse, demolition waste will be tested in accordance with state and federal regulations. Hazardous waste issues are not anticipated. However, if the results of the Toxicity Characteristic Leaching Procedure testing exceed regulatory limits, the debris will be disposed at an approved hazardous waste disposal facility.

In the long-term, the project will not impact public utilities or infrastructure, as no new activities that result in increased demand for utilities will result from removing the pier superstructure.

4.7.2.2 *No Action Alternative*

The No Action Alternative would not impact public utilities or infrastructure serving the area as it would not result in changes to demand, transmission, or sources.

4.8 TRANSPORTATION FACILITIES

4.8.1 Affected Environment

4.8.1.1 *Hāna Harbor*

Hāna Harbor (also known as Hāna Bay) is under the jurisdiction of DOT-H, with the exception of the small boat ramp and loading docks adjacent to Hāna Pier, which are under the jurisdiction and administrative

authority of DLNR DOBOR (see Figure 1-6). Small boats are launched from the DOBOR boat ramp and kayaks and canoes are also launched from the bay's two sandy beaches.

During its early history, Hāna Pier served primarily as a transportation facility. As discussed in Section 4.3, the pier was constructed in 1921 and was the only shipping point for local sugar from the Kaeleku Plantation Co. from 1921 until 1947 when the plantation closed down. Until the construction of the Hāna Highway in 1926, shipping by means of the pier was the source of most of the goods consumed in Hāna. The pier also supported Hāna's personal transportation needs as it hosted weekly passenger service until 1929. Even prior to construction of the pier in 1921, the bay was used for water transportation, and included a series of landings, jetties, and pier since at least 1882 (Mason Architects, Inc., 2017). The pier is currently not used for ocean transportation to or from Hāna.

4.8.1.2 Roadways

Hāna Highway (State Highways 360 and 330) connects Central and East Maui from the north and serves as the main roadway providing access to Hāna from Kahului. It is a four lane major arterial in its Kahului segment, with posted speeds of 45 to 55 miles per hour (mph). It transitions to two lanes, with correspondingly lower posted speeds, eventually becoming 10 to 35 mph in the rural, mountainous segments east of Haiku.

According to DOT Highways data for 2003, Hāna Highway carried about 1,740 vehicles per day in the segment east of Kailua Bridge, which is located approximately 16 miles northwest of Hāna Pier. Keawa Place is a two-lane State roadway facility that provides access from Hāna Highway to Hāna Beach Park and Hāna Pier.

Maui County maintains the eastern segment of State Route 31 (Pi'ilani Highway), which connects Route 37 near Kula to Highway 360 south of Hāna, through the communities of Kīpahulu and Kaupo. Much of this roadway is narrow and winding, with blind curves and unpaved sections. It is generally off-limits to rental cars.

4.8.1.3 Airport

Hāna is served by the Hāna Airport, owned and operated by the State of Hawai'i Department of Transportation Airports Division, and managed by the Maui District Airports. The airport is served by commuter airlines and unscheduled air taxi, and supports general aviation activities. The airport is located on 119 acres about three miles northwest of the town of Hāna. It has a single 3,603-foot long runway with passenger terminal and general aviation and airport support facilities located south of the runway.

4.8.2 Probable Impacts and Proposed Mitigation

4.8.2.1 Proposed Action

The project will have insignificant impacts to transportation facilities serving Hāna, both during the demolition period and in the long-term.

Demolition Period Impacts

Hāna Harbor. Prior to project activities, large construction-related vehicles and equipment will likely be transported to the project site by barge due to the limitations of Hāna Highway. Most the equipment and tools will be staged and stored at the project site throughout the duration of the project. Service and

storage barges would be tied up alongside the crane barge while in use. If not in use, they may be anchored off shore or transported off site until needed. Small work trucks are more likely to use Hāna Highway.

Project vessels and floating equipment will not be allowed to obstruct the waterside approach to the DLNR DOBOR small boat ramp, although boats using the ramp will need to maneuver around the equipment. All project in-water activities will be coordinated with the USCG to promote safe navigation around the project area.

Roadways. The demolition component of the project will require an estimated construction crew of 6-8 workers daily, with the possible addition of 2 to 4 workers for specialized operations such as wire sawing and pile cutting. Even if all the workers commute to Hāna daily from other parts of the island, they would generate insignificant volumes of additional traffic along Hāna Highway in the morning and afternoon.

Throughout the demolition period, demolition debris will need to be disposed of offsite. Although some material may be recycled locally, the majority will likely be transported to off-island recycling facilities or to the Central Maui Landfill. The distance to the landfill by land, combined with Hāna Highway's winding configuration and bridge load restrictions, will limit the viability of truck transport, making transport by barge the likely option. The unlikely scenario of ground transportation of the demolition debris by truck would impact traffic along this existing two-lane road. To the extent possible, any transport of demolition debris via Hāna Highway will be done during off-peak hours when traffic volumes are low. If the project causes additional traffic congestion to the State Highway System, the project shall take appropriate traffic control actions, which will be reviewed and approved by DOT Highways Division.

Airport. Because of the relative cost and limited capacity of airplanes that use Hāna Airport, it is unlikely that project-related personnel, equipment, or materials would be transported by air to or from the project site. Therefore, the project is unlikely to impact Hāna's air transportation facilities or services.

Long-Term Impacts

Over the long term, the removal of the Hāna Pier will not have an impact on road, air or harbor transportation. Originally constructed for the shipment of sugar, the pier was used for shipment of bulk goods and for passenger service through the first half of the 20th century. By 1947, the sugar plantation had closed, passenger service was terminated, and Hāna Highway became the primary route for importing goods to Hāna. Because Hāna Pier has not had a significant transportation function for many years, its loss will not impact the transportation sector.

Pursuant to Federal Aviation Agency Order 5090.6B (*Compatible Land Use and Air Space Protection*), DOT Airports Division discourages land uses within five miles of airport boundaries that may attract wildlife that could be hazardous to airport operations, as well as land uses that pose glint/glare hazards or aerial obstructions (e.g., photovoltaic/solar panels, utility poles and lines, wind turbines, exterior lighting, etc.). Hāna Pier is within five miles of Hāna Airport; however, the proposed action does not include any new facilities or uses that could attract wildlife hazardous to airport operations or land uses that pose glint/glare or aerial obstructions, and no mitigation is warranted.

4.8.2.2 No Action Alternative

The No Action Alternative would have no impact on Hāna's transportation facilities, as the current status of the pier (i.e., condemned with no public access or uses allowed) would continue.

4.9 RECREATIONAL FACILITIES

4.9.1 Affected Environment

Hāna Bay is an important recreational resource for local residents and visitors. Maui County Department of Parks and Recreation owns and maintains Hāna Beach Park, a 0.5-acre park located on the shores of Hāna Bay. It encompasses the grassy and black sand shoreline between Keawa Place and the waters of the bay, and includes amenities such as picnic tables, barbecue grills, pavilions, restrooms, shower and dressing facilities, and both marked and unmarked parking. As a sheltered embayment, Hāna Bay is a popular location for swimming, fishing, surfing, diving, kayaking, and outrigger canoe paddling. Located across Keawa Place, the County's Helene Hall is a community center available for public use with meeting rooms, an indoor stage, concession snack bar, and parking.

Despite its condemned and barricaded condition, Hāna Pier continues to be accessed by some local residents for fishing, swimming (jumping off into the water), and other informal recreational activities. Fishing occurs especially on the deeper, seaward side of the pier where more types of fish can be found.

The adjacent small boat ramp which is owned and controlled by DLNR DOBOR is used for launching boats and other watercraft for recreation and fishing (recreational, subsistence, and commercial). The DOBOR facilities are not part of this project. The boat ramp and loading dock were improved and made ADA-accessible in a 2010 improvement project. During community interviews for the Cultural Impact Assessment, several individuals mentioned ongoing safety concerns with the small boat ramp. Among the comments expressed is that the remodeled ramp is too steep, too narrow, and exacerbates an already hazardous surge problem (Kaimipono, 2017). DLNR DOBOR proposes a second phase of the project to correct this problem (see Chapter 6 for project summary).

There are small pocket beaches with red cinder sand around much of Ka'uiki Head. Tourists, in particular, can be seen trying to hike around the head, but the terrain is extremely steep and rugged. The coast on the ocean side is exposed to open ocean swell and trade wind waves, and is not safe.

4.9.2 Probable Impacts and Proposed Mitigation

4.9.2.1 *Proposed Action*

Demolition of the pier would eliminate an informal recreational resource that continues to be used by some members of the community, in spite of official prohibitions and posted safety warnings. Although not an authorized use, climbing onto and jumping off the pier has been a long-standing recreational activity, particularly among the youth of Hāna and tourists. This recreational activity would no longer be available; however, children jump off the DLNR DOBOR boat loading dock as an alternative to trespassing on the pier deck for this activity (see photos in Appendix F [Kaimipono, 2017]). To many community members who use or have used the pier for these informal recreation activities, the demolition of the pier would represent a loss of a recreational facility. No mitigation is proposed to replace the current unauthorized use of the pier for recreational purposes. The removal of the pier would not impact the recreational use of the DOBOR boat ramp or loading dock, or the launching of canoes and kayaks from shore. There would be no impact on recreational use of Hāna Beach Park.

4.9.2.2 *No Action Alternative*

Under the No Action Alternative, informal, unauthorized recreational uses of the pier would likely continue. However, continued deterioration of the pier would make recreational uses unlikely at some point in the future, as the public's perception of the pier's potential safety risks grow to outweigh the perceived benefits.

4.10 PUBLIC SERVICES AND FACILITIES

4.10.1 Affected Environment

4.10.1.1 *Police*

The Maui County Police Department administers police services and operates three police stations on the island, one of which is located in Hāna. According to the Maui Island Plan, the Hāna Police Station is projected to have adequate capacity to 2030 (County of Maui, 2012b).

4.10.1.2 *Fire*

Fire protection and rescue operations in Hāna are administered by the Maui County Department of Fire and Public Safety, which also provides emergency and non-emergency services. The Hāna Fire Station is one of ten fire stations on Maui, and located approximately one mile northwest of the project area.

4.10.1.3 *Medical Facilities*

There are two main hospital facilities on Maui: Maui Memorial Medical Center and Kula Hospital, neither of which is near the Hāna community. The community is served by the Hāna Health Clinic, a federally qualified health center which provides medical services to this underserved region. It is the only health care provider in the Hāna District, and services are provided to all regardless of ability to pay.

A full range of primary health care services are provided for all stages of life, including physical exams, acute care, chronic disease management, cancer screenings, well women and family planning services, laboratory and x-ray, pharmacy, and referrals for specialty care. Dental services are also provided. Hāna Health provides around the clock urgent care in partnership with American Medical Response and Maui Memorial Medical Center. Physicians are on-call 24 hours a day, 7 days a week, 365 days a year.

4.10.1.4 *Educational Facilities*

Hāna High and Elementary School, established in 1912, is a public school serving Hāna and includes Kindergarten through 12th grade. Enrollment in 2016 was 352 students, and there was excess capacity to accommodate any future growth to 2030 (State of Hawaii, 2011). The existing Hāna Library is 6,309 square feet and is integrated with the school.

4.10.2 Probable Impacts and Proposed Mitigation

4.10.2.1 *Proposed Action*

During pier demotion activities, there will be increases in noise, dust, and minor increases to local traffic. This may generate complaints to the Police Department. The project will comply with conditions of the DOH noise permit that is anticipated to be required. Vehicular traffic may need to be temporarily

redirected if large construction equipment is being brought to and from the site, or if demolition debris is trucked offsite; however, as noted in Sections 4.5 Noise and 4.8 Transportation Facilities, large equipment and demolition debris are likely to be transported to and from the site by barge. If using Hāna Highway, equipment and materials will be transported during non-peak hours. In the long term, there will be no impact on public services and facilities because the pier deck removal will not generate additional demand for police, fire, medical, or educational services and no mitigation is proposed.

4.10.2.2 *No Action Alternative*

The No Action Alternative would not significantly impact public services, although, as the pier continues to deteriorate, there would be an increased potential risk of injury to unauthorized users, which may require emergency medical services.

4.11 PUBLIC HEALTH AND SAFETY

Discussion of emergency services (i.e., police, fire, medical) for Hāna are discussed in Section 4.10 Public Services and Facilities; this section focuses on public safety issues related to the pier structure, and environmental health and safety risks to children⁵. This section considers activities, occurrences, or operations that have the potential to affect the safety, well-being, or health of members of the public, with the primary goal of identifying and preventing potential accidents or impacts on the general public.

4.11.1 Affected Environment

The compromised condition of the pier superstructure has been documented as far back as the early 1990s, and includes the period of time it was controlled by DLNR DOBOR. As described in Section 2.1.1 Purpose and Need, multiple engineering inspections and assessments over nearly 20 years concluded that the current pier superstructure is unsafe and that it poses potential liability risks to the State of Hawai'i if public access were allowed. Although no incidents of injury have been officially reported to DOT-H, in its current state, the pier poses a potential public safety hazard because unauthorized access and use continue in spite of warning signs and safety fencing. The most vulnerable to these potential safety hazards are children who are not under adult supervision when they trespass on the pier deck.

As described in Section 3.2 Soils and Marine Sediments, chemicals tested in the marine sediments in the vicinity of Hāna Pier were considered to be present in concentrations of no particular concern.

On occasion, sections of Hāna Highway (Highway 360) leading to Hāna have been closed or limited due to flooding, rock and mud slides, downed trees, or other obstructions caused by severe weather. Motor vehicle accidents on this two-lane roadway also cause lane closures and delays. The obstructions are generally resolved within several hours, although closures have extended longer depending on the severity of the damage. To the south and west of Hāna, an approximately 10-mile section of Pi'ilani Highway (Route 31) southwest of Hāna was closed for almost two years for emergency repairs after an October 2006 earthquake caused rockfalls, destabilized cliff faces, and weakened sections of the road. This roadway provides an alternative route from East Maui to South and Central Maui.

⁵ Environmental health and safety risks to children are defined as those that are attributable to products or substances a child is likely to come into contact with or ingest, such as air, food, water, soil, and products that children use or to which they are exposed (<https://www.epa.gov/laws-regulations/summary-executive-order-13045-protection-children-environmental-health-risks-and>).

4.11.2 Probable Impacts and Proposed Mitigation

4.11.2.1 *Proposed Action*

The proposed action will have an overall beneficial impact to public health and safety. Because the chemicals tested in the marine sediments near the pier were not found in concentrations of concern and because sediment resuspension in the nearshore waters around the project area (i.e., due to propeller wash and re-anchoring of barges) would be infrequent and of relatively short duration, the project is unlikely to adversely impact public health and safety in the demolition period. In the long-term, the removal of the pier deck will address the potential public safety risk the deteriorated deck currently presents, especially to children. The piles left to remain in the water will be marked according to USCG requirements, minimizing their potential hazard to navigation. There is a possibility that the remaining piles may attract people (including children) to climb on them to jump into the water, which may expose them to injury. Appropriately placed and worded signage would be installed to reduce this possibility. In any case, the remaining piles would generally be much less accessible to the general public and present less potential risk to public safety than the current pier superstructure configuration. The proposed action would not have disproportionately high and adverse human health or environmental effects on children. It would benefit overall public safety—in particular for unattended children—by resolving a potential safety hazard to the general community.

The proposed action would not impact current access to Hāna during emergency conditions because, in its current deteriorated condition, barges or other vessels would not be allowed to offload materials onto the pier deck if roads to Hāna were impassable for a lengthy duration. With or without the project, relevant county, state and federal agencies would coordinate alternate means of transporting goods, equipment, and materials to the Hāna in the event ground transportation to the community is restricted by a natural disaster or emergency situation. The specific emergency supply alternatives and their respective feasibility are outside the scope of this EIS, but could include transport by helicopters, small aircraft, small boats, and military logistics support vessels.

4.11.2.2 *No Action Alternative*

The No Action Alternative would retain a facility that has been condemned and officially determined to present a potential risk to public safety. This alternative would extend the potential for serious injury to members of the general public, including children.

4.12 SOCIOECONOMIC CHARACTERISTICS

4.12.1 Affected Environment

4.12.1.1 *Demographic, Housing and Employment Characteristics*

After a two percent decline between 1990 and 2000 (from 1,895 to 1,855 persons), the population of the Hāna District increased by 23.5 percent to 2,291 between 2000 and 2010 (U.S. Census Bureau in County of Maui, 2012a). This compares with population increases for Maui County during the same two time periods of 27.6 (1990 to 2000) and 20.8 percent (2000 to 2010).

Table 4-2 compares population and housing data for the Hāna Census Designated Place (CDP) (the densely settled area of the Hāna District) with Maui County, as estimated by the U.S. Census Bureau for the period 2008-2012.

Table 4-2 Demographic, Housing, and Employment Characteristics of Hāna CDP and Maui County

Topic	Hāna CDP	Maui County
Average Household Size (no. of people)	3.4	2.9
Households w/ one or more people under age 18	47%	34%
Households w/ one or more people ≥65 years	32%	26%
Age		
Median	32.1 years	39.5 years
under 18 years	30.7%	23.0%
18 to 24 years	9.2%	7.6%
25 to 44 years	28.6%	27.0%
45 to 64 years	20.1%	29.5%
65 years and over	11.4%	12.9%
Race		
White	53%	48%
Black/African American	<0.5%	1%
American Indian/Alaska Native	<0.5%	<0.5%
Asian	8%	36%
Native Hawaiian/Other Pacific Islander	39%	14%
Other	<0.5%	1%
2 or more races reported	47%	28%
Education (people 25 years and over)		
At least high school education	93%	90%
Bachelor's degree or higher	15%	25%
Did not complete high school	7%	10%
Employment Status (people 16 years and over)		
Employed	59%	64%
Not currently in labor force	34%	30%
Industries with highest percentages of employed civilian population (people 16 years and over)	Arts/entertainment/recreation/accommodation/ food service - 26.3%	Arts/entertainment/recreation/accommodation/food service – 22.8%
	Construction - 13.5%	Educational services/health care/social assistance - 17.3%
	Educational services/health care/ social assistance - 12.8%	Retail Trade - 12.2%
Income		
Household Median	\$58,023	\$64,058
Households with income less than \$15,000/year	8%	9%
Households with income over \$150,000/year	5%	12%
Housing Characteristics		
Total Housing Units	535	70,200
Vacant	34%	26%
Single-Unit Structures	85%	62%
Multi-Unit Structures	15%	38%
Built after 1990	34%	33%

Source: Population and Housing Narrative Profile 2008-2012 American Community Survey 5-Year Estimates for Hāna Hawai'i and Maui County, Hawai'i, U.S. Census Bureau.

4.12.1.2 Other Socioeconomic Factors

As described in Section 3.7 Marine Biological Resources, fishing—and *akule* fishing in particular—is an important socioeconomic activity for many Hāna residents, with traditional harvest methods still practiced in Hāna Bay. As noted in the *akule* fishery report included as Appendix D, the harvest is a community-wide event that unites the participants, most of whom are from Hāna and the surrounding area (AECOS, 2016). Because the *akule* fishing activities are not commercial in nature and because of

Hāna's remote location, there are no official landing data for *akule* in Hāna. Therefore, it is impossible to quantify the economic value of the recreational and subsistence *akule* catch in Hāna. However, based on the *akule* fisheries study prepared for this EIS and comments during the EIS early consultation process and several public meetings, it is clear that *akule* fishing is considered an important source of subsistence gathering that also reinforces social bonds within the Hāna community.

The DLNR DOBOR boat ramp is also used by subsistence and commercial fishers to access marine waters beyond the bay.

4.12.2 Probable Impacts and Proposed Mitigation

4.12.2.1 Proposed Action

The proposed action is unlikely to significantly affect population, housing, or employment characteristics of Hāna or Maui County. During the demolition period, the contractor will be restricted from obstructing access to the DLNR DOBOR boat ramp and loading dock with floating equipment. Individual fishermen will be able to use the boat ramp to gather catch for personal use or commercial sale during the demolition period. Other recreational and subsistence fishing and gathering uses within Hāna Bay would not be curtailed. Potential in-water water quality, noise, and vibration impacts from sediment resuspension and pile cutting during the demolition period may have temporary adverse impacts to subsistence fishing and gathering. These in-water activities and impacts have the potential to cause *akule* and other fishery resources (e.g., demersal and pelagic fishes) to avoid active in-water work areas, potentially leading to temporary declines in *akule* catches and possibly impacts to *akule* spawning. The in-water work is expected to take place over a three-month period; however, activities that cause sediment resuspension (e.g., propeller wash from vessels and re-anchoring of barges) would be limited to less than 30 minutes duration several times each week (i.e., not continuous). Acoustical impacts from pile cutting are expected to be temporary and localized. During the demolition period, silt containment measures will be employed to minimize resuspended sediments in the water column. Specific BMPs will be identified during the project's future USACE permit process. These temporary impacts are not expected to have disproportionately high and adverse human health or environmental effects on minority or low-income populations who may be residents of Hāna (i.e., environmental justice impacts).

In the long-term, as described in Section 3.7, removal of the pier deck superstructure will result in secondary beneficial impacts to the *akule* fishery at Hāna Bay, reinforcing this social and economic practice of community *akule* fishing. Removing the pier deck and eliminating the shading of the water column beneath it will enhance the *akule* and other nearshore fish food chain and improve visual cues for spatial orientation, prey capture, schooling, predator avoidance, and migration—especially for juveniles and larvae—resulting in beneficial impacts to *akule* schooling, spawning and migration behaviors. The adjacent DLNR DOBOR small boat ramp and loading dock will remain, and therefore there will be no impact to local boat launching capability.

The Proposed Action would have insignificant demolition period impacts on environmental justice because the impacts would not have disproportionately high and adverse human health or environmental effects on minority or low-income populations. The project is intended to improve public safety by removing a facility that presents a potential hazard to members of the Hāna community. The long-term enhancement of the marine community (including *akule* fishery resources) would be an overall beneficial impact to subsistence fishers.

4.12.2.2 No Action Alternative

The No Action Alternative would have no impacts to the socioeconomic characteristics of Hāna or to environmental justice as current conditions would continue.

CHAPTER 5 RELATIONSHIP TO LAND USE PLANS, POLICIES AND CONTROLS

This chapter addresses the proposed action’s relationship to and compatibility with applicable State and County land use plans, policies and controls. A listing of permits and approvals required for project implementation is found in Section 1.9.

5.1 STATE

5.1.1 Hawai’i State Plan

The Hawai’i State Plan, codified under Chapter 226, HRS, serves as a guide for the future long-range development of the State. The State Plan provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. The plan is divided into three parts: Part I identifies the State’s theme, goals, objectives, and policies; Part II establishes a statewide planning system which guides the coordination and implementation of the Plan; and Part III establishes priority guidelines to address areas of statewide concern.

State Plan objectives and policies focus on the general topic areas of: population, economy, physical environment, facility systems, and socio-cultural advancement. A discussion of the project’s consistency with the relevant State Plan goals, objectives, and policies is provided in this section. (Note: Because the proposed action involves deconstruction of a single, existing transportation facility that does not currently serve the function for which it is designed, most of the State Plan objectives and policies are not applicable or relevant to it.)

Section 226-11 Objectives and policies for the physical environment—land-based, shoreline, and marine resources

(a)(1) Prudent use of Hawaii’s land-based, shoreline, and marine resources

(a)(2) Effective protection of Hawaii’s unique and fragile environmental resources

(b)(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage

(b)(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai’i

(b)(8) Pursue compatible relationships among activities, facilities, and natural resources

(b)(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes

Discussion: The proposed action will have temporary, short-term insignificant impacts to the marine environment, including corals present on the pier piles. To reduce adverse impacts to coral that have adapted to the habitat provided by the piles, the existing piles will remain in place. Demolition period BMPs will also reduce potential adverse impacts to terrestrial and marine natural resources and habitats (see discussion in Sections 2.2.4, 3.7 and 3.8). Specific mitigation measures will be established in consultation with federal and state resource agencies during the project’s USACE permit process. The project will not curtail any currently allowable recreational uses at Hāna Bay, and—with the removal of

the shading effects presented by the pier deck—will have the long-term beneficial effect of enhancing coral assemblages and marine biological habitats. No long term direct, indirect, or secondary adverse impacts are expected to natural resources, including protected species.

Section 226-12 Objectives and policies for the physical environment—scenic, natural beauty, and historic resources

(b)(1) Promote the preservation and restoration of significant natural and historic resources

(b)(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities

(b)(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features

(b)(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage

Discussion: The proposed action would have an adverse effect on a historic property eligible for the NRHP (i.e., Hāna Pier) by altering the characteristics that qualify it for inclusion on the NRHP and substantially diminishing its integrity of design, materials and workmanship. It would also adversely impact Hāna's sense of place by removing a facility that contributes to the historic character of Hāna as a whole. Mitigation in the form of HAER documentation is proposed to compensate for the project's adverse effects on historic resources. The appropriate level of documentation would be determined by the SHPD in consultation with the NPS and carried out by DOT-H. Consultation with SHPD has been initiated (see Appendix E).

Section 226-14 Objective and policies for facility systems—in general

(b)(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities

Discussion: The proposed action responds to the public demands and priorities of the Hāna community by having changed to a pier deck removal project from a pier improvement project that would have allowed commercial use of the pier (which was strongly opposed by the community). Because proceeds from DOT-H wharfage tariffs and other fees are used to fund capital improvement projects or service bonds issued for larger capital improvement projects, it is not a prudent use of DOT-H's resources to fund a project that generates no revenue (i.e., pier repair with no commercial use). Thus, demolition represents the best use of DOT-H's resources with respect to the deteriorated pier.

Section 226-17 Objectives and policies for facility systems—transportation

(b)(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment

Discussion: The proposed action supports this policy by redirecting efforts and resources from improving the pier and allowing its use by commercial vessels—an action widely opposed by the Hāna community. Instead, DOT-H proposes to address the potential public safety hazard it currently presents, which would have less impact on the natural environment due to its smaller scope and less in-water work.

Section 226-23 Objective and policies for socio-cultural advancement—leisure

(b)(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance

Discussion: The proposed action supports this policy by addressing a potential safety hazard that is present in a public recreational area. It does not preclude the future provision of an appropriately designed recreational pier to serve Hāna by a different (i.e., non-DOT-H) agency.

Section 226-25 Objective and policies for socio-cultural advancement—culture

(b)(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai‘i

Discussion: In the process of preparing this EIS for the proposed action, a cultural impact assessment was conducted (Appendix F), which evaluates the effects of the project on cultural resources and practices. The EIS public review process promotes awareness of these effects and allows for public comment into the decision-making process.

Section 226-26 Objectives and policies for socio-cultural advancement—public safety

(a)(1) Assurance of public safety and adequate protection of life and property for all people

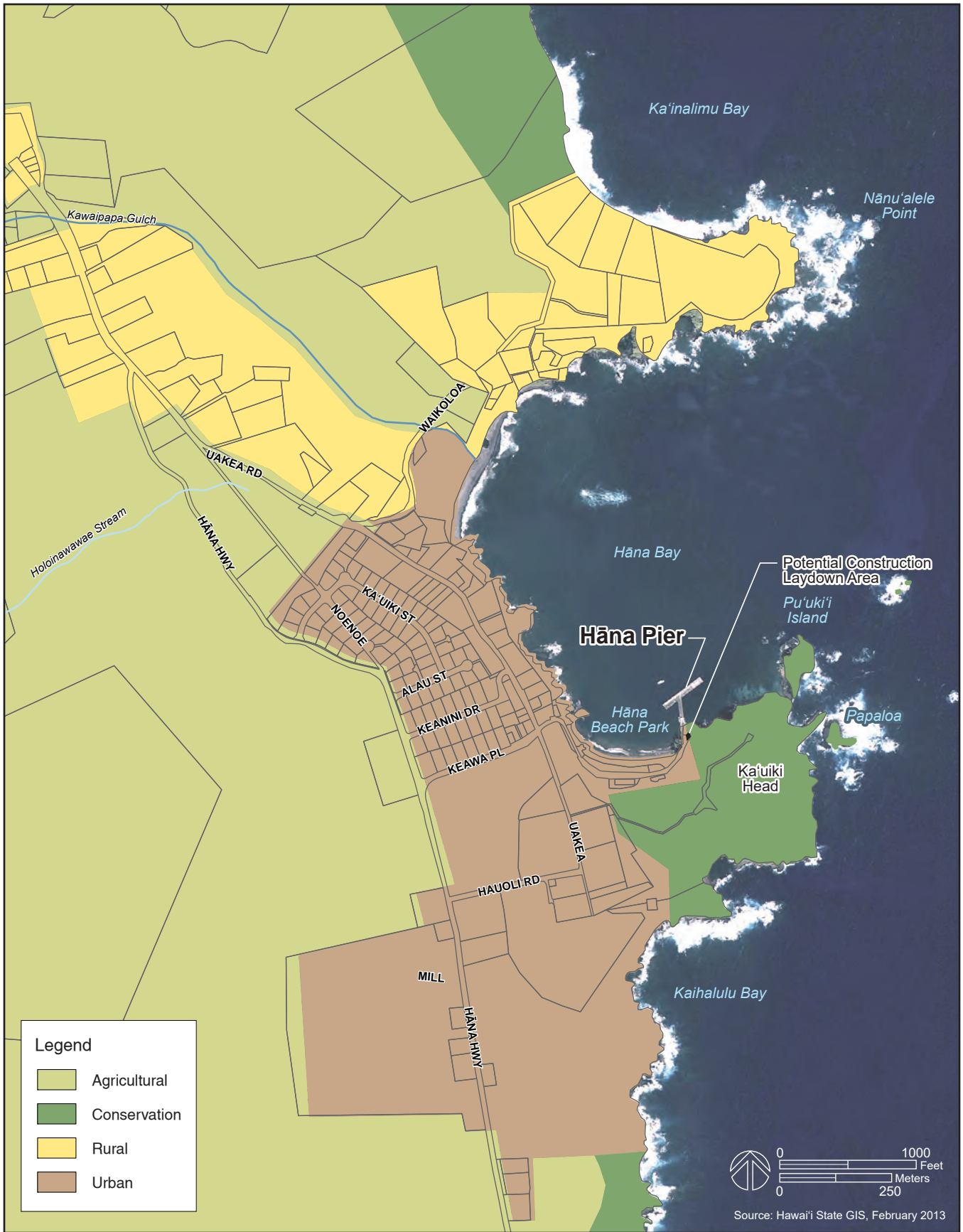
Discussion: A primary purpose of the proposed action is to improve public safety and provide adequate protection of Hāna’s residents. Children, youth, and adults continue to access the condemned pier without authorization and place themselves at potential risk in spite of physical barriers and warning signage. Removal of the compromised pier deck and superstructure will reduce the risks of potential physical injury to which these individuals expose themselves when they access the pier and trestle on an unauthorized basis.

5.1.2 State Land Use Law

The State Land Use Law, HRS Chapter 205, establishes a statewide zoning framework for land use management by classifying all lands in the State into four land use districts: Urban, Agricultural, Conservation, and Rural. This law was developed in response to a lack of adequate controls which resulted in widespread development of Hawaii’s limited and valuable land. The State Land Use Commission, the governing body who administers this statewide zoning law, is responsible for preserving and protecting the lands in the State, and encouraging those uses to which lands are best suited.

According to DLNR Office of Conservation and Coastal Lands, the project area is located in the Conservation District, Resource Subzone. HRS Chapter 183, Conservation District, states that the State’s Land Use Conservation District contains important natural resources essential to the preservation of the State’s fragile natural ecosystems and the sustainability of the State’s water supply. The objective of the Resource subzone is to ensure, with proper management, the sustainable use of the natural resources of those areas. The State Land Use Districts in the vicinity of the project area are shown in Figure 5-1.

The Hawaii DOT has jurisdiction and administrative authority over the Hāna Harbor, including Hāna Pier. This does not include the small boat ramp facility which is under the jurisdiction and administrative authority of DLNR DOBOR. According to HRS Section 266-2.2, all work involving submerged lands used for



State Land Use Districts

Hāna Pier Deck Removal Environmental Impact Statement
 Hāna, Maui, Hawaiʻi

Figure 5-1

State commercial harbor purposes shall be exempt from any permitting and site plan approval requirements established for lands in a Conservation District. However, the potential construction laydown area may be partially or fully within the Conservation District and may be subject to DLNR approval. A State Land Use Boundary interpretation may be needed to confirm the Conservation-Urban District boundary with respect to the laydown area, if the proposed laydown area is utilized.

5.1.3 DOT Administrative Rules, Harbors Division

The Harbors Division seeks to effectively manage and operate a statewide commercial harbors system to facilitate movement of people and goods throughout the Hawaiian Islands. The statewide harbors system provides, operates, and maintains ten commercial harbors, including Hāna Harbor which was transferred from the Department of Land and Natural Resources to the Harbors Division in 2008.

Section 19-41-8: Standards. Every vessel and all other personal property and facilities at a state harbor shall be kept in such condition of repair, maintenance, neatness, and orderliness so as not to constitute a common nuisance, substantial danger to person or property, or obstruction to proper public use.

Discussion: The concrete pier and its access trestle are currently condemned due to the deteriorated condition of its superstructure. The proposed action is to resolve the current potential public safety hazard that the deteriorated pier represents. Removing the existing deteriorating pier superstructure and pile caps will address the potential risks to the general public presently posed by the existing pier.

5.1.4 HRS Chapter 344, State Environmental Policy

The State Environmental Policy, HRS Chapter 344 contains the comprehensive environmental policy, goals, and objectives to encourage productive and enjoyable harmony between people and their environment.

Section 344-3 (1): Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawaii.

Section 344-4 (10)(B): Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues.

Discussion: The proposed action is a result of a public survey and comments received during the Hāna Pier Improvements Project HRS 343 scoping process. This original project, initiated by DOT-H, was proposed following the *Hāna Harbor Final Development Plan* and addressed the needed improvements to the Hāna Pier and access trestle to allow for safe use and berthing of vessels at the pier. A survey was distributed by DOT-H in 2015 to all households in the Hāna ZIP code area, following two public information meetings in June 2013 and October 2014 at which the local community continued to raise concerns against the commercialization of Hāna Pier. The goal of the survey was to obtain a broader understanding of the community's sentiments. The results of the survey showed that a majority of the community was opposed to any commercial use of the pier. Without commercial use of the pier, DOT-H has no mandate or justification to maintain or improve the deteriorating structure and ultimately recommended that the pier be removed. With the change in the project, public involvement continued during the EISPN comment period. Public comments on the Draft EIS are also part of the decision making process.

5.1.5 State Functional Plans

The State Functional Plans identify priority issues, including statewide policies and guidelines within a specific field of activity. The Functional Plans are used as guidelines for funding and implementation by state and county agencies. State Functional Plans guide the implementation of state and county actions in the following areas: agriculture, conservation lands, education, employment, energy, health, higher education, historic preservation, housing, human services, recreation, tourism, transportation and water resources development. Functional Plan issue areas, policies, and implementing actions relevant to the proposed action are discussed below.

5.1.5.1 Recreation Functional Plan

Issue Area IV. Resource Conservation and Management

Objective IV-B: Prevent degradation of the marine environment

Policy IV-B(1): Enhance water quality to provide high-quality ocean recreation opportunities

Discussion: The proposed action involves the removal of the existing deteriorating pier superstructure and pile caps, but the existing piles will remain in place to reduce adverse impacts to coral that have adapted to the habitat provided by the piles. Section 3.6 describes the project's probable water quality impacts, which would primarily be related to resuspension of bottom sediments through vessel movements and placement of anchors. These impacts would be localized and temporary. Project BMPs will be designed to avoid and minimize impacts to marine resources. The chemical constituents in the marine sediments in the project area were considered to be present in concentrations of no particular concern; temporary resuspension of the sediments are not expected to have a significant adverse effect on water quality. No long-term impacts to marine water quality are expected.

5.1.5.2 Conservation Lands Functional Plan

Issue Area II. Management

Objective IIA: Establishment of plans for natural resources and land management

Policy IIA(1): Formulate and maintain a management plan for resources and lands having significant conservation value

Implementing Action IIA(1)c: Evaluate applications for use of conservation lands and other uses to prevent adverse impacts on aquatic resources

Discussion: The proposed action involves the establishment and use of an approximately 1,500-SF construction laydown area. The current proposed site for this laydown area may be within the State Conservation District (see discussion in Section 5.1.2). No site work or grading is proposed for the construction laydown area, which is devoid of vegetation and paved with asphalt concrete. Any required DLNR approval will be obtained prior to project implementation and appropriate BMPs and permit conditions complied with.

5.1.5.3 Historic Preservation Functional Plan

Issue Area I. Preservation of Historic Sites

Objective B.: Protection of historic properties

Policy B.1: Provide timely historic property reviews which are integrated effectively into the land use regulatory system

Discussion: The proposed action involves the removal of the pier substructure, which would alter the characteristics that qualify the pier for inclusion on the NRHP and substantially diminish its integrity of design, materials and workmanship. HAER documentation is proposed as mitigation and consultation with SHPD is underway (see Appendix E). The appropriate level of documentation would be determined by the SHPD in consultation with the NPS.

5.1.6 Hawai'i Coastal Zone Management Program

The National Coastal Zone Management Program was created through passage of the Coastal Zone Management Act of 1972. Hawai'i's Coastal Zone Management (CZM) Program, adopted as Chapter 205A, HRS, provides a basis for protecting, restoring and responsibly developing coastal communities and resources. The objectives and policies of the Hawai'i CZM Program encompass broad concerns such as impact on recreational resources, historic and archaeological resources, coastal scenic resources and open space, coastal ecosystems, coastal hazards, and the management of development. A discussion of the project's consistency with the objectives and policies of the CZM Program follows.

(1) Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreational planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

(ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 6-6, HRS.

Discussion: The proposed action will not affect recreational uses currently allowed within Hāna Bay and Beach Park. No new development is proposed that could damage coastal resources with significant recreational value, such as surfing sites and sand beaches. The proposed action will not impact public access to shorelines with recreational value. Although the pier is regularly accessed by individuals for recreation (e.g., jumping into the water from trestle side walls), these activities are not authorized due to the pier's deteriorated condition. Resolving the potential safety hazard that the pier presents is consistent with public safety standards; environmental impacts of the demolition activities (e.g., temporary water quality impacts) will be minimized and controlled through BMPs to be specified in the project's USACE permit process.

(2) Historic Resources

Objective: Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

(A) Identify and analyze significant archaeological resources;

(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion: A Reconnaissance Level Survey was prepared for the project, which identified Hāna Pier as a historic property eligible for the NRHP (see discussion in Section 4.3 and Appendix E). The proposed removal of the pier deck and superstructure would alter the characteristics that qualify the property for inclusion on the NRHP and substantially diminish its integrity of design, materials and workmanship. Preparation of HAER documentation is proposed as mitigation; consultation with SHPD has been initiated.

(3) Scenic and Open Space Resources

Objective: Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

- (A) Identify valued scenic resources in the coastal zone management area;*
- (B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) Encourage those developments that are not coastal dependent to locate in inland areas.*

Discussion: The removal of the pier deck will change a component of the coastal and community landscape of Hāna, though it will not alter natural landforms or obstruct existing public views to and along the shoreline. It does not involve new development along the shoreline or adversely affect open space resources.

(4) Coastal Ecosystems

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

- (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
- (B) Improve the technical basis for natural resource management;*
- (C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*
- (D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*
- (E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

Discussion: As described in Section 3.6, the proposed action will have localized and temporary impacts to water quality, coral resources, protected species, and subsistence fisheries (including *akule*) during demolition of the pier deck. Though the pier deck and superstructure would be removed, existing structural piles will remain in place to reduce adverse impacts to coral that have adapted to the habitat they provide. During demolition of the pier, anchors will be placed outside the limits of any sensitive areas, including sensitive benthic communities, such as coral. Project BMPs will be designed to avoid and minimize impacts to marine resources. After project completion, the elimination of the pier superstructure will allow light to reach the water column beneath the pier structures, enhancing marine resources there and contributing to long-term beneficial effects on the marine community (including coral communities and the *akule* fishery).

(5) Economic Uses

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent developments such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

(iii) The development is important to the State's economy.

Discussion: The original proposal by DOT-H would have improved the pier for emergency access as well as commercial use. The Hāna community strongly opposed any commercial use of the pier, which would have been required to fulfill DOT-H's mission. DOT-H has no mandate to provide a pier solely for community recreational and cultural uses. Local Hāna commercial fishing boats are launched from the DLNR DOBOR boat ramp adjacent to Hāna Pier; the proposed action would not affect use of this ramp. Due to the community's opposition, the agency's mission requirements, the deteriorated condition of the pier, and the continued unauthorized access of the pier by members of the public, DOT-H intends to address the potential public safety hazard by demolishing the compromised pier deck and superstructure. This action would reduce the potential liability the pier presently poses to DOT-H, and allow it to concentrate its resources on maintaining and improving harbor facilities at other locations statewide that are more suitable to DOT-H's mission and acceptable to their host communities.

(6) Coastal Hazards

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;

(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

(D) Prevent coastal flooding from inland projects.

Discussion: The project area is within flood zone VE (see discussion in Section 3.4). There are currently no allowable uses on the pier, and the proposed action will not increase development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards or introduce new inland projects that could cause coastal flooding. Removal of the pier deck will have little effect on wave energy under normal conditions, and even when storm surge, high tide and waves are high enough to reach the superstructure, most of the wave energy would pass under the pier because only the top of the wave would be impeded by the structure.

(7) Managing Development

Objective: Improve the development review process, communication, and public participation in the management of coastal resource and hazards.

Policies:

(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Discussion: The project does not involve new development and is not considered a “significant coastal development.” With respect to public participation, during the HRS 343 public scoping process for the original proposal (i.e., pier improvements), several community meetings were held to inform the public about the project and seek input. In addition to the public meetings, a survey was mailed to every household with a Hāna ZIP Code. The outcome of the public participation was clear opposition by the Hāna community to any commercial use of the pier (which would have been required under DOT-H’s mission). The agency revised its project to address both the community’s opposition and its responsibility to address the potential public safety hazard the pier presented, while complying with its mission. Public participation involvement also proceeded during the EISPN comment period for the revised (pier deck removal) project and the preparation of the Draft EIS. Public comments on the Draft EIS are also part of the public participation process.

(8) Public participation

Objective: Stimulate public awareness, education, and participation in coastal management.

Policies:

(A) Promote public involvement in coastal zone management processes

(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion: DOT-H conducted early agency consultation with seven Federal, State, and County government agencies prior to the preparation of the EISPN. As mentioned above, the proposed action is the result of an extensive community outreach planning effort to gather public comment and gain input for future pier improvements. Beginning in 2010, discussions with the community regarding the *Hāna Harbor Final Development Plan* helped identify the community's primary concerns for pier improvements. Following the completion of the Development Plan, DOT-H initiated a project to undertake improvements to Hāna Pier, and public informational meetings seeking public comment were held in June 2013 and October 2014. In December 2015, DOT-H began another effort to obtain a broader understanding of the community's sentiments towards the development of the Hāna Pier through the distribution of a survey to Hāna residents. Following the survey, DOT-H hosted a public meeting to discuss the alternatives for the pier and answer any questions. Survey results indicated that the majority of the Hāna community opposed commercial use of the pier. This community sentiment led to DOT-H's current proposal to remove the pier deck. Without commercial use of the pier, DOT-H has no mandate or justification to maintain or improve the deteriorating structure and subsequently recommended removal of the pier.

The EISPN for the current pier deck removal project was published in the State Office of Environmental Quality Control's *Environmental Notice* on October 8, 2016; the public comment period ended on November 7, 2016. A total of 69 written comments from 68 unique parties (2 comment letters were from the same individual) were received within the public review period. The Draft EIS public comment period is also an opportunity for public participation in the planning and review process.

(9) Beach Protection

Objective: Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

(D) Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and

(E) Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor;

Discussion: The proposed action does not involve any new structures in the shoreline, erosion-protection structures, or vegetation in a beach transit corridor. It would not affect the accessibility of Hāna Beach Park for public use or recreation.

(10) Marine Resources

Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Discussion: The proposed action will not involve the use or development of marine or coastal resources. The proposed action will remove the deteriorated pier superstructure and leave the existing piles that have become home to colonies of coral habitats and diverse fish species. Studies completed in 2006, 2010, and 2013 indicate a diversity of fish, coral, and marine habitats around the project location; keeping the remaining piles will avoid adverse impacts to these marine resources. Short-term, temporary demolition period impacts to water quality and marine environment will be reduced by the employment of BMPs (see Section 3.7). The project would have long-term beneficial impacts to marine habitats due to elimination of the current shading effects of the pier deck.

5.2 MAUI COUNTY

5.2.1 General Plan 2030

The Maui County General Plan is a term for a series of ordinances that provide direction for future growth and policy creation in the county, including the Countywide Policy Plan (County of Maui, 2010) and individual island plans for Lānaʻi, Maui, and Molokaʻi. The General Plan is a long-term, comprehensive blueprint for the physical, economic, environmental development, and cultural identity of the county.

The Countywide Policy Plan is a policy document for the islands of Maui County and provides the basis for updating the Maui Island Plan and the nine detailed community plans. The Policy Plan provides goals, objectives, policies, and implementing actions for the desired direction of the County's future to the year 2030. The Maui Island Plan, adopted in 2012, provides direction for the future growth on the island through 2030. The areas of concern that the plan addresses includes: population; heritage resources; natural hazards; economic development; housing; infrastructure and public facilities; land use; and directed growth.

5.2.1.1 Countywide Policy Plan

The objectives and policies of the Countywide Policy Plan (County of Maui, 2010) that are relevant to the proposed project are as follows:

Key Strategies

Protect the Natural Environment: One of Maui County's greatest assets is its natural beauty. From the upland forests to the coral reefs, the islands of Maui County are a portrait of a rare and amazing natural world. Protection of the natural environment—including the ecological systems therein—is of vital importance.

Goal A: Protect the Environment

Objective 2: Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.

Policy a: Protect and restore nearshore reef environments and water quality.

Objective 3: Improve the stewardship of the natural environment.

Policy c: Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.

Discussion: The proposed action will remove the existing, severely deteriorating pier superstructure and pile caps; however, the existing piles will remain in place to reduce adverse impacts to coral that have adapted to the habitat provided by the piles. The project will not have an adverse impact on terrestrial plants, birds, or mammals. The impacts to protected and listed species, as well as impacts to water quality and coral sources will be localized and temporary. Project BMPs will be designed and employed to reduce and minimize any impacts to marine resources. Project-specific BMPs will be identified during the USACE permit process in consultation with federal and state resource agencies.

Goal H: Diversify Transportation Options

Objective 4: Improve opportunities for affordable, efficient, safe, and reliable ocean transportation

Policy d: Explore all options to protect the traditional recreational uses of harbors, and mitigate harbor-upgrade impacts to recreational uses where feasible.

Discussion: The proposed action is a result of an extensive planning effort beginning in 2010 to determine whether there was consensus to improve access to Hāna via Hāna Harbor, and what physical improvements should be made to harbor infrastructure, such as Hāna Pier. General community meetings were included as part of the planning process to learn how the community envisioned the pier as part of its future. The *Hāna Harbor Final Development Plan* (State of Hawai'i, 2011) details the outcome of the community planning process and identifies alternative conceptual plans and the preferred development alternative for improvements to the pier. The recommended improvements were to provide Hāna with safe, modern harbor infrastructure for the ocean-transport of cargo and commercial uses. However, at this time the Hāna community expressed the desire to repair the pier and be available for use in emergencies, and objected to the commercial use of the pier.

Following completion of the *Hāna Harbor Final Development Plan*, DOT-H initiated the Hāna Pier Improvements Project to undertake improvements to Hāna Pier and access trestle to allow its safe use for berthing vessels transporting cargo and people to and from Hāna, as well as for use in emergency situations. This project led to two additional public informational meetings in June 2013 and October 2014, at which the public expressed concerns regarding the commercial use of the Hāna Pier (which would be required under DOT-H's mission). In December 2015, a survey was distributed to Hāna households to obtain a broader understanding of the public's concerns. The results of the survey showed a majority of the community was opposed to any commercial use of the pier, which led to the decision of the current proposal to remove the pier superstructure. DOT-H has no mandate or justification to maintain or improve the deteriorating structure without allowing its use by commercial vessels; but at the same time, has a responsibility to protect public safety and reduce the potential liability arising from compromised facilities.

Goal K: Strive for Good Governance

Objective 2: Promote civic engagement

Policy a: Foster consensus building through in-depth, innovative, and accessible public-participatory processes.

Policy b: Promote and ensure public participation and equal access to government among all citizens.

Policy g: Expand opportunities for all members of the public to participate in public meetings and forums.

Policy h: Facilitate the community's ability to obtain relevant documentation.

Discussion: The deteriorated pier poses a potential public safety hazard, and despite barrier fencing and warning signage, individuals continue to access it and place themselves at risk. Through civic engagement, the Hāna Community was given the opportunity to attend public information meetings and eventually participated in a community survey to discuss project alternatives. The proposed action respects the community's opposition to commercial use that is required under DOT-H's mission in the event that the pier were to be repaired instead of demolished.

5.2.1.2 Maui Island Plan

The objectives and policies of the Maui Island Plan (County of Maui, 2012b) that are relevant to the proposed project are as follows:

Heritage Resources: Shoreline, Reefs, and Nearshore Waters

Objective 2.2.3: Water quality that meets or exceeds State Clean Water Act standards

Policy 2.2.3.d: Avoid development actions that impair Maui's reef systems and remove identified stressors

Discussion: The severely deteriorated superstructure will be demolished, including the pier structure and pile caps. The existing piles will remain in place to reduce any adverse impacts to coral that have adapted to the habitat provided by the piles. An acceptable water quality monitoring program for the basin and channel will be developed during permit phases with regulatory agencies. Demolition activities to remove the pier will be conducted in a manner that conforms to the applicable permit conditions. The proposed action does not include any dredging or blasting. Due to the poor condition of the pier superstructure,

major work equipment and demolition debris storage would be accommodated from the waterside via work vessels such as crane, service and storage barges, as well as a tugboat to maneuver the barges. Barges would be anchored or spudded in place. In areas of sensitive benthic communities, such as coral, anchors will be placed outside the limits of any sensitive areas. Industry-standard BMPs will be employed to avoid or minimize adverse effects on marine resources.

Land Use

Objective 7.2.2: More appropriate service/infrastructure standards to enhance and protect the island's rural character and natural systems

Policy 7.2.2.b: Protect and support the character, economic viability, and historic integrity of Maui's small towns

Discussion: The proposed action will eliminate the potential for Hāna Pier to support an increase in commercial activity, which the community believes would threaten Hāna's rural character and lifestyle by substantially increasing tourism and development. Removal of Hāna Pier will protect and support the character of Hāna as a small town. The removal of the pier deck, however, would have an indirect adverse impact to the historic character of Hāna, as the pier contributes to the historic character of Hāna as a whole due to its association with Hāna's economic growth during the first half of the 20th century.

Objective 7.3.5: Ensure that Maui's planning and development review process becomes more transparent, efficient, and innovative

Policy 7.3.5.a: Encourage greater community involvement in land use planning and decision making

Policy 7.3.5.c: Increase inter-agency coordination between the Department of Planning and all State and County agencies responsible for infrastructure and public facilities provision, particularly as it relates to the mitigation of long-term cumulative impacts resulting from development projects

Discussion: The removal of Hāna Pier is a result of a process that involved the Hāna community in public information meetings, as well as a community survey to elicit input on alternative actions available to DOT-H. Through extensive community involvement, the proposed action is a result of addressing the strong and vocal concerns of the majority of the community who oppose commercial use of the pier. Throughout the process of identifying the current proposed action and the EIS early consultation process, DOT-H coordinated with the Maui Planning Department through meetings and telephone communications. The Planning Department was also specifically invited to participate in the community meetings held in Hāna through the planning process. DOT-H will continue to coordinate and communicate with the Maui Planning Department regarding mitigation of any long-term cumulative impacts resulting from the proposed action.

5.2.2 Hāna Community Plan

The *Hāna Community Plan* (1994) provides recommendations for matters related to the development of the Hāna region, as it relates to land use, addressing the goals, objectives, and policies contained in the Maui General Plan. The *Hāna Community Plan* was first adopted by Ordinance 1247 in 1982, and updated in 1992-1993. As one of nine community plans for Maui County, the *Hāna Community Plan* reflects current and anticipated conditions for the Hāna region in order to guide government action and decision making in the region. The plan focuses on issues of land use, environment, cultural resources, economic

activity, housing, urban design, physical infrastructure, social infrastructure, government, and establishes planning standards for development and design.

The proposed project is consistent with the following concepts identified in the Hāna Community Plan:

Land Use Objectives and Policies

Encourage community-based dialogue regarding proposed land use changes in order to avoid unwarranted conflict

Discussion: The proposed action is a result of feedback gathered during community-based dialogue to determine the community's sentiments towards the initially proposed pier improvements that would have provided Hāna with safe, modern harbor infrastructure for the ocean-transport of cargo and commercial uses. Through community input at public meetings and a community survey, the proposed action was selected because it addressed the community's opposition to repairing the pier for commercial use, while meeting DOT-H's mission requirements.

Environment

Protect, preserve and increase the Hāna region's natural marine, coastal and inland resources, encouraging comprehensive resource management programs

Discussion: The proposed action to remove the concrete pier and its access trestle, which are currently condemned due to its deteriorated condition, will implement BMPs to protect natural marine resources. Possible BMPs used may include: floating turbidity barriers, catchment platforms under active work areas to prevent materials from entering the water, and other devices as required. BMPs may also include the implementation of protocols to prevent toxic materials (e.g., fuel or waste water) from spilling on land or entering the water. In the proposed action, the existing piles will remain in place to reduce adverse impacts to coral that have adapted to the habitat provided by the piles.

Government

Ensure the participation of native Hawaiian residents and community representatives in all CIP and program planning that impacts on the Hāna region

Discussion: DOT held several public meetings with the Hāna community to determine the community's interest and desire for physical improvements to the Hāna Pier. The community initially expressed a desire to repair the pier for use in emergencies, and objected to commercial use of the pier. Further community involvement included a December 2015 survey to determine the community's preference between improvements to Hāna Pier (with commercial use allowed) and removal of the pier (to address public safety). The outcome revealed that the majority of the community—due to their strong opposition to any commercial use of the pier—preferred the pier's removal. This resulted in the current proposed action to remove the pier structure, because DOT-H has no mandate or justification to maintain or improve a deteriorating structure without future commercial use.

5.2.3 Maui County Comprehensive Zoning Provisions

The Code of Ordinances of the County of Maui regulates the utilization of land in a manner to encourage orderly development in accordance with the land use directives of the Hawaii Revised Statutes, revised charter of the County, and the general plan and community plans of the County. The Comprehensive

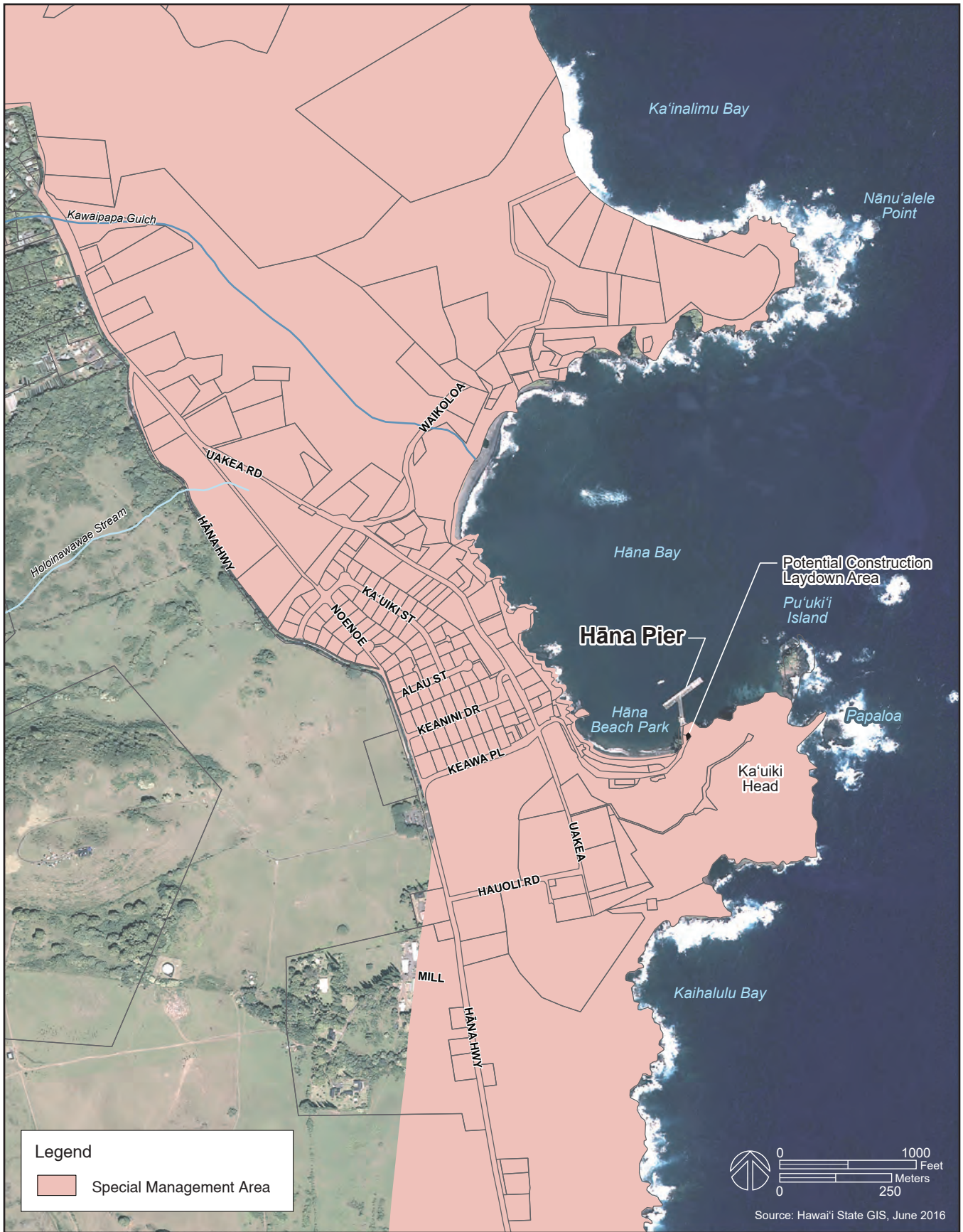
Zoning Provisions, Title 19 of Maui’s Code of Ordinances, provide reasonable development and design standards. Hāna Pier is not located in a designated County zoning district, and is adjacent to the PK-2 Community Park District. The potential construction laydown area is located in the PK-2 Community Park District.

5.2.4 Maui County Special Management Area (SMA) and Shoreline Setback

The Special Management Area (SMA) was established in 1975 with the enactment of Act 176, known as the Shoreline Protection Act. The SMA, conferred by HRS Chapter 205A, is designed to preserve, protect, and restore the natural resources of Hawaii’s coastal zone. Along the shoreline, special controls on development are necessary in order to avoid the permanent loss of valuable resources and insure adequate access to beaches, recreation areas, and natural reserves. Permissible land uses, allowed by various land use policies such as county general plans, are regulated through the SMA permit. The SMA permit ensures that uses, activities, or operations on land, in water, or under water within the SMA comply with SMA guidelines, as well as the CZM objectives and policies.

The proposed Hāna Pier is not within the SMA; however, the potential construction laydown area is within the SMA and subject to review and approval by the Maui Planning Commission (see Maui County Zoning and Special Management Area map in Figure 5-2). If the construction staging area is established in the SMA, it will be reviewed for consistency with the Hawai’i CZM Program objectives and policies in HRS Section 205A-2 (described in Section 5.1.6), and compliance with Hawai’i SMA guidelines in HRS Section 205A-26.

Development activities that fall within close proximity to the shoreline, as defined in HRS Section 205A-1, are subject to shoreline setback requirements, including restrictions on developments and/or activities within the shoreline setback area. The additional restrictions are intended to maximize a property owner’s protection from coastal hazards while preserving coastal amenities and shoreline access for the public. Only minor structures and/or minor activities are allowed within the shoreline setback area. The proposed construction laydown area involves the temporary placement of minor structures in proximity to the shoreline and would be subject to authorization by Maui County (e.g., administrative approval or variance). A shoreline certification by DLNR may be required to determine the specific shoreline setback area.



Special Management Area Map
 Hāna Pier Deck Removal Environmental Impact Statement
 Hāna, Maui, Hawai'i

Figure 5-2

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CHAPTER 6 OTHER IMPACTS AND CONSIDERATIONS

6.1 CUMULATIVE IMPACTS

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. They can result from individually minor but collectively significant actions taking place over a period of time.

6.1.1 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this EIS, the study area defines the geographic extent of the cumulative impacts analysis. In general, the study area includes those areas previously identified in Chapters 3 and 4 for the respective resource areas. The time frame for assessing cumulative impacts centers on the timing of the proposed action.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the proposed action, the analysis employs the measure of “reasonably foreseeable” to include or exclude other actions. The analysis of cumulative impacts considered other past, present, and future actions (i.e., projects) in the Hāna region that could incrementally impact environmental resources affected by the proposed action.

6.1.2 Past, Present, and Reasonably Foreseeable Future Actions

This section focuses on past, present, and reasonably foreseeable future projects in the Hāna region that were considered in the cumulative impact analysis. In determining which projects to include in the cumulative impacts analysis, a preliminary determination was made regarding the past, present, or reasonably foreseeable action. Specifically, using the first fundamental question included in Section 6.1, it was determined if a relationship exists such that the affected resource areas of the proposed action (included in this EIS) might interact with the affected resource area of a past, present, or reasonably foreseeable action. If no such potential relationship exists, the project was not carried forward into the cumulative impacts analysis. Projects considered in this cumulative impacts analysis are briefly described in Table 6-1 below. Those that have the potential to generate cumulative impacts on one or more resource areas when considered with the proposed action are denoted with an asterisk (*) and carried through the cumulative impact analysis in Section 6.1.3. The actions in this subset are described in greater detail following Table 6-1, including identification of the resource areas that have a potential for cumulative impacts when considered along with the proposed action.

Table 6-1 Past, Present, and Reasonably Foreseeable Future Actions

Project Name	Description	Status
Hāna Boat Ramp Revetment Project, Phase II*	Replacement of the boat ramp concrete slab, installation of a boulder revetment, demolition of two sections of the adjacent pier deck and superstructure.	Pending USACE and DOH permits
Hāna 100% Affordable Housing Project	Construction of 24 single family homes and supporting infrastructure along Hāna Highway (approximately 1.2 miles northwest of Hāna Pier). All homes will meet “affordable” housing price guidelines, and serve people between 80% and 140% of the median income.	HRS 343 Draft EA completed in 2016
Makai Hāna Landfill Clean-Up and Closure	Removal of all waste from the Makai Hāna Landfill and transfer the waste to the active Hāna Landfill area across Waikoloa Road (approximately 1 mile northwest	HRS 343 Final EA and FONSI completed in

	of Hāna Pier) to comply with federal regulations.	2016
Hāna Highway Improvements, Uakea Road to Keawa Place*	Widen the roadway on Route 360 Hana Highway near its intersection with Uakea Road (approximately 0.9 miles northwest of Hāna Pier).	Completed
Expansion and Improvements at Pa'ani Mai Park	Expand and improve Pa'ani Mai Park (approx. 0.6 miles northwest of Hāna Pier) by approximately 1.9 acres to the northwest and northeast. Improvements include restroom and pavilion building, picnic areas, skateboard area and related onsite and offsite improvements.	Completed
Repair and Renovation of Hāna Boat Ramp Facilities, Phase I*	Repair and improve the existing boat ramp facility at Hāna, Maui, adjacent to Hāna Pier. Improvements included: 1. Repair of the existing breakwater 2. Addition of a new loading dock that is compatible with the ADA 3. Renovation of the concrete launch ramp 4. Establishment of a boat washdown area 5. Miscellaneous minor improvements, including renovation of the existing loading dock, new security fencing and lighting, and reconstruction of asphalt concrete pavement	Completed

* carried through the cumulative impact analysis

6.1.2.1 Repair and Renovation of Hāna Boat Ramp Facilities (Phase I completed)

This project repaired and improved the existing boat ramp facility at Hāna, Maui and was completed in 2011. It included: repair of the existing breakwater, addition of an Americans with Disability Act of 1994-compliant loading dock, boat ramp repair, addition of a boat wash-down area, renovation of the existing loading dock, new security fencing and lighting, and reconstruction of asphalt concrete pavement for the surface of the breakwater area. Resource areas with the potential for cumulative impacts: harbor navigation, marine biological resources, and marine water quality.

6.1.2.2 Hāna Boat Ramp Revetment Project (pending USACE and DOH permits)

This project represents Phase II of the Hāna Boat Ramp and Wharf Improvements project and is intended to return wave and surge conditions at the boat ramp back to its pre-2010 condition (i.e., prior to the completion of the Phase I boat ramp improvements project). The boat ramp is located in an unprotected harbor where trade-wind generated waves and swells arrive at the ramp from the North through East direction. During Phase I of the Boat Ramp and Wharf Improvements project, the rock revetment directly below the Hāna Pier access trestle was replaced with a near vertical concrete bulkhead. Also during Phase I, a rock revetment wall adjacent to the boat ramp was replaced with a near vertical concrete wall. Following the completion of Phase I improvements in 2010, increased wave and surge action at the boat ramp was reported to DLNR DOBOR.

Phase II includes the replacement of the boat ramp concrete slab to match the existing precast concrete panels and installation of a new aluminum cantilevered loading dock. This project will also include the installation of a boulder revetment, which would act as a wave buffer for the boat ramp. Demolition of the first two sections of the Hāna Pier is proposed to install the boulder revetment, and may involve removal of three concrete piles nearest the bulkhead (i.e., shoreward end), concrete pile caps, and decking for the first two sections. Resource areas with the potential for cumulative impacts: harbor navigation, marine biological resources, marine water quality, noise, historic properties, cultural resources, and scenic and visual resources.

6.1.2.3 *Hāna Highway Improvements, Uakea Road to Keawa Place (completed)*

This project, completed in 2015, widened the Route 360 Hāna Highway at the bridge/box culvert adjacent to the County Highways Baseyard, near its intersection with Uakea Road. The road in this area is typically 16 feet wide and consists of two, 8-foot opposing travel lanes; however, the road within the project area was a one-lane, 11-foot travel way that did not have sufficient room for two lanes. Without the road expansion, all traffic in one direction had to yield to let cars in the other direction pass. The improvements provided for two-way traffic to facilitate emergency vehicles responding from the Hāna Fire Station located about 200 feet east of the project area and minimize vehicle collisions with the concrete parapet walls and guardrail approaches. Resource area with the potential for cumulative impacts: marine water quality.

6.1.3 Cumulative Impact Analysis

The following analysis of cumulative impacts is organized by resource area in the same order presented in Chapters 3 and 4. Only the resource areas that have the potential to have cumulative impacts resulting from the incremental effects of the proposed action are addressed. Where feasible, the cumulative impacts were assessed using quantifiable data; however, for many of the resources included for analysis, quantifiable data are not available and a qualitative analysis was undertaken. The analysis indicates that, when considered with relevant past, present and reasonably foreseeable projects, the incremental effects of the proposed action may contribute to cumulative impacts on historic and visual resources. Because it would not contribute any incremental effects, the No Action Alternative would not result in cumulative impacts on the relevant resource areas during the construction or operational periods.

6.1.3.1 *Marine Water Quality*

The completed DLNR DOBOR boat ramp project (i.e., Phase I) may have had temporary effects on marine water quality during its construction period. Because it did not change the nature or volume of in-water activities taking place in the vicinity (e.g., small boat launching, recreational uses), the Phase I boat ramp project would not be expected to have had long-term effects on marine water quality. The main differences in water quality sampling in both 2006 (pre-boat ramp improvements) and 2013 (post-boat ramp improvements) were in surface samples of total nitrogen and total phosphorus concentrations in surface samples (AECOS, 2017b). The 2006 samples were collected closer to shore than the 2013 samples, which may account for some of the difference due to increased wave action over a shallow bottom. Although multiple samples over a long period of time are needed to truly compare before and after conditions, the 2006 and 2013 samples indicate that, in spite of some differences, the Total N and Total P were well within State criteria during both sampling events.

Construction activities from the Hāna Highway widening project had the potential to carry silt into stream waters that flow through Kawaipapa Gulch (approximately 1,000 ft south of the highway widening project), which ultimately flow to marine waters of Hāna Bay. Water pollution control measures were implemented to eliminate siltation of the nearby drainage ditch. Any environmental effects from the road widening project on receiving waters would have been short-term and temporary.

All in-water construction or demolition activities associated with the proposed action and Hāna boat ramp revetment project Phase II would be temporary and subject to USACE permit conditions, including implementation of BMPs and mitigation measures for water quality impacts. According to DLNR DOBOR, its proposed Hāna boat ramp revetment project would commence after approval of its USACE and DOH permits, anticipated at the end of 2017. It would not be implemented concurrently with the proposed action, so water quality impacts from suspended sediments would take place at an earlier or later time.

The proposed action's in-water work and vessel movements are expected to be of short duration and intermittent, reducing the likelihood of adverse water quality impacts due to resuspended sediments. Water quality impacts from relevant past projects were limited in duration and/occurred far enough in the past that they would not result in lingering effects to which the proposed action would contribute cumulative effects. In addition, the proposed action would be limited geographically to the area immediately around the pier and cumulative marine water quality impacts are not expected.

6.1.3.2 Marine Biological Resources

The analysis in Chapter 3 indicated that the proposed action is not likely to have significant adverse demolition period or long-term impacts on marine biological resources, including corals, protected species, and fisheries. Any impacts would be temporary in nature, returning to pre-demolition conditions shortly after cessation of demolition activities. For some resource areas, post-demolition conditions would be an improvement over existing conditions (e.g., benthic habitat beneath the existing pier deck).

The completed DLNR DOBOR boat ramp project (i.e., Phase I) may have had temporary effects on marine biological species in the immediate area of work, but did not change the nature or volume of in-water activities taking place in the vicinity (e.g., small boat launching, recreational uses) and, therefore, would not be expected to have long-term effects on marine biological resources. Although a quantitative marine biological survey was not performed after completion of the initial boat ramp improvements project, comparisons between the 2006 (pre-boat ramp) and 2013 (three years after boat ramp project completion) surveys indicate that marine biological conditions in the vicinity of the boat ramp did not substantively change. The proposed DLNR DOBOR Phase II boat ramp revetment project may include removal of three piles nearest the concrete bulkhead (i.e., shore end of trestle). Qualitative surveys conducted in the project's 2013 environmental surveys (AECOS, 2017a) indicate that coral are found on pier piles on the shore end of the trestle. Prior to removal of the piles, DLNR DOBOR will be responsible for consultation with appropriate federal and state resource agencies to identify appropriate BMPs and mitigation measures for adverse impacts to coral and other protected marine resources.

DLNR DOBOR's proposed Phase II boat ramp revetment project is not likely to occur concurrently with the proposed action and would employ BMPs to avoid or minimize impacts to water quality and marine biological resources. Therefore, the proposed action is not expected to have demolition period cumulative adverse effects on marine biological resources. The proposed action would not have adverse long-term impacts on marine biological resources. With the removal of the shading effects presented by the pier deck, the proposed action is likely to have long-term benefits to the marine communities. Therefore, it is not expected to have long-term cumulative effects on marine biological resources when considered with DLNR DOBOR's proposed boat ramp revetment project.

6.1.3.3 Harbor Navigation

The completed DLNR DOBOR boat ramp improvement project (Phase I) had temporary impacts to small boat launching and navigation in the immediate vicinity of the project area, as the boat ramp was unavailable for use about four to six months during construction. The Phase I DLNR DOBOR project also replaced an existing rock revetment wall adjacent to the boat ramp with a near vertical concrete wall. Boat ramp users have identified the change in the revetment as adversely affecting wave surge at the ramp and adjacent dock, making it more difficult to launch and retrieve vessels. In the long-term, the proposed Phase II DLNR DOBOR boat ramp should improve wave and surge conditions at the boat ramp by installing a boulder revetment that would act as a wave buffer, and therefore, improve harbor navigation to and from the boat ramp and loading docks.

The proposed action would not obstruct access to the boat ramp during demolition activities and all required navigational markings and notices to mariners would be implemented prior to project activities. DLNR DOBOR's proposed boat ramp revetment project would also comply with USCG requirements for notices to mariners; however, because that project involves work on the boat ramp itself, access would presumably be curtailed during the construction period. Because the two projects are not anticipated to take place at the same time, cumulative impacts on harbor navigation during either construction period are not anticipated. In the long-term, the proposed action is not expected to have a significant adverse effect on harbor navigation when considered with both phases of the DLNR DOBOR boat ramp project, as the remaining Hāna Pier piles would be appropriately marked and recorded in navigational maps according to USCG requirements. Furthermore, removing the pier deck may have a long-term beneficial impact on access to the boat ramp from the ocean, as the trestle and pier deck will not be used for jumping into the water by swimmers near the approach to the ramp and loading dock.

6.1.3.4 *Archaeological and Historic Resources*

The proposed action would have an adverse effect on historic resources by destroying a visible and sizable portion of an NRHP-eligible property (i.e., the pier superstructure). HAER documentation is proposed as mitigation for this adverse effect and SHPD consultation has been initiated. Removal of three piles (associated with the boat ramp revetment project) is also likely to be considered an adverse effect because it would remove additional components from the historic property. DLNR DOBOR is responsible for consulting with SHPD and implementing appropriate mitigation actions for its proposed boat ramp revetment project. Considered together, the projects may have a cumulative effect on historic resources.

6.1.3.5 *Cultural Resources and Practices*

As described in Chapter 4, the proposed action has the potential for demolition period water quality impacts that may affect subsistence fisheries if project-related turbidity is not limited to the immediate work area, as *akule* schools may avoid active in-water work areas. Impacts to Ka'uiki Head from vibration due to demolition equipment are unlikely. Project BMPs will prevent demolition debris from entering the water and restrict suspended sediments to the area immediately around the work area. It is expected that the boat ramp revetment project (Phase II) will also employ BMPs and mitigation measures, in compliance with its USACE and other permit conditions (e.g., Clean Water Act Section 401 Water Quality Certification) to avoid or minimize construction period water quality impacts that could affect subsistence fisheries. The timing of the project is unknown, but would not likely be concurrent with the pier deck removal project. Because water quality BMPs and mitigation measures would be employed during both projects to confine turbidity to the immediate work areas, cumulative demolition period impacts to the cultural practice of *akule* fishing are not anticipated.

The proposed action would have long-term adverse effects on de facto cultural practices that occur on the pier deck (e.g., recreation, pole fishing, canoe paddling coaching) by permanently removing access. These practices are not currently allowed on the pier, but occur in violation of access restrictions and warning signs. The boat ramp revetment project will not impact cultural practices as the existing loading docks and boat ramp will be available for use. Therefore, the proposed action is not expected to have a long-term cumulative effect on cultural resources or practices when considered with the boat ramp revetment project.

6.1.3.6 *Noise*

The proposed action would have temporary noise impacts during the demolition period, as would the boat ramp revetment project. However, they would both be subject to DOH construction noise limits

and/or permit requirements. Because the two projects are not expected to take place concurrently, no cumulative noise impacts are expected.

6.1.3.7 Scenic and Visual Resources

Although the proposed action would not adversely impact scenic resources or obstruct or alter a visual resource identified for protection in county plans and studies, it would adversely impact an important component of the coastal and community landscape of Hāna. The boat ramp revetment project proposes removal of a small section of the Hāna Pier access trestle (i.e., part of pier deck), which DOT-H is also proposing to remove as part of the proposed action. In addition, DLNR DOBOR proposes to remove three concrete piles at the shore end of the trestle, which could be considered a cumulative impact on visual resources Hāna Bay.

6.2 SECONDARY IMPACTS

Secondary (indirect) impacts include those that are caused by the project and occur later in time or farther removed in distance but are still reasonably foreseeable. They may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rates, regardless of who initiates the action. Potential secondary impacts or indirect effects are discussed in Chapters 3 and 4, and include potential long-term beneficial impacts to marine resources and socioeconomic factors. In the long-term, the project is expected to have the secondary beneficial impact of improving benthic marine habitats, coral communities, and the *akule* fishery due to removal of the shading effects of the deck superstructure on the marine environment below. The improvement of the *akule* fishery would benefit subsistence fishers as well as community *akule* fishing, a practice that reinforces social bonds within the Hāna community.

6.3 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term uses and long-term productivity consist of the project's short-term construction phases and long-term benefits of the project after completion and do not necessarily refer to fixed time periods, but are viewed in terms of the environmentally significant consequences of the proposed action. This section discusses the extent to which the proposed action involves trade-offs among short-term and long-term gains and losses. It also discusses the extent to which the proposed action forecloses future options, narrows the range of beneficial uses of the environment, or poses long-term risks to health or safety.

Short-term impacts would result from pier superstructure demolition activities, and include impacts to noise, water quality, and potentially marine biological resources. Implementation of BMPs and mitigation measures will reduce the impacts to insignificant levels.

In the long-term, the proposed action would irreversibly remove a substantial portion of an NRHP-eligible property, resulting in an adverse effect on a historic property. This would also adversely affect Hāna's sense of place because the pier contributes to the historic character of Hāna as a whole.

Recreational and cultural practices such as fishing, jumping into the ocean, and coaching canoe paddling (though not currently allowed at the pier) would also theoretically be affected by the demolition of the pier deck. However, because the supporting piles would be retained, the proposed action does not foreclose the future option of rebuilding the pier deck and superstructure (or a portion of it) for these community uses using the original piles. (Note: This future option cannot be implemented by DOT-H unless commercial vessels are allowed to call at the reconstructed pier.)

The proposed action involves a trade-off between the community's loss of a historically and culturally significant facility and landmark and the benefits of improving public safety and long-term improvement of the marine environment and *akule* fishery, while respecting the community's deeply held preference to not allow commercial vessels to call at an improved pier.

6.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The project would result in the irreversible and irretrievable commitment of certain natural and fiscal resources (i.e., resources that cannot be retrieved or replaced due to their use, consumption, destruction, or degradation). Major non-renewable resource commitments include financing, labor, and energy (including fossil fuel) required for the project's implementation. The proposed action would also irreversibly remove a sizable portion of a historic property, which would alter the characteristics that qualify Hāna Pier for inclusion on the NRHP. Archival documentation in the form of a HAER submittal is proposed as mitigation for the adverse effect to this historic resource. Demolition activities have the potential to break or dislodge branching and plating corals that are attached to the pier pilings due to vibrations associated with pile cutting. Any branching or plating corals disturbed during pile cutting could be re-attached to the pile as mitigation. The proposed action would also irreversibly preclude the use of the current pier infrastructure for community recreational and cultural activities (though it has been officially off-limits to these uses for many years).

6.5 PROBABLE ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

This section describes the project's probable adverse effects that may be unavoidable and the rationale for proceeding notwithstanding the unavoidable effects.

The proposed action would have the following unavoidable demolition period impacts, which would be mitigated or controlled by BMPs to insignificant levels:

- Noise levels that exceed DOH permissible limits, which would be controlled and mitigated through compliance with DOH noise permit conditions
- Temporary, short-term water quality impacts due to sediment suspension, which would be minimized through BMPs and USACE permit conditions

The proposed action would have the following unavoidable long term impacts:

- Adverse effect on historic property (Hāna Pier), which would be mitigated by the preparation of HAER documentation
- Adverse impact to recreational and cultural practices (jumping from pier into the ocean, fishing from the pier deck, and coaching canoe paddling from deck); because these activities and practices are not currently allowed at the pier, no mitigation is proposed.

In spite of its probable unavoidable adverse impacts, the project should proceed because impacts would be temporary, minimized, mitigated, or offset by beneficial impacts, listed below:

- Removal of a potential public safety hazard,
- Reduction of DOT-H's potential liability risk,
- Long-term improvement of marine habitat and resources, including to coral communities, due to removal of pier deck and its shading effects, and

- Long-term improvement of *akule* fishery in Hāna Bay, including to *akule* schooling, spawning and migration behaviors, which also reinforces the important community cultural, social, and economic community practice.

6.6 UNRESOLVED ISSUES

The issues listed below remain unresolved at the time of the preparation of this EIS; they will be resolved prior to undertaking the proposed action:

- Identification of specific BMPs and mitigation measures for potential noise, water quality, and marine resources impacts in consultation with relevant federal and state resource and regulatory agencies,
- Confirmation of construction laydown area site,
- Confirmation of state and county permits required for construction laydown area (including associated State Land Use District boundary interpretation and shoreline certification, if necessary), and
- SHPD concurrence on mitigation of adverse effects to historic properties.

CHAPTER 7 PREPARERS

EIS PREPARER

HHF Planners

PLANNING, ENGINEERING, & DESIGN

Moffatt & Nichol

BIOLOGICAL RESOURCES AND WATER QUALITY

AECOS, Inc.

CULTURAL IMPACTS

Kaimipono Consulting Services, LLC

HISTORIC ASSESSMENT

Mason Architects, Inc.

NOISE IMPACTS

D.L. Adams Associates

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CHAPTER 9 PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT EIS

The following sections list the governmental agencies, other organizations, and private individuals consulted in the preparation of this Draft EIS.

9.1 AGENCIES, ORGANIZATIONS, AND INDIVIDUALS CONSULTED DURING THE ASSESSMENT PROCESS

9.1.1 Early Consultation

As noted in Section 1.9, DOT-H conducted early consultation with several federal, state and county government agencies prior to the preparation of the project’s EISPN:

- USACE
- NOAA Fisheries
- USFWS
- USEPA
- DLNR DOBOR
- DLNR DAR
- Maui County Department of Planning

The early consultation also included public informational meetings in 2013, 2014, and 2015, after which DOT-H revised the proposed action for Hāna Pier to the current pier deck and superstructure removal project. Section 1.9 includes a summary of the public comments and sentiments obtained at the 2013 and 2015 meetings.

9.1.2 Agencies, Groups and Individuals Consulted During the Draft EIS Preparation

Table 9-1 lists the agencies, groups and individuals notified in writing of the availability of the project’s EISPN. Those who formally replied with written comments to the EISPN are also listed in the table, and those who provided substantive comments are noted.

Table 9-1 Agencies, Organizations, and Individuals Notified of EISPN Availability

Agency	Written Comments	Substantive Comments
Federal		
USACE		
U.S. Department of Agriculture NRCS		
NOAA Fisheries		
Department of Homeland Security USCG		
USFWS		
U.S. Department of the Interior, NPS		
Department of the Interior, Geological Survey, Pacific Islands Water Science Center	x	
Department of Transportation, Federal Aviation Administration		
Department of Transportation, Federal Transit Administration		
USEPA		
State of Hawai‘i		
Department of Agriculture		
Department of Accounting and General Services	x	

Agency	Written Comments	Substantive Comments
DBEDT Office of Planning	x	x
DBEDT Strategic Industries Division		
Department of Defense	x	
Department of Hawaiian Home Lands		
DOH (Environmental Planning Office; Maui District Office)	x	x
DOH Office of Environmental Quality Control	x	x
DLNR (Land Division; Office of Conservation & Coastal Lands)	x	x
DLNR SHPD		
DOT		
University of Hawai'i, Water Resources Research Center		
OHA		
County of Maui		
Department of Fire and Public Safety		
Department of Environmental Management	x	
Department of Housing and Human Concerns	x	
Department of Parks and Recreation		
Department of Planning	x	x
Police Department		
Department of Public Works	x	
Department of Transportation		
Department of Water Supply	x	x
Elected Officials		
U.S. Senator Mazie K. Hirono		
U.S. Senator Brian Schatz		
U.S. Representative Tulsi Gabbard		
State Senator J. Kalani English		
State Representative Lynn DeCoite		
Mayor Alan Arakawa		
Maui County Councilmember Mike White		
Maui County Councilmember Don S. Guzman		
Maui County Councilmember Michael P. Victorino		
Maui County Councilmember Gladys C. Baisa		
Maui County Councilmember Robert Carroll		
Maui County Councilmember Elle Cochran		
Maui County Councilmember Don Couch		
Maui County Councilmember Stacy Crivello		
Maui County Councilmember G. Riki Hokama		
OHA Trustee Carmen Hulu Lindsey		
Utilities/Other		
Maui Electric		
Hāna Community Association		
Hāna Cultural Center		
Hāna Ranch		
Public community meeting attendees who indicated they wanted project updates		
John Blumer-Buell	x	x
Myrna S. Costello		
Kimo W. Needham		
Judy Kinser		
Vivian M. Kamai		
Lehua Cosma	x	x
A. Park Sr.		
Lorraine Akoi		
Stephen Hohenrieder		

Agency	Written Comments	Substantive Comments
Haunani Collins		
Jon Stockton		
Bill Church		
Paul Bodnar		
M/M R.K. Kahookele		
M/M C. Park		
Michael Zarate	X	X
Yuki Lei Sugimura		
Marni Sakumoto		
Bio-Logical Capital		
Kaiolohia Funes Smith		
Ronald Lecker		
Robert Carroll and Geraldine Carroll		
Diana Naihe		
Keahi Lind		
Bob Getzen		
Francis Sinenci		

Other individuals who provided written comments on the project during the EISPN public review period are listed below.

- | | |
|--------------------------------|-------------------------|
| Wendy Acosta | Angel Mahadocon |
| Kamaui Aiona | Jesiah Malaikini |
| Anonymous (Nanz C) | Maydoria Malaikini |
| Arabella Ark | Jaedyn Medeiros |
| Lynn Barney | Anthony Messina |
| Tryston Beck | Marley Moeai |
| Paulo Burns | Matthias Moeai |
| Jeanne Carey | Tre Oania |
| John Contreras | Chevelle Oliveira |
| James Day | M. Kamalani Pahukoa |
| Shaelynn Day | Pearl Pahukoa |
| Natalie & David Diaz | Sky Pierce |
| Tyren Feliciano-Benton | Gracelynn Piimauna-Beck |
| Maile Getzen | Roman Piimauna-Beck |
| Clifton Hasegawa | Edwina Pu |
| Ka'ala Kalalau | Makenzie Pu |
| Nakaulakuhikuhi Kanakaole-Park | Fushia Pua |
| Mānoa Keaulana | Irie Pu-Akima |
| Chayton Keegan | Lily Rings |
| Shyanne Lecker-Agnew | Madge Schaefer |
| Greg Lind | Hau'oli Sinenci |
| Nahinu Lind | Shane Sinenci |
| Shannon Lind | Mauarii Tehiva |
| Deisia-Rae Lind Kaina | Caroline Walker |
| Babette Lopez | |

Two individuals sent email comments that were not retrievable and did not re-send comments after being notified: Sarai Boeche and Strano Castro.

Written replies were provided in response to all comments received in writing during the EISPN public comment period and are included at the end of this chapter. If a written comment was submitted by email with no U.S. Postal Service mailing address provided, the response letter was sent by email.



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Pacific Islands Water Science Center
1845 Wasp Boulevard, Building 176
Honolulu, Hawaii 96818

Phone: (808) 690-9600/Fax: (808) 690-9599

October 17, 2016

Ms. Sandra Rossetter, Project Manager
State of Hawai'i
Department of Transportation Harbors Division
Attn: Planning Section
79 South Nimitz Highway
Honolulu, Hawai'i 96813

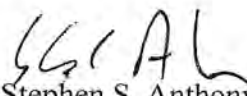
Dear Ms. Rossetter:

Subject: Hāna Pier Deck Removal
Hāna District, Island of Maui
Adjacent to TMK (2) 1-4-004:036

Thank you for your letter regarding availability of the subject EISPN for review and comment by the staff of the U.S. Geological Survey Pacific Islands Water Science Center. We regret however, that due to prior commitments and lack of available staff, we are unable to review this document.

We appreciate the opportunity to participate in the review process.

Sincerely,


Stephen S. Anthony
Center Director

cc: Governor, State of Hawai'i
The Honorable David Y. Ige
Executive Chambers, State Capitol
415 South Beretania Street
Honolulu, Hawai'i 96813

HHF Planners

Pacific Guardian Center
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8338.17
R/S: 17.0260

February 10, 2017

Mr. Stephen S. Anthony, Center Director
U.S. Geological Survey, Pacific Islands Water Science Center,
U.S. Department of the Interior
1845 Wasp Boulevard, Building 176
Honolulu, Hawai'i 96818

Dear Mr. Anthony:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui,
Project H.C. 30108

Thank you for your letter dated October 17, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comment has been documented and will be included in the Draft EIS. We offer the following response.

We note that you were unable to review the EIS preparation notice during the review period. After the Draft EIS is published, you will have additional opportunity to provide comments.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami".

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

DAVID Y. IGE
GOVERNOR



DOUGLAS MURDOCK
COMPTROLLER

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

OCT 20 2016

(P)1300.6

Ms. Sandra Rossetter, Project Manager
Planning Section, Harbors Division
Department of Transportation
79 South Nimitz Highway
Honolulu, HI 96813

Dear Ms. Rossetter:

Subject: Hana Pier Deck Removal
Hana District, Island of Maui, Hawaii
Adjacent to TMK: (2) 1-4-004:036

Thank you for the opportunity to comment on the subject project. We have no comments to offer at this time as the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

If you have any questions, your staff may contact Ms. Dora Choy of the Public Works Division at 586-0488.

Sincerely,

A handwritten signature in black ink that reads "Scott M. Ojiri".

SCOTT M. OJIRI
Acting Public Works Administrator

DC:lnn

c: The Honorable David Y. Ige, Governor, State of Hawaii
✓ Ms. Gail Renard, HHF Planners
Mr. Wade Shimabukuro, DAGS-MDO

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR


Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8345.17
R/S: 17.0259

February 10, 2017

TO: MR. SCOTT M. OJIRI
ACTING PUBLIC WORKS ADMINISTRATOR,
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

FROM: FORD N. FUCHIGAMI 
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated October 20, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comment letter has been documented and will be included in the Draft EIS. We offer the following response.

We note that the subject project does not impact any Department of Accounting and General Services' projects or existing facilities.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai



OFFICE OF PLANNING STATE OF HAWAII

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/>

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

Ref. No. P-15360

October 31, 2016

Ms. Sandra Rossetter, Project Manager
Department of Transportation Harbors Division
State of Hawai'i
79 South Nimitz Highway
Honolulu, Hawai'i 96813

Attn: Planning Section

Dear Ms. Rossetter:

Subject: Environmental Impact Statement Preparation Notice for Hāna Pier Deck
Removal, Hāna District, Maui, Hawai'i; Adjacent to Tax Map Key: (2) 1-4-004:
036

Thank you for the opportunity to provide comments on the subject Environmental Impact Statement Preparation Notice (EISPN), transmitted via letter dated October 6, 2016.

The subject EISPN was published by the Office of Environmental Quality Control in the October 8, 2016, *Environmental Notice*.

According to the subject EISPN, the proposed action involves the removal of a deteriorated pier superstructure and access trestle at Hāna Harbor, Maui, Hawai'i. The purpose of the proposed action is to remove the public safety hazard risk presented by the deteriorated pier. The existing piles would remain in place to reduce adverse impacts to corals that have colonized on the piles. The project duration is estimated at approximately four to six months.

The Office of Planning (OP) has reviewed the subject EISPN and has the following comments to offer.

1. OP provides technical assistance to state and county agencies in administering the statewide planning system in Hawaii Revised Statutes (HRS) Chapter 226, the Hawai'i State Planning Act. The Hawai'i State Planning Act presents the goals, objectives, priorities, and priority guidelines for growth, development, and the allocation of resources through the State. The Hawai'i State Planning Act includes diverse policies and objectives of state interest including but not limited to the economy, agriculture, the visitor industry, federal expenditure, the physical

environment, facility systems, socio-cultural advancement, climate change adaptation, and sustainability.

The subject Environmental Impact Statement (EIS) should include an analysis on the Hawai'i State Planning Act, HRS Chapter 226, that addresses how the proposed action will conform with state and county plans, policies and controls, and meet the objectives and policies, and priority guidelines listed in HRS Chapter 226.

2. The coastal zone management area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the United States territorial sea" see HRS § 205A-1 (definition of "coastal zone management area").

HRS Chapter 205A requires all state and county agencies to enforce the coastal zone management area (CZM) objectives and policies. The assessment on compliance with HRS Chapter 205A is an important component for satisfying the requirements of HRS Chapter 343.

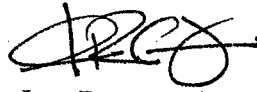
The subject EIS should include an assessment as to how the proposed action conforms to CZM objectives and its supporting policies set forth in HRS § 205A-2. These objectives and policies include: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection and marine resources.

3. The EISPN, page 6, mentions a potential staging area for the proposed project. The EIS should discuss the proposed staging area and activities, and confirm whether or not the staging area is within the Special Management Area designated by the County of Maui.
4. We concur that the subject EIS should address potential impacts of climate change and projected ranges of sea level rise on the remaining components of the pier.
5. If an U.S. Army Corps of Engineers Permit is required for the proposed project, please consult with our office for CZM federal review consistency by the Hawai'i CZM Program.

Ms. Sandra Rossetter, Project Manager
Department of Transportation Harbors Division
State of Hawai'i
October 31, 2016
Page 3

If you have any questions regarding this comment letter, please contact Mr. Shichao Li of our CZM Program at (808) 587-2841.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Asuncion', with a horizontal line extending to the right.

Leo R. Asuncion
Director

c:/Ms. Gail Renard, HHF Planners

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR


Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8346.17
R/S: 17.0274

February 10, 2017

TO: MR. LEO R. ASUNCION
DIRECTOR, OFFICE OF PLANNING, DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT AND TOURISM

FROM: FORD N. FUCHIGAMI 
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated October 31, 2016 (Ref. No. P-15360) commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

1. The Draft EIS will include a discussion of the Hawai'i State Planning Act and how the proposed action will conform with state and county plans, policies and controls, and meet the objectives, policies and priority guidelines listed in Hawaii Revised Statutes (HRS) Chapter 226.
2. The Draft EIS will include an assessment of how the proposed action conforms to coastal zone management (CZM) area objectives and supporting policies, as set forth in HRS Chapter 205A-2.
3. The Draft EIS will describe the potential construction staging area in relation to the Special Management Area designated by the County of Maui.
4. The Draft EIS will include a discussion of climate change and sea level rise on the remaining components of the pier.
5. We will consult with your office regarding CZM federal consistency review during the project's U.S. Army Corps of Engineers permitting process.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

DAVID Y. IGE
GOVERNOR



ARTHUR J. LOGAN
MAJOR GENERAL
ADJUTANT GENERAL

KENNETH S. HARA
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

October 13, 2016

HHF Planners
Pacific Guardian Center
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attn.: Ms. Gail Renard, Senior Associate

Subject: Hana Pier Removal Environmental Impact Statement Preparation Notice, Hana Harbor, Maui - Job H.C. 30108

Dear Ms. Renard:

Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no comments to offer relative to the project.

If you have any questions or concerns, please have your staff contact Mr. Lloyd Maki, Assistant Chief Engineering Officer at (808) 733-4250.

Sincerely,

NEAL S. MITSUYOSHI
Colonel, Hawaii National Guard
Chief Engineering Officer

c: Ms. Havinne Okamura, Hawaii Emergency Management Agency

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR


Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8348.17

February 10, 2017

TO: COLONEL NEAL S. MITSUYOSHI, CHIEF ENGINEERING OFFICER
HAWAII NATIONAL GUARD, DEPARTMENT OF DEFENSE

FROM: FORD N. FUCHIGAMI 
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated October 13, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comment letter has been documented and will be included in the Draft EIS. We note you have no comments on the subject project.

We will provide your office access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai



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

In reply, please refer to:
File:

EPO 16-349

October 21, 2016

Ms. Gail Renard
HHF Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813
Email: grenard@hhf.com

Dear Ms. Renard:

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for Hana Pier Removal, Maui
TMK: (2) 1-4-004:036

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your EISPN to our office via the OEQC link:

http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Maui/2010s/2016-10-08-MA-5B-EISPN-Hana-Pier-Deck-Removal.pdf

We understand from the OEQC publication form project that the proposed action is to remove the superstructure of Hana Pier and access trestle at Hana Harbor, Maui, Hawai'i. The concrete pier and its access trestle are currently condemned due to the deteriorated condition of its superstructure (i.e., deck, beams, pile caps, and trestle guardrails). The existing piles would remain in place to avoid adversely impacting corals that have colonized on the piles.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance and laws. State standard comments and available strategies to support sustainable and healthy design are provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments.

Hawaii's climate is changing. Sea level rise and the associated coastal impacts have the potential to harm an array of natural and built environments in Hawaii. For additional information on projected sea level rise in Hawaii, EPO recommends that you visit the following informative links.

1. State of Hawaii Climate Adaptation Portal: <http://climateadaptation.hawaii.gov>
2. University of Hawaii, Manoa, School of Ocean and Earth Sciences and Technology, Coastal Geology Group: <http://www.soest.hawaii.edu/coasts/index.html>
3. US Environmental Protection Agency – Climate Impacts on Coastal Areas: <https://www.epa.gov/climate-impacts/climate-impacts-coastal-areas>

EPO has recently updated the environmental Geographic Information System (GIS) website page. It now compiles various maps and viewers from our environmental health programs. The eGIS website page is continually updated so please visit it regularly at: <http://health.hawaii.gov/epo/egis>.

Ms. Gail Renard
Page 2
October 21, 2016

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: <https://eha-cloud.doh.hawaii.gov>. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

We suggest you review the requirements of the Clean Water Branch (HAR, Section 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: <http://health.hawaii.gov/cwb>. If you have any questions, please contact the Clean Water Branch, Engineering Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

If noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor and Radiological Health Branch at (808) 586-4700 and review relevant information online at: <http://health.hawaii.gov/irhb/noise>.

EPO recommends you review the need and/or requirements for a Clean Air Branch permit. The Clean Air Branch can be consulted via e-mail at: Cab.General@doh.hawaii.gov or via phone: (808) 586-4200.

In order to better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed a new environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: <http://www.epa.gov/ejscreen>.

We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design. Thank you for the opportunity to comment.

Mahalo nui loa,



Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

LM:nn

Attachment 1: Environmental Health Management Web App Snipit of Project Area: <http://health.hawaii.gov/epo/eqis>

Attachment 2: Clean Water Branch: Water Quality Standards Map - Maui

Attachment 3: Wastewater Branch: Recycled Water Use Map of Project Area

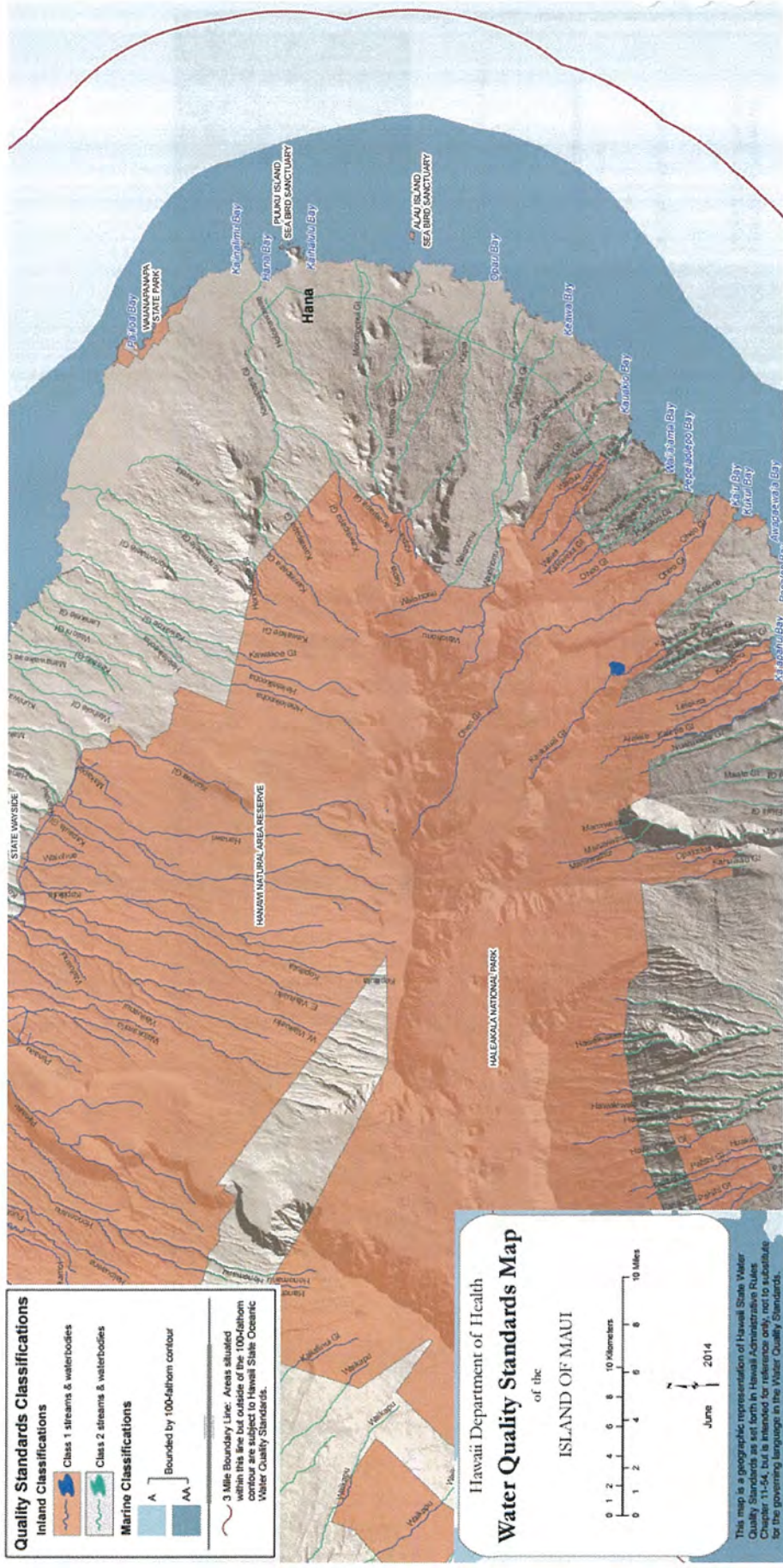
Attachment 4: U.S. EPA EJSCREEN Report for Project Area

c: Sandra Rossetter, DOT, Harbors Division {via email: Sandra.c.rossetter@hawaii.gov}
DOH: DHO Maui, CWB, IRHB, CAB {via email only}

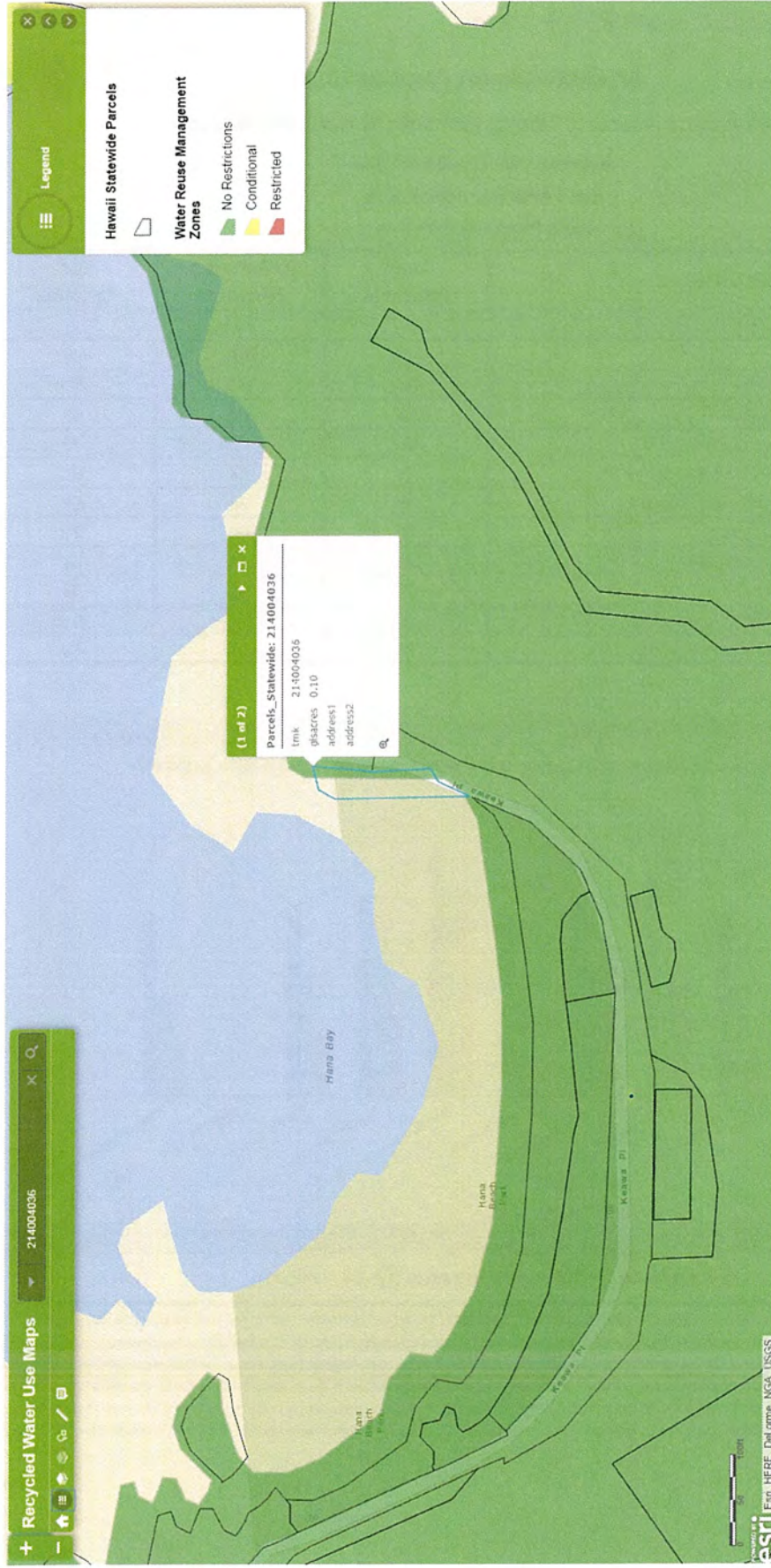
Attachment 1: Environmental Health Management Web App Snipit of Project Area: <http://health.hawaii.gov/epo/egis>



Attachment 2: Clean Water Branch: Water Quality Standards Map - Maui



Attachment 3: Wastewater Branch: Recycled Water Use Map of Project Area





EJSCREEN Report (Version 2016)



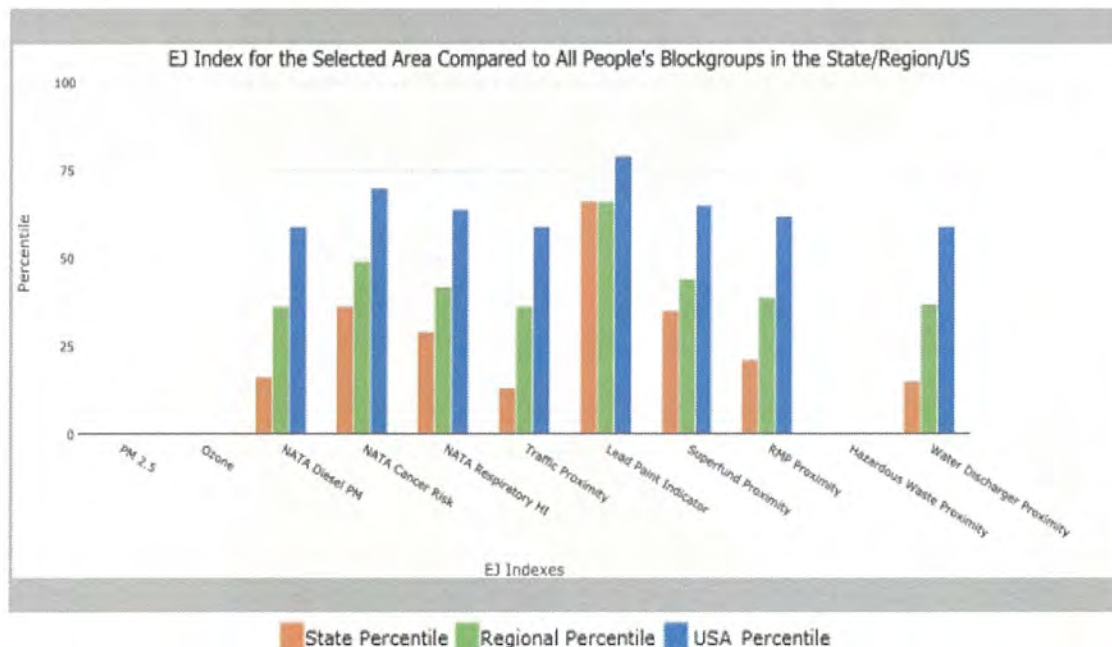
1 mile Ring Centered at 20.755912,-155.982061, HAWAII, EPA Region 9

Approximate Population: 538

Input Area (sq. miles): 3.14

Hana Pier Deck Removal

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	16	36	59
EJ Index for NATA* Air Toxics Cancer Risk	36	49	70
EJ Index for NATA* Respiratory Hazard Index	29	42	64
EJ Index for Traffic Proximity and Volume	13	36	59
EJ Index for Lead Paint Indicator	66	66	79
EJ Index for Superfund Proximity	35	44	65
EJ Index for RMP Proximity	21	39	62
EJ Index for Hazardous Waste Proximity*	N/A	N/A	N/A
EJ Index for Water Discharger Proximity	15	37	59



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

1 mile Ring Centered at 20.755912,-155.982061, HAWAII, EPA Region 9

Approximate Population: 538

Input Area (sq. miles): 3.14

Hana Pier Deck Removal



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0
National Pollutant Discharge Elimination System (NPDES)	0

1 mile Ring Centered at 20.755912,-155.982061, HAWAII, EPA Region 9

Approximate Population: 538

Input Area (sq. miles): 3.14

Hana Pier Deck Removal

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	N/A	N/A	N/A	9.37	N/A	9.32	N/A
Ozone (ppb)	N/A	N/A	N/A	51	N/A	47.4	N/A
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	0.00842	0.149	3	0.978	<50th	0.937	<50th
NATA* Cancer Risk (lifetime risk per million)	24	34	0	43	<50th	40	<50th
NATA* Respiratory Hazard Index	0.47	1	1	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	0	990	4	1100	2	590	2
Lead Paint Indicator (% Pre-1960 Housing)	0.21	0.16	67	0.24	57	0.3	51
Superfund Proximity (site count/km distance)	0	0.098	29	0.15	13	0.13	16
RMP Proximity (facility count/km distance)	0.021	0.19	4	0.57	2	0.43	1
Hazardous Waste Proximity* (facility count/km distance)	N/A	0.14	N/A	0.14	N/A	0.11	N/A
Water Discharger Proximity (facility count/km distance)	0.00049	0.34	6	0.2	3	0.31	1
Demographic Indicators							
Demographic Index	66%	52%	88	47%	76	36%	86
Minority Population	85%	77%	56	58%	75	37%	87
Low Income Population	48%	26%	88	36%	69	35%	73
Linguistically Isolated Population	0%	6%	23	9%	19	5%	44
Population With Less Than High School Education	11%	9%	69	17%	45	14%	52
Population Under 5 years of age	7%	6%	59	7%	53	6%	57
Population over 64 years of age	14%	15%	48	13%	67	14%	58

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

+ The hazardous waste environmental indicator and the corresponding EJ Index will appear as N/A if there are no hazardous waste facilities within 50 km of a selected location.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8344.17

February 10, 2017

TO: MS. LAURA LEIALOHA PHILLIPS MCINTYRE, AICP
PROGRAM MANAGER, ENVIRONMENTAL PLANNING OFFICE
DEPARTMENT OF HEALTH

FROM: FORD N. FUCHIGAMI
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated October 21, 2016 (Ref: EPO 16-349), commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We appreciate the resources you have provided relating to Standard Comments, the Environmental Health Portal, Water Quality Standards Maps, and various sources on strategies to support the sustainable and healthy design of communities and buildings. The project will adhere to all applicable standard comments and apply sustainability strategies and principles to the extent practicable.

We appreciate the resources you provided on climate change. The Draft EIS will address sea level rise and coastal impacts.

We acknowledge your comment on noise. The EIS Preparation Notice identified the potential requirement for a noise permit and the Draft EIS will include a discussion of noise impacts. We will coordinate with the Indoor and Radiological Health Branch and obtain required permits prior to commencement of work.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR:ai

17.0232

DAVID Y. IGE
GOVERNOR OF HAWAII

16 OCT 17 AM 11:38



VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

HARBORS DIVISION

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, HAWAII 96793-3378

LORRIN W. PANG, M.D., M.P.H.
DISTRICT HEALTH OFFICER

October 13, 2016

Ms. Sandra Rossetter
Project Manager
Harbors Engineering Planning Section
Department of Transportation
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Ms. Rossetter:

**Subject: Hana Pier Deck Removal
Wainanalua Ahupua'a, Hana District
North of TMK: (2) 1-4-004:036**

Thank you for the opportunity to review this project. We have the following comments to offer:

1. A Section 401 Water Qualification Certification (WQC) may be required. To determine if your project requires a federal permit, license, certificate, approval, registration, or statutory exemption, please contact the appropriate federal agencies (e.g. Department of the Army, US Army Corps of Engineers, Pacific Ocean Division Honolulu District Office; US Environmental Protection Agency; Federal Energy Regulatory Commission; US Coast Guard; etc.). To request a Section 401 WQC, you must complete and submit the Section 401 application. This application is available on the e-Permitting Portal website located at: <https://eha-cloud.doh.hawaii.gov/epermit/>.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor & Radiological Health Branch at 808 586-4700.

Ms. Sandra Rossetter
October 13, 2016
Page 2

It is strongly recommended that the Standard Comments found at the Department's website: <http://health.hawaii.gov/epo/home/landuse-planning-review-program/> be reviewed and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please contact me at patricia.kitkowski@doh.hawaii.gov or 808 984-8230.

Sincerely,



Patti Kitkowski
District Environmental Health Program Chief

c EPO
OEQC
Gail Renard

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097


FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8349.17
R/S: 17.023

February 10, 2017

TO: MS. PATTI KITKOWSKI
DISTRICT ENVIRONMENTAL HEALTH PROGRAM CHIEF
MAUI DISTRICT HEALTH OFFICE
DEPARTMENT OF HEALTH

FROM: FORD N. FUCHIGAMI 
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated October 13, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

1. If required, a Section 401 Water Quality Certification will be obtained.
2. The Draft EIS will include a discussion of potential noise impacts and the potential requirement for a noise permit during the construction period.
3. The project will adhere to all applicable standard Department of Health comments and requirements.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English, Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard), DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

DAVID Y. IGE
GOVERNOR OF HAWAII



SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 4, 2016

State of Hawaii
Department of Transportation – Harbors Division
Attention: Ms. Sandra C. Rossetter, Project Manager via email: Sandra.c.rossette@hawaii.gov
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Ms. Rossetter:

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for the Hana Pier Deck Removal

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 12, 2016

MEMORANDUM

RECEIVED
LAND DIVISION
2016 OCT 28 PM 4:42
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

~~TO:~~

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division**
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Maui District
- Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator *RS*
 SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for the Hana Pier Deck Removal
 LOCATION: Hana District, Island of Maui; TMK: (2) 1-4-004:036
 APPLICANT: State Department of Transportation – Harbors Division

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **November 3, 2016**.

The EISPN can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice under Quick Links on the right.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *Carty S. Chang*
 Print Name: Carty S. Chang, Chief Engineer
 Date: 10/28/16

cc: Central Files

**DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION**

To: Land Division
Ref: Environmental Impact Statement Preparation Notice (EISPN) for the Hana Pier Deck Removal

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a designated Flood Hazard.

The owner or the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zone designations can be found using the Flood Insurance Rate Map (FIRM), which can be accessed through the Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaiiinfip.org/FHAT>).

National Flood Insurance Program establishes the rules and regulations of the NFIP - Title 44 of the Code of Federal Regulations (44CFR). The NFIP Zone X is a designation where there is no perceived flood impact. Therefore, the NFIP does not regulate any development within a Zone X designation.

Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may take precedence over the NFIP standards as local designations prove to be more restrictive. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- o Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- o Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- o Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- o Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: 
CARTY S. CHANG, CHIEF ENGINEER

Date: 10/28/16

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8347.17

February 10, 2017

TO: MR. RUSSELL Y. TSUJI
LAND ADMINISTRATOR, LAND DIVISION, DEPARTMENT OF LAND
AND NATURAL RESOURCES

FROM: FORD N. FUCHIGAMI 
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated November 4, 2016 with comments from the Engineering Division on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following response.

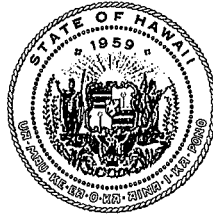
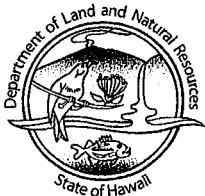
The Draft EIS will include a description of the project relative to designated Flood Hazard zones. The project will adhere to applicable rules and regulations of the National Flood Insurance Program and/or applicable local community flood ordinances.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

DAVID Y. IGE
GOVERNOR OF
HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

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

REF: OCCL: AJR

COR: MA-17-95

NOV - 4 2016

Ms. Sandra Rossetter
c/o Hawaii DOT – Harbors Division
79 South Nimitz Highway
Honolulu, HI 96813

**SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (EISPN) FOR
THE HANA PIER DECK REMOVAL PROJECT**
Hana District, Island of Maui
TMK: (2) 1-4-004:036

Dear Ms. Rossetter,

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your request for our review of the *Environmental Impact Statement Preparation Notice* (EISPN) for the Hāna Pier Deck Removal project. For reference, it appears that the project parcel, and subsequent submerged lands, are located within the State Land Use Conservation District *Resource* Subzone. Staff notes that this EISPN is being pursued in conformance with §343, Hawaii Revised Statutes (HRS), as amended, and HAR, §11-200-8.

According to the information provided in your letter, the *State of Hawaii Department of Transportation – Harbors Division* (DOT-H) is proposing to demolish and remove the existing Hana Pier superstructure and pile caps; pilings will be left in place and cut to either +4 ft. or +1 ft. above the Mean Lower Low Water (MLLW) elevation.

Additionally, a staging area, located onshore near the project site, will also be created to accommodate the demolition activities. Based on the submitted documents it is unclear where the staging area will be located, and if it will be sited within the SLU Conservation District. The OCCL will require the exact location of the proposed staging area in order to determine if it will require approval via the OCCL.

The demolition of the pier superstructure and pile caps is considered an identified land use pursuant to Hawaii Administrative Rules (HAR) §13-5-22, P-8 **STRUCTURE AND LAND USES, EXISTING (B-1)** *Demolition, removal, or minor alteration of existing structures, facilities, land, and equipment. Any historic property shall be evaluated by the department of historical significance.*

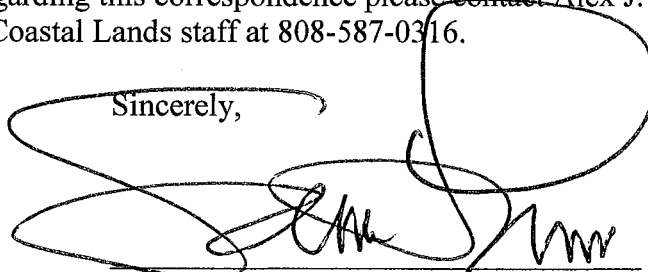
In order to apply for approval to remove the pier superstructure and pile caps, the applicant will be required to submit to this office a completed Site Plan Approval (SPA) application and associated documents for review. A blank SPA application can be downloaded from our website:

<http://dlnr.hawaii.gov/occl/forms-2/>

Please note that the final design siting of the proposed construction staging area may alter this initial regulatory determination. The OCCL reserves the right to modify our regulatory requirements for this proposed project if the proposed uses change, or include additional land uses within the SLU Conservation District.

If you have any questions regarding this correspondence please contact Alex J. Roy, M.Sc. of our Office of Conservation and Coastal Lands staff at 808-587-0316.

Sincerely,

A handwritten signature in black ink, appearing to read 'Samuel J. Lemmo', is written over a horizontal line. The signature is stylized and somewhat cursive.

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

CC: *Governor, State of Hawai'i – Executive Chambers, State Capital*
Chairperson
MDLO
DAR
DOBOR
USACOE
Maui County Planning Department
HHF Planners, 733 Bishop St., Ste. 2590, Honolulu, HI 96813




STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8350.17
R/S: 17.0287

February 10, 2017

TO: MR. SAMUEL J. LEMMO
ADMINISTRATOR, OFFICE OF CONSERVATION AND COASTAL
LANDS, DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: FORD N. FUCHIGAMI 
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated November 4, 2016 (COR: MA-17-95) commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

1. The Draft EIS will describe the potential staging area in relation to the State Conservation District. If required, the appropriate approval from your office will be sought.
2. It is our understanding that Act 86, 2013 Session Laws of Hawai'i amended Hawai'i Revised Statutes, Chapter 266, to exempt all work involving submerged lands used for state commercial harbor purposes from permitting and site plan approval requirements established for lands in a Conservation District. Because the pier and trestle are located in Department of Transportation-controlled submerged lands, our interpretation is that the proposed demolition of pier superstructure and pile caps is therefore exempt from the site plan approval by your office.
3. We note that the final project design, including construction staging area, may alter the initial regulatory determination contained in your comment letter.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai



OFFICE OF ENVIRONMENTAL QUALITY CONTROL

DEPARTMENT OF HEALTH | 235 South Beretania Street, Suite 702, Honolulu, HI 96813 | oeqchawaii@doh.hawaii.gov

DAVID Y. IGE
GOVERNOR

SCOTT GLENN
DIRECTOR

(808) 586-4185

October 24, 2016

Sandra Rossetter
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, HI 96813

Dear Ms. Rossetter,

SUBJECT: Environmental Impact Statement (EIS) Preparation Notice for Hāna Pier Deck Removal

The Office of Environmental Quality Control (OEQC) has reviewed the EIS Preparation Notice (EISPN) for the subject project and offers the following comments:

1. From the material provided in the EISPN, an inference can be made that the Hāna community may prefer for the pier (and deck) to remain and be improved to enhance local community values, just not used for commercial purposes. While such a course of action may not meet the project purpose and need, we recommend exploring this concern in the Draft EIS, perhaps as an alternative to transfer the pier's jurisdiction to another agency.
2. The first full paragraph on Page 6 in the Proposed Action section repeats the word "removed" in apparent reference to lowering the height of the piles; this terminology contradicts the preceding sentence that states "... existing piles would remain in place" Elsewhere, it is noted that "pile caps" will be removed; perhaps this is what is meant when the narrative states that piles will be removed to various elevations. Please explain this so that readers have a clearer understanding of the proposed action.
3. Additionally, this paragraph states that the most-seaward Pile Row P will be removed to elevation +1.00 feet Mean Lower Low Water, suggesting that as the normal tide (let alone expected sea level rise) ranges above this rather low datum, the top of Row P piles will be barely submerged. Similarly, the next to last sentence of the paragraph states that, "After the pile caps are removed, Pile Row P would be approximately 1.5 feet below Mean Higher High Water." This seems to confirm that the top of the piles would be barely submerged at the higher range of the tide. If true, this seems to be a potentially hazardous situation, with concomitant liability. Perhaps a clarification is required to accurately describe the proposed action.
4. In the Draft EIS, please include the location where the removed concrete material will be disposed, the means by which it will be transported there, and an estimated volume of the material.

Thank you for the opportunity to comment on the EISPN. We look forward to a response that will also be included in the Draft EIS. If you have any questions, please contact our office at (808) 586-4185.

Sincerely,

Scott Glenn, Director

cc: HHF Planners

17-182

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR


Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8351.17

February 10, 2017

TO: MR. SCOTT GLENN
DIRECTOR, OFFICE OF ENVIRONMENTAL QUALITY CONTROL,
DEPARTMENT OF HEALTH

FROM: FORD N. FUCHIGAMI 
DIRECTOR OF TRANSPORTATION

SUBJECT: HĀNA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT PREPARATION NOTICE, HĀNA, MAUI
PROJECT H.C. 30108

Thank you for your letter dated October 24, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

1. The Draft EIS will include a discussion of alternatives to meet the requirements of Hawaii Administrative Rules (HAR) Title 11 Chapter 200-17(f), which states that the draft EIS "...shall describe...alternatives *which could attain the objectives of the action...*" (emphasis added). Transferring the pier to another jurisdiction would not meet project objectives, which are appropriate considering the Department of Transportation, Harbors Division's (DOT-H) mission and the limitations of the agency's authority. Furthermore, DOT-H cannot unilaterally transfer jurisdiction to another agency. The Draft EIS will, however, discuss and consider jurisdictional concerns as appropriate.
2. The Draft EIS will clarify that the removal of the piles would involve the pile caps/tops of piles to a given elevation (i.e., not the entire length of the pile).
3. The Draft EIS will clarify the expected visibility of the remaining piles at Mean Higher High Water, as well as describe how potentially resulting navigation hazards would be addressed.
4. The Draft EIS will describe the order of magnitude volume, potential transportation modes, and potential receiving sites for the demolition debris; however, please note that the disposal/receiving sites and means of transportation will likely be decided by the construction contractor.

We will provide your office with a copy of the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

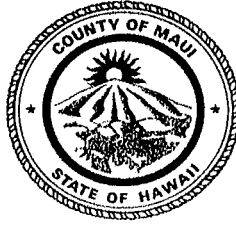
bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Aquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

ALAN M. ARAKAWA
Mayor

STEWART STANT
Director

MICHAEL M. MIYAMOTO
Deputy Director



MICHAEL RATTE
Solid Waste Division
ERIC NAKAGAWA, P.E.
Wastewater Reclamation Division

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**

2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

November 4, 2016

State of Hawaii
Department of Transportation Harbors division (DOT-H)
79 South Nimitz Highway
Honolulu, HI 96813
Attn: Ms. Sandra Rossetter, Project Manager

**SUBJECT: HANA PIER DECK REMOVAL
ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (EISPN)
ADJACENT TO TMK (2) 1-4-004:036, HANA, MAUI, HAWAII**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
 - a. None.
2. Wastewater Reclamation Division (WWRD) comments:
 - a. The County does not have a wastewater system in the area of the subject project.

If you have any questions regarding this letter, please contact Michael Miyamoto at 270-8230.

Sincerely,

A handwritten signature in black ink that reads "Stewart Stant". The signature is written in a cursive, flowing style.

STEWART STANT
Director of Environmental Management

xc: Governor, State of Hawaii
The Honorable David Y. Ige
Executive Chambers, State Capitol
415 South Beretania Street
Honolulu, HI 96813

✓ HHF Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813
Attn: Ms. Gail Renard

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8340.17
R/S: 17.0288

February 10, 2017

Mr. Stewart Stant, Director
Department of Environmental Management, County of Maui
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793

Dear Mr. Stant:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your letter dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following response.

We acknowledge that the Solid Waste Division has no comments and that the Wastewater Reclamation Division does not have a wastewater system in the project area.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ford N. Fuchigami".

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
HOUSING DIVISION
COUNTY OF MAUI

ALAN M. ARAKAWA
Mayor
CAROL K. REIMANN
Director
JAN SHISHIDO
Deputy Director

35 LUNALILO STREET, SUITE 102 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7351 • FAX (808) 270-6284

October 15, 2016

Ms. Sandra Rossetter, Project Manager
State of Hawaii, Department of Transportation Harbors Division
Attn: Planning Section
79 South Nimitz Highway
Honolulu, HI 96813

Dear Ms. Rossetter:

**Subject: Environmental Impact Statement Preparation Notice (EISPN)
for Hana Pier Deck Removal, Hana District, Island of Maui,
Adjacent to TMK (2) 1- 4- 004:036**

The Department has reviewed the request for Environmental Impact Statement Preparation Notice (EISPN) for the above subject project. Based on our review, we have determined that the subject project is not subject to Chapter 2.96, Maui County Code. At the present time, the Department has no additional comments to offer.

Please call Mr. Veranio Tongson Jr. of our Housing Division at (808) 270-1741 if you have any questions.

Sincerely,

BUDDY A. ALMEIDA
Housing Administrator

cc: Governor, State of Hawaii
HHF Planners ✓
Director of Housing and Human Concerns

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8341.17
R/S: 17.0251

February 10, 2017

Mr. Buddy A. Almeida, Housing Administrator
Department of Housing and Human Concerns
County of Maui
35 Lunalilo Street, Suite 102
Wailuku, Hawai'i 96793

Dear Mr. Almeida:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your letter dated October 15, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge that the project is not subject to Chapter 2.96, Maui County Code and that you have no additional comments at this time.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami".

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director



COUNTY OF MAUI

DEPARTMENT OF PLANNING

November 17, 2016

Ms. Gail Renard, Senior Associate
HHF Planners
Pacific Guardian Center
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Ms. Sandra Rossetter, Project Manager
State of Hawaii, Department of Transportation
Harbors Division, Planning Section
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Ms. Renard and Ms. Rossetter:

**SUBJECT: HANA PIER DECK REMOVAL ENVIRONMENTAL IMPACT
STATEMENT NOTICE OF PREPARATION, HANA BAY,
ISLAND OF MAUI, HAWAII, OFF-SHORE OF
TMK: (2)-1-4-004:001 (RFC 2016/0183)**

The Department of Planning (Department) is in receipt of your letter dated October 6, 2016, and received by the Department on October 11, 2016, in which you are requesting comments on the Notice of Preparation of an Environmental Impact Statement (EIS) for the removal of the Hana Pier Deck

The Department has reviewed the Notice of Preparation and offers the following comments:


1. Revise the project objectives so as not to preclude repair as a recreational pier and transfer to the Department of Land and Natural Resources (DLNR) or another entity.
2. Prior to drafting the EIS, hold a pre-consultation meeting with the County.

Ms. Gail Renard
Ms. Sandra Rossetter
November 17, 2016
Page 2

3. Prior to drafting the EIS, hold a joint community meeting including representatives from the Department of Transportation (DOT), DLNR and the County.
4. Make a presentation to Hana Advisory Committee to the Maui Planning Commission to solicit the Committee's input.
5. DOT should consider sending surveys to Hana residents soliciting their input and including Alternatives Considered with those in 7, 8, and 9, below.
6. The pier is considered to be historically and culturally significant and may be eligible for listing on the Hawaii or National Register of Historic Places. Please discuss this aspect and mitigation for the loss of the pier deck.
7. Include a Cultural Impact Assessment in the EIS.
8. The Alternatives Considered Section should include a full discussion of repairing the pier and transferring it to the DLNR for use as a recreational pier.
9. The Alternatives Considered Section should include a full discussion of repairing the pier as a commercial pier.
10. The Alternatives Considered Section should include a full discussion of the Complete Deck and Pile Removal option.
11. Each of the alternatives should include a discussion from the health and safety perspective, including effects on access in the case of an emergency.

Thank you for your cooperation. If additional clarification is required, please contact Staff Planner Keith Scott by email at keith.scott@mauicounty.gov or by telephone at (808) 463-3867.

Sincerely,



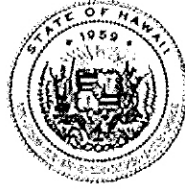
WILLIAM SPENCE
Planning Director

Ms. Gail Renard
Ms. Sandra Rossetter
November 17, 2016
Page 3

xc: Clayton I. Yoshida, AICP, Planning Program Administrator (PDF)
John S. Rapacz, Planning Program Administrator (PDF)
Keith C. Scott, Staff Planner (PDF)
Don Smith, Hawaii Department of Transportation (PDF)
Ed Sniffin, Hawaii Department of Transportation (PDF)
Scott Glenn, Office of Environmental Quality Control (PDF)
General File
Project File

WRS:KCS:lk

K:\WP_DOCS\PLANNING\RFC\2016\0183_HDOT_Remove Hana Pier Deck\Comments_EIS\Notice of Prep.doc



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8343.17
R/S: 17.0321

February 10, 2017

Mr. William R. Spence, Director
Department of Planning, County of Maui
2200 Main Street, Suite 315
Wailuku, Maui, Hawai'i 96793

Dear Mr. Spence:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

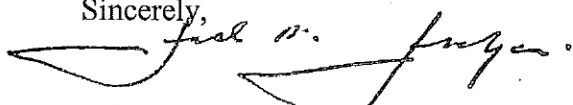
Thank you for your letter dated November 17, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your email was received after the 30-day review period, which ended on November 7, 2016. In the future please submit comments within the review period or they may not be accepted. If you know that you are submitting comments and need additional time, please let us know so that we can plan accordingly. Your comments have been documented and will be included in the Draft EIS. For ease of reference, we offer the following responses, organized according to the numbering system in your letter.

1. We note your comment regarding revising the EIS project objectives so as not to preclude the transfer of Hāna Pier to the Department of Land and Natural Resources (DLNR) or another agency for repair as a recreational pier. The Department of Transportation, Harbors Division (DOT-H) does not have the authority to change the pier's current jurisdiction, which leaves the agency responsible for the structure. The EIS project objectives are appropriate given the limitations of DOT-H's authority and mission. Only alternatives that meet the purpose and need, and project objectives will be carried through the environmental analysis.
2. In response to your comment asking for a pre-consultation meeting, DOT-H has communicated with Maui County since 2013 about the project and will continue to do so. It should be noted that DOT-H has held multiple on-island public informational meetings (to which Maui County representatives have been invited) that have contributed to the present proposed action. DOT-H will continue to communicate with Maui County.
3. In response to your comment to hold a community meeting including representatives from DOT, DLNR, and Maui County, as mentioned above, several public informational meetings have already been held to discuss related issues. While DOT-H is continuing to communicate with DLNR and Maui County, no additional public meetings are currently scheduled.

4. In response to your request to make a presentation to the Hāna Advisory Committee, DOT-H encourages both the Hāna Advisory Committee and the Planning Commission to provide input through the EIS process.
5. We note your suggestion to send out surveys to solicit input from the Hāna residents on alternatives suggested in your comment letter. Two of the alternatives suggested in your letter (Items 8 and 9) do not meet the project objectives; therefore, it would not be productive to poll Hāna residents on these alternatives. Please note that in December 2015, DOT-H sent a survey to each household in Hāna regarding the alternative in Item 9. The results of the survey contributed to the current pier deck removal project. Hāna residents are encouraged to provide further input through the EIS process.
6. We are well aware of the historical and cultural importance of the pier and are actively consulting with the DLNR, State Historic Preservation Division. Analysis of these resources and proposed mitigation will be included in the Draft EIS.
7. A Cultural Impact Assessment (CIA) was prepared for the proposed action in compliance with Act 50, Session Laws of Hawaii 2000. The Draft EIS will include the findings of the CIA.
8. In response to your comment to include a full discussion of transferring the pier to DLNR for recreational purposes, please see Item 1.
9. In response to your comment that the Alternatives Section should include a full discussion of repairing the pier as a commercial pier, we refer you to the input received at the last two public informational meetings and the results of the surveys sent out to Hāna residents. There is well-documented, community-wide opposition to any commercial use of the pier. This will be fully discussed in the Draft EIS.
10. Similar to the EIS Preparation Notice, the Draft EIS will include a discussion of a Complete Deck and Pile Removal alternative. Please note that this alternative does not fully meet the project objectives and will not be carried through the environmental analysis.
11. The Draft EIS will include a discussion of the project's impacts on public health and safety. The underlying intent of this comment appears to be asking for the impacts of removing the pier deck on emergency access, rather than the health and safety of those individuals who trespass onto a condemned pier structure. Please note that due to its current condition, the pier cannot currently be accessed by vessels in an emergency. Therefore, there would be no impact to current ocean emergency access with or without the pier deck.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English, Representative Lynn DeCoite, Representative Henry Aquino, HHF (Gail Renard), DEP-H, HAR, HAR-M, HAR-ESP

ALAN M. ARAKAWA
Mayor

DAVID C. GOODE
Director

ROWENA M. DAGDAG-ANDAYA
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955



GLEN A. UENO, P.E., P.L.S.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

LESLI L. OTANI, P.E., L.S.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM NO. 434
WAILUKU, MAUI, HAWAII 96793

October 24, 2016

Ms. Sandra Rossetter, Project Manager
STATE OF HAWAII – DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION (DOT-H)
Attention: Planning Section
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Ms. Rossetter:

**SUBJECT: HANA PIER DECK REMOVAL
HANA DISTRICT, ISLAND OF MAUI
ADJACENT TO TMK: (2) 1-4-004:036**

We reviewed the subject application and have no comments at this time.

If you have any questions regarding this memorandum, please call Rowena Dagdag-Andaya at (808) 270-7845.

Sincerely,


DAVID C. GOODE
Director of Public Works

DCG:RMDA:da

xc: Engineering Division
David Y. Ige, Governor, State of Hawaii
HHF Planners

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DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8342.17

February 10, 2017

Mr. David C. Goode
Director of Public Works
Department of Public Works, County of Maui
200 South High Street, Room 434
Wailuku, Hawai'i 96793

Dear Mr. Goode:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your letter dated October 24, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. We acknowledge that you have no comments at this time. Your comment letter has been documented and will be included in the Draft EIS, which we will provide your office access to for your review.

We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami".

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

ALAN M. ARAKAWA
Mayor



DAVID TAYLOR, P.E.
Director

PAUL J. MEYER
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

October 27, 2016

Ms. Sandra Rossetter, Project Manager
Planning Section
State of Hawai'i, Department of Transportation Harbors Division (DOT-H)
79 South Nimitz Highway
Honolulu, HI 96813

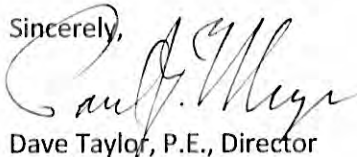
Re: Adjacent to TMK: (2) 1-4-004-:036
Environmental Impact Statement Preparation Notice (EISPN) for the Hana Pier Deck
Removal Project

Dear Ms. Rossetter,

Thank you for the opportunity to offer comments on the referenced project. The Department of Water Supply (DWS) understands that the DOT will remove the existing deteriorated pier superstructure and pile caps.

Please note that DWS infrastructure includes a 2 ½-inch pipe within the project area as well as a 3-inch valve within or near the project area that project design should consider. Best Management Practices relating to the protection of water supply should be incorporated in the EIS.

If you have any questions, please contact Audrey Dack, Staff Planner, at audrey.dack@co.maui.hi.us or at (808) 463-3009.

Sincerely,

Paul J. Meyer

Dave Taylor, P.E., Director
apd

cc: The Honorable David Y. Ige, Governor State of Hawai'i
Gail Renard, HHF Planners

"By Water All Things Find Life"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8339.17

February 10, 2017

Mr. Dave Taylor, P.E., Director
Department of Water Supply, County of Maui
200 South High Street
Wailuku, Hawai'i 96793-2155

Dear Mr. Taylor:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your letter dated October 27, 2016 (sent via e-mail November 7, 2016) commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

1. We acknowledge that the Department of Water Supply has a 2 1/2-inch pipe and a 3-inch valve within, or near, the project area.
2. Best Management Practices relating to the protection of water supply will be incorporated in the EIS.

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this State project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami".

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Wendy Acosta <wacasta@gmail.com>
Sent: Monday, November 07, 2016 3:15 PM
To: Sandra.c.rossetter@hawaii.gov; Gail Renard
Subject: Hana Pier EIS

Aloha!

I'd like to add my input to your Hana Pier decision.

As you are aware, the State did go to Hana and has tried to talk to the community about the necessity of repairing or removing the pier. I'm sure you are also aware that due to it's current status as a Dept of Transportation responsibility, rehabilitation comes with requirements for commercial use.

Since the State representatives present at that meeting were unable to provide a definition of 'commercial', and since the community experience with other 'commercial harbors' around the island are limited to gates, limited public access and cruise ships, those who responded to you reluctantly agreed that removal might be best. No one in Hana could imagine the overwhelming deluge of 10000 tourists disembarking from a cruise ship on a regular basis, and that image is what drove the agreement.

All agree with you that the Pier needs maintenance and work. The majority do not agree that this cultural icon should be removed.

I ask that you create the capacity to 'start over', with complete information as to the definition of 'commercial', and with viable options for the rebuilding and restoration of the Hana Pier. This could entail moving it to another department, creating a rehab plan that maintains it's historical importance while allowing a limited amount of well defined commercial use, or even moving the Harbor into a fully functional pier for use by residents and local commercial fishermen.

I understand that in the end, the process may end up exactly where it is right now, but I believe that working together with the Hana community, you will be able to create a viable, safe plan to keep the Hana Pier as an icon for future generations.

It would be a mistake to continue on this path knowing that misunderstanding and poor communication are the basis of your decision at this time. This situation reminds me of one in WA St, where the Dept of Highways insisted on removing 100 mature trees because they were in the right of way. Neither party would listen to each other. After those trees fell, it was realized that they were mandated by another department to be there to provide visual blocking of the junk yard behind them. The State had to replant the trees. We can't replant a cultural icon.

Mahalo for taking the time to listen. I look forward to working with you.

Sincerely,

Wendy Acosta, Haliimaile

From: [Hana Pier EIS](#)
To: ["Wendy Acosta"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Wednesday, March 08, 2017 5:26:00 PM
Attachments: [2017-02-24 \(DIR Acosta, Wendy\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8390.17

February 24, 2017

Wendy Acosta
wacastsa@gmail.com

Dear Ms. Acosta:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

Due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

At the July 10, 2013 public informational meeting, the presentation included a clarification of the Department of Transportation, Harbors Division's (DOT-H) mission and provided several examples of uses that would be allowed under its commercial jurisdiction. These included emergency response, cargo (exporting, importing goods and materials such as produce, building materials, fuel etc.), passenger vessels, smaller-scale cruise operations and commercial fishing. It was also explained that the design of the pier, depth of the bay, and lack of supporting infrastructure would inherently limit access and use of the pier. As an example it was stated that large cruise ships would not have been allowed. While DOT-H provides infrastructure for commercial use, it does not run specific commercial operations. Without any proposal for commercial use, the general allowed uses were all the information available.

Any plans to repair the pier for strictly recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Wendy Acosta
February 24, 2017
Page 2

HAR-EP
8390.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large loop and a horizontal line extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Kamaui Aiona <kamaui.aiona@gmail.com>
Sent: Thursday, October 13, 2016 10:05 AM
To: Sandra.c.rossetter@hawaii.gov
Cc: Gail Renard
Subject: Hana Pier Comment

Aloha,

My name is Kamaui Aiona and I live in Hana. I've stood on the sidelines during the many Hana pier discussions and improvements and haven't been moved to speak my opinion.

I am still "up in the air" when considering what the best solution is for Hana pier. It is an issue with many sides and a difficult one at best to resolve. People will be unhappy with the results no matter which solutions is chosen.

The only comment I'd like to submit is this: If the piles are to remain, at what height from the average water surface will they be cut off? Will they be cut off below the water line or above? Two of the main community concerns I've heard are related to the family fishing traditions and rite of passage traditions with what we call "the wharf." Can those piles be repurposed to slightly modify and yet continue these traditions for the community? I.e. Refurbish the piles so they can support a minimal cat walk that our kids can jump from (although this use might not be appropriate for your project, it will undoubtedly be used for this purpose by the kids) as well as provide access for families to continue to fish and teach their kids how to fish off a "new wharf."

I imagine you folks have thought about this idea before. I hope that its one that can be given careful consideration. Please contact anytime to discuss further.

Mahalo,
Kamaui
808-268-2063

Sent from my iPad

This message has been scanned for viruses and dangerous content using Worry-Free Mail Security and is believed to be clean.

From: [Hana Pier EIS](#)
To: ["Kamaui Aiona"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Wednesday, March 08, 2017 5:28:00 PM
Attachments: [2017-02-17 \(DIR Aiona, Kamaui\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8383.17

February 17, 2017

Mr. Kamaui Aiona
Kamaui.aiona@gmail.com

Dear Mr. Aiona:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated October 13, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

In response to your question as to the height of the piles, the proposed action is to completely remove the deck and superstructure leaving the piles +4.00 feet Mean Lower Low Water (MLLW), except for the piles in Row P (the most seaward row of piles), which are proposed to be removed to an elevation of +1.00 feet MLLW. With the exception of Row P, the tops of the pile would be visible during Mean Higher High Water, high tide.

In response to your question regarding the repurposing of the piles for recreational, fishing and cultural use; at this time the EIS is focused on the removal of the pier deck. The mission of the Department of Transportation, Harbors Division is *"to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels."* Any plans to accommodate recreational uses would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

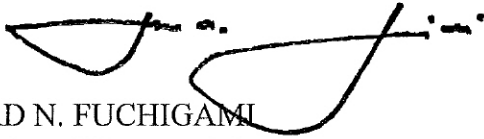
We note the concerns that have been expressed by you and others, regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Mr. Kamaui Aiona
February 17, 2017
Page 2

HAR-EP
8383.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami'. The signature is stylized with a large, sweeping loop at the end.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Nanz C <nandicookie123@gmail.com>
Sent: Friday, November 04, 2016 9:34 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: A'ole Hana Pier

Dear DOT,

I am a student at Hana school and have not been a resident of Hana for very long, but long enough to have a strong connection to the place and people. The Hana pier has been standing where it is for over 100 years, Hana would never feel the same if it was taken away.

The pier provides food for many families all over Hana, if it was taken away these families would not have the usual resources they need. Also I dont like the fact that if you were to take it away you would just take off the top and just leave the posts that would take away Hana bays unique beauty. For the sake of our tiny community please dont take away our pier :)!!

This message has been scanned for viruses and dangerous content using Worry-Free Mail Security and is believed to be clean.

Gail Renard

From: Rossetter, Sandra C <sandra.c.rossetter@hawaii.gov>
Sent: Monday, November 14, 2016 4:19 PM
To: nandicookie123@gmail.com
Cc: Gail Renard
Subject: A'ole Hana Pier Comment

Gail forwarded me your email comment (see below). Please note that this message never reached me because you sent it to an incorrect email address.

Please specify that you are commenting on the Hana Pier Removal Environmental Impact Statement Preparation Notice and provide, at the least, your full name.

Mahalo

Sandra Rossetter

Harbors Division | Planning Office
79 S. Nimitz Highway
Honolulu, Hawaii 96813
(808) 587- 1886

-----Original Message-----

From: Nanz C [<mailto:nandicookie123@gmail.com>]
Sent: Friday, November 04, 2016 9:34 AM
To: sandra.c.rossetter@hawaii.gov; Gail Renard
Subject: A'ole Hana Pier

Dear DOT,

I am a student at Hana school and have not been a resident of Hana for very long, but long enough to have a strong connection to the place and people. The Hana pier has been standing where it is for over 100 years, Hana would never feel the same if it was taken away.

The pier provides food for many families all over Hana, if it was taken away these families would not have the usual resources they need. Also I dont like the fact that if you were to take it away you would just take off the top and just leave the posts that would take away Hana bays unique beauty. For the sake of our tiny community please dont take away our pier :)!!

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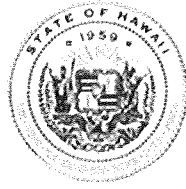
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["nandicookie123@gmail.com"](mailto:nandicookie123@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:23:00 PM
Attachments: [2017-02-17 \(DIR, Anonymous, nandicookie123@gmail.com\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Anonymous
nandicookie123@gmail.com

Dear Commenter:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Commenter
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping "F" and "N".

FORD N. FUCHIGAMI
Director of Transportation

From: ARABELLA ARK
To: grenard@hff.com; [Rossetter, Sandra C](#)
Subject: Hana Pier
Date: Monday, November 07, 2016 5:50:46 PM

Aloha,

As a forty-four year resident of Hawai'i and Hana, I respectfully ask you to leave the Hana pier alone. Do not remove it. Removal would be a colossal waste of money, cause pollution and disruption, and not be of benefit to anyone in our community.

Thank you.

Arabella Ark
PO Box 667
Hana, HI 96713

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8377.17

February 17, 2017

Ms. Arabella Ark
P.O. Box 667
Hāna, Hawai'i 96713

Dear Ms. Ark:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following response.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Arabella Ark
February 17, 2017
Page 2

HAR-EP
8377.17

We note the concerns that have been expressed by you and others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping loop that extends to the right and then curves back down to the left, crossing under the main body of the signature.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Rossetter, Sandra C

From: Lynn Barney <lbarney56@gmail.com>
Sent: Monday, November 07, 2016 8:42 AM
To: Rossetter, Sandra C
Subject: Hana Pier

I must protest the demo of the pier. It would be less expensive to fix and keep for emergencies only not commercial traffic. We live with massively changing weather pattern and I feel this would be a wiser choice. Mahalo!

From: [Hana Pier EIS](#)
To: ["lbarney56@gmail.com"](mailto:lbarney56@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Wednesday, March 08, 2017 5:33:00 PM
Attachments: [2017-02-24 \(DIR Barney, Lynn\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 24, 2017

Ms. Lynn Barney
Lbarney56@gmail.com

Dear Ms. Barney:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following response.

We acknowledge your objection to the proposed action. However, the extent of damage to the pier is beyond maintenance repair. Due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

Regarding your request that the EIS consider access in times of emergency as it relates to the pier; the DOT-H's original proposal to improve the pier was primarily for providing an operational pier in times of an emergency. However, DOT-H's administrative rules would have allowed other vessels that met requirements and obtained all of the proper permits to also use the State facility. As you are aware, the community objected to any commercial use, therefore creating a conflict of use that has led to the current action. DOT-H manages and operates the commercial harbor system statewide and it is not fiscally responsible for limited funds to be spent on projects that do not support our mission. The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Improvements to accommodate emergency use only would have to be proposed under a different jurisdiction, as this use does not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Lyn Barney
February 24, 2017
Page 2

HAR-EP
8391.17

We note the concerns that have been expressed by you and others regarding cultural, historic, recreational, water quality, marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami', written over a horizontal line.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: tryston beck <bedroommade808@gmail.com>
Sent: Friday, November 04, 2016 8:23 AM
To: Sandra.c.rosetter@hawaii.gov; Gail Renard

Dear D.O.T,

I am writing this letter on behalf of Hana pier. I highly disagree with your plans on taking down the pier. It is more than just a place to the community of hana and to myself. First of all it is an Historical site and we don't want it to be taken down or even rebuilt. We are afraid of a huge commercial pier being built there and our marine life getting killed , from all the traffic that will come in. Another thing is the community of Hana gathers on that pier and we don't want big machines coming in and scarring all the fish away. For many of years we have gathered akule right outside from the pier. If you guys break down the pier you might scare away the pile akule , than our Kupuna will never ever be able to gather akule again. In Hana we still believe on gathering off our land and we don't want that to be stopped by big machines coming in and scaring away our resources.

Sincerely, Tryston-prince Beck

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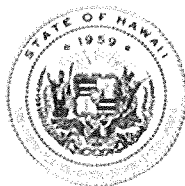
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["tryston beck"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:35:00 PM
Attachments: [2017-02-17 \(DIR Prince Beck, Tryston\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Tryston-Prince Beck
bedroommade808@gmail.com

Dear Mr. Beck:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Tryston-Prince Beck
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is written in a cursive style with a large, sweeping "F" and "N".

FORD N. FUCHIGAMI
Director of Transportation

JOHN BLUMER-BUELL

Post Office Box 787, Hana, Hawai'i 96713
Telephone 808-248-8972 Email blubu@hawaii.rr.com

November 5, 2016

Timely Sent By Email and Postmarked November 7, 2016

State of Hawai'i Department of Transportation Harbors Division and Consultant
Attention: Planning Section
79 South Nimitz Highway, Honolulu, Hawaii 96813
Attention: Ms. Sandra Rossetter, Project Manager
Phone 808-587-1866 Email: Sandra.c.rossetter@hawaii.gov

Governor, State of Hawaii
The Honorable David Y. Ige
Executive Chamber, State Capitol
415 South Beretania Street, Honolulu, Hawaii, 96813
Phone 808-586-0034 Email: <http://governor.hawaii.gov/contact-the-governor/>

HHF Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii, 96813
Ms. Gail Renard
808-457-3167 Email: grenard@hhf.com

Subject: Hana Pier Deck Removal (EISPN), Hana District, Island of Maui, Adjacent to TMK (2) 1-4-004:035. Comments on Draft Environmental Impact Statement (TMK) and Request for Information.

Aloha,

Please respond in detail to the following concerns, questions and comments in the subject document. Thank you.

1. “The Hana Pier Deck Removal” appears to be a clear and unambiguous subject/title. However, titles can be subject to surprise, subjective and numerous legal interpretations. I want to be certain the “Hana Pier Deck Removal” DOES NOT include the removal or partial removal of the existing piers/posts/footings upon which the current deck is located. A recent article in the Maui News made me question if the Hana Community, the State DOT Harbors Division, and politicians are “on the same page”. This needs clarification beyond any question on behalf of taxpayers and the Hana Community. I raise the strongest objections to moving ahead with this project without complete clarification and the opportunity for the Hana Community to publicly and formally present the Hana Community preferred choice or choices.

In a recent Maui News political candidates interview Maui County Council Member Bob Carroll stated in part, “If he’s re-elected, Carroll said he would continue to ensure county roads, bridges and — pending a decision by the state Department of Transportation — **the Hana Pier are in working order**”. (My emphasis).

And, **“If they (DOT officials) leave the posts, it can still be used as a fishing pier,”** he said. **“That’s what I’d like to see.”** (My emphasis).

That is a big and unclear “IF”. Please describe the legally required due process and protocol regarding this important “IF” issue. “Hana Pier Deck Removal” does not appear to clarify beyond question the intent to remove, partially remove or leave the existing pier supporting piers/ posts intact. Please clarify beyond any question in writing what Council Member Carroll meant. Were his statements accurate or misleading? Please clarify beyond any question in writing the intent of the State Department of Transportation Harbors Division. It sounds like the decision to leave in place or remove the existing pier posts could be a subjective and arbitrary decision by the State Transportation Department Harbors Divisions. The Hana Community needs to be clearly heard regarding the issues. It appears community opinion is taking a back seat to existing laws and political interpretations. The situation needs to change.

There are many opinions in the Hana Community, regarding the subject matter. A legitimate consensus can be achieved by the community. I request a process to achieve legitimate community consensus in the Hana Community should be implemented through the Environmental Impact Statement process. Please propose a process in the EIS. There are many legitimate Hana Community Organizations that would want to be included in the process. No question. This is a critical community issue that concerns everyone.

I am opposed to removing any part of the posts/piers/piles until the Hana Community is given the opportunity to examine and express their opinion on the entire scope of options regarding the posts removal or future use of the existing piers/posts. This should include public meetings. Many, if not most, community members will not respond to EIS notices.

The Maui News article also stated, "**The Transportation Department has begun the process of taking down the pier for safety reasons. The department nixed plans to repair the pier in January, after strong opposition from residents who worried that a new pier would bring commercial activity to Hana. The department is planning to leave the piles in place to avoid disturbing the coral that has grown around the piles.**" (My emphasis). Are the Maui News statements accurate?

Has this "understanding/commitment" to leave all the piles been agreed to in writing? Please include the legal written agreement in the EIS. The coral is not growing around the entire lengths of the piles. Therefore, it should not be assumed the old piles will remain in place for a new fishing platform or another proposal from the community.

2. Due Process Issues. The Department of Transportation decision to condemn the existing Hana Wharf/Pier for safety reasons was NOT a decision made through a truly democratic process. The Hana Community was repeatedly told there would be a full Environmental Impact Statement (EIS) process to examine the issues regarding the Hana Pier. That would have included "Alternatives". The commitment to that EIS was confirmed by me and the Hana Community Association several times. That EIS would have included the 5 or 6 possible

options developed and presented at meetings at Helene Hall. Instead of the community making a formal recommendation through the promised Environmental Impact Statement process, noticed public meetings and a formal vote, there was an “informal” vote or consensus. This was not legitimate or legal due process.

Please include the referenced written documents and drawings that were developed and discussed during meetings in Hana at Helene Hall in the subject EIS.

The issues and options of the “Hana Pier Deck Removal” need to be decided by the Hana Community. The existing laws may need to be changed for the Hana Community will to be implemented. Please comprehensively explain in detail the laws, ordinances and public policies that would need to be changed so the Hana Community can get the desired outcome. The comprehensive explanation should include examination of existing federal, state and county laws. This should be examined as part of the “Alternatives”.

Laws are intended to evolve with the times. It is time for legislation that would empower the Hana Community in the subject matter and the entire Hana Pier issue. There is certainly possible legislation that would allow a government partnership with the community to achieve the best outcomes for the present and future generations.

For example, if a new or repaired pier was achieved in partnership with the State of Hawai'i Department of Land and Natural Resources and community groups there would be a satisfactory , “win-win”, outcome. The existing laws regarding commercial harbors need to be changed to serve the people of the community, culture and history. Please present several “Alternatives” that could insure a positive outcome from the community perspective.

3. Please include comprehensive baseline water quality information for all of Kapueokahi (Hana Bay). Please include all the water quality work of Dr. Mink from the 1980's in association with the Rosewood Corporation. Rosewood owned the Hotel Hana-Maui at the time. The baseline information included Kapueokahi (Hana Bay).

4. Please include the written Army Corps of Engineers Plan for a possible “Breakwater Project and Marina” at Kapueokahi (Hana Bay). This was presented to the Hana Community at Helene Hall in the late 1970’s. I was at that meeting. It will help inform the subject proposal.

5. Please include your “interpretation” and “application” of the 1994 Hana Community Plan Ordinance and the current Maui Island Plant in relation to the subject proposal.

Thank you for your careful attention and responses.

Sincerely yours,

John Blumer-Buell, Hana



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 17, 2017

Mr. John Blumer-Buell
P.O. Box 787
Hāna, Hawai'i 96713

Dear Mr. Blumer-Buell:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your letter dated November 5, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice (EISPN)*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

1. The proposed action includes removal of the pier superstructure and pile caps, and leaves the remaining portion of the piles intact. This description along with the estimated final elevation of the piles was described in the project's EISPN and will be described in the forthcoming Draft EIS. It is beyond the scope of the EIS to clarify the comments made by Councilmember Carroll cited in your letter.

We appreciate the variety of opinions held by the Hāna community, but it is beyond the scope and purpose of the EIS (which is essentially a disclosure document informing decision-makers of the likely environmental impacts of a proposed action) to serve as a vehicle for community consensus on a given project. The EIS will evaluate and describe impacts the removal of the pier superstructure and pile caps would likely have on a range of environmental resource areas.

We acknowledge your objection to the proposed action; however, please note that the Department of Transportation, Harbors Division (DOT-H) has considered the future of the pier at length, presented information at two public meetings and received input on community preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey contributed to the proposed action.

Regarding the Maui News article cited in your letter, implementation of the proposed action cannot take place prior to completion of the EIS and its acceptance by the Governor of Hawai'i, along with approval of the required permits (cited in the EISPN) by appropriate regulatory agencies. The other statements appear to be accurate.

2. Condemnation of the Hāna Pier originally occurred under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DOBOR). The pier has been closed to vehicular traffic since 1991. DOBOR's engineering staff inspected the pier on November 18, 2002, which was followed by the recommendation that the pier be restricted from public access. After the transfer to DOT-H in 2010, the condemnation of the structure was upheld. Condemnation of the pier is not an action that is subject to community input, but rather is a determination based in part on engineering analysis and evaluation of matters of public safety. The forthcoming EIS will include a discussion of alternatives. Only those alternatives that meet the objectives of the action will be included in this discussion.

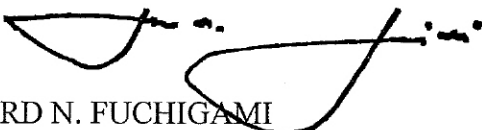
It is beyond the scope and purpose of the EIS to describe existing laws and processes that would need to be changed to achieve the decision-making ability by the community that your comment requests.

3. As noted in the EISPN, a marine water quality survey was conducted for the project area. The results of the water quality survey (which is much more recent than the study cited in your comments) will be reported in the Draft EIS.
4. A breakwater and marina is not relevant to the analysis of effects of the proposed action. Only alternatives and materials relevant to the proposed action will be included in the EIS analysis.
5. The Draft EIS will include a discussion of how the proposed action will conform to relevant state and county plans, policies and controls, including the *Maui Island Plan* and *Hāna Community Plan*.

We note the concerns that have been expressed you and others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Sarai Boeche (via Google Docs) <kahealiab@gmail.com>
Sent: Friday, November 04, 2016 9:14 AM
To: Gail Renard
Subject: Why Hana Pier ? - Invitation to edit

Sarai Boeche has invited you to **edit** the following document:



Why Hana Pier ?

[Open in Docs](#)

This email grants access to this item without logging in. Only forward it to people you trust.

Google Docs: Create and edit documents online.

Google Inc. 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA

You have received this email because someone shared a document with you from Google Docs.



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From: Rossetter, Sandra C
Sent: Thursday, November 10, 2016 3:27 PM
To: 'Sarai Boeche (via Google Docs)' <kahealiab@gmail.com>
Subject: Hana Pier Deck Removal EISPN - Comments

Please submit your comment in the body of an email or as an attached PDF. Please provide full legal names and mailing address.

Mahalo

Sandra Rossetter

Harbors Division | Planning Office
79 S. Nimitz Highway
Honolulu, Hawaii 96813
(808) 587- 1886

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From: [Hana Pier EIS](#)
To: ["Sarai Boeche \(kahealiab@gmail.com\)"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:42:00 PM
Attachments: [2017-02-17 \(DIR Boeche, Sarai\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8375.17

February 17, 2017

Ms. Sarai Boeche
kahealiab@gmail.com

Dear Ms. Boeche:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your email has been documented and will be included in the Draft EIS. Due to difficulties we have had accessing comments via the Google Docs links such as the one provided in your email, as well as our current internet security protocols, on November 10, 2016, we sent an email request to you asking that you provide your comments in the body of an email message or as a PDF attachment. We did not receive any subsequent communications from you and therefore are unable to address your comments specifically. However, we provide the following for your information.

Due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Sarai Boeche
February 17, 2017
Page 2

HAR-EP
8375.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Aquino, HHHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Same letter sent to : Strano Castro
stranocastro14@gmail.com

Gail Renard

From: Paulo Burns <paulburns808@gmail.com>
Sent: Friday, November 04, 2016 8:54 AM
To: Sandra.C.Rossetter@hawaii.gov; Gail Renard
Subject: Hana Pier removal

Aloha,

I am writing this letter as a concerned citizen of Hana. My wife and 6 children are born and raised in Hana. All my children learned how to swim and fish at the Hana pier area. We have gotten Akule fish in Hana right next to the pier at least 10 times in the past 3 months. This helps our families (especially elders) to have fresh healthy food and it saves them money. It would be criminal to risk having this resource lost for many years. By not having the healthy fish and the joy of eating traditional foods it would help to end the life of many of our kupuna earlier than it should be. We need them to live as long as possible to share their knowledge of the culture and history with the next generation before they are gone. Not only would it make hardship on our kupuna who can't afford healthy food, but our keiki would not have this rich resource to learn how to feed themselves. During Aloha week last month we had a holoholo contest off the pier and the amount of fish that the keiki were able to bring in within a 4 hour period was astonishing. It proves that this area is rich and abundant and any chance of disturbing that is not ok with us.

We propose to make it a historical site and let a community group take the responsibility off of the hands of the DOT. Let us raise the money to make it safe to walk on and let us find an insurance company to insure it for any liability.

DOT talks about liability but the fact is that in my 15 years in Hana I have not heard of one person ever getting hurt on the pier. Our keiki jump off the pier and swim all around it and never have any problems.

I am the Hana Canoe club coach and I use the pier to coach canoe. It is excellent for me and my coaches because the keiki can sprint along side the pier and we can run along and coach them. It's easy to see their mistakes and help them improve. Canoe is a big part of the culture and helps keep the kids out of trouble. The pier is a valuable resource for helping to create champions which in turn will help raise amazing young people that will be our next leaders.

I personally will not allow any work to be done. If we have to practice civil disobedience to stop the construction than so be it. You can count on a reaction from the community that will get attention far and wide if any attempt to remove the pier happens. We will occupy and you will have to arrest many of us, at least my family and I before any work can be done. You better know that we will call on the power of the kupuna and ancestral guardians of that place to help stop any construction and anyone who would help to destroy that which we hold dear to our hearts. I am giving this fair warning so that you have a chance to protect yourselves and all those lives that would be at risk due the reaction of the spiritual guardians will have on those that don't listen. I share this message with love and hopes to avoid any unnecessary problems, injuries, etc that could result from not respecting the wishes of the residents and descendants of the this sacred land.

Me Ke Aloha Pumehana
Paulo Burns

--

This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Paulo Burns"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:38:00 PM
Attachments: [2017-02-24 \(DIR Burns, Paulo\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8386.17

February 24, 2017

Mr. Paulo Burns
Paulburns808@gmail.com

Dear Mr. Burns:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, please note that the Department of Transportation, Harbors Division (DOT-H) has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action.

Due to the pier's progressively deteriorating condition, the potential for injury to individuals, who continue to access the pier without authorization, also increases. In spite of the lack of injuries to date, it would be irresponsible for DOT-H to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the akule fishery). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Mr. Paulo Burns
February 24, 2017
Page 2

HAR-EP
8386.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Rossetter, Sandra C

From: Jeanne Carey <minns.hana@gmail.com>
Sent: Monday, November 07, 2016 4:05 PM
To: Rossetter, Sandra C; grenard@hff.com
Subject: Hana Wharf

Please consider the desires and needs of our isolated, close knit rural community in regards to dismantling the pier. The choices given on the "survey" were hurtful and insulting: commercial or tear down. We deal with a huge number of tourists clogging Hana Highway daily, but at the end of the day and early in the morning Hana Bay and Hana Wharf is ours. We have raised 4 children and 3 grandchildren and taught at Hana School students since 1970. That area is the heart of this community. The state of Hawaii needs to meet again with the community and come up with some reasonable alternative to the choices we were given. I read the 24 page document re: demolition. Mind boggling. Please help us keep Hana Hana and save the state money and the environment from destruction. Mahalo. Jeanne Carey and Mike Minn.

From: [Hana Pier EIS](#)
To: ["Jeanne Carey"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Wednesday, March 08, 2017 5:37:00 PM
Attachments: [2017-02-17 \(DIR Carey, Jean and Minn, Mike\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8379.17

February 17, 2017

Ms. Jean Carey and Mr. Mike Minn
minns.hana@gmail.com

Dear Ms. Carey and Mr Minn:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

The previous proposed action would have repaired the pier and brought it back to a safe and usable condition. However, as you note, the community objected to commercial use of the pier. DOT-H is sensitive to the community's concerns about not wanting commercial use of the pier and acknowledges the well-documented desire of the community to maintain the rural character of Hāna. Community opposition to any commercial use of the pier led DOT-H to the present proposed action to remove the pier superstructure in the interest of protecting public safety because DOT-H is liable for the safe condition of the structure.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action. This also why the choices on the survey distributed in December, 2015 were limited.

Ms. Jean Carey and Mr. Mike Minn
February 17, 2017
Page 2

HAR-EP
8379.17

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the akule fishery). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Aquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: STRANOtherSTRANGE (via Google Docs) <stranocastro14@gmail.com>
Sent: Friday, November 04, 2016 9:12 AM
To: Gail Renard
Cc: sandra.c.rosetter@hawaii.gov
Subject: Untitled document - Invitation to edit

STRANOtherSTRANGE has invited you to **edit** the following document:



Untitled document

[Open in Docs](#)

This email grants access to this item without logging in. Only forward it to people you trust.

Google Docs: Create and edit documents online.

Google Inc. 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA

You have received this email because someone shared a document with you from Google Docs.



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From: Rossetter, Sandra C

Sent: Thursday, November 10, 2016 3:25 PM

To: 'stranocastro14@gmail.com' <stranocastro14@gmail.com>

Subject: Hana Pier Deck Removal EISPN - Comments

Please submit your comment in the body of an email or as an attached PDF. Please provide full legal names and mailing address.

Mahalo

Sandra Rossetter

Harbors Division | Planning Office
79 S. Nimitz Highway
Honolulu, Hawaii 96813
(808) 587- 1886

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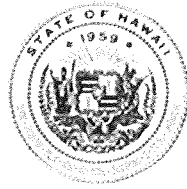
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["stano14@gmail.com"](mailto:stano14@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:43:00 PM
Attachments: [2017-02-17 \(DIR Castro, Strano\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8375.17

February 17, 2017

Strano Castro
stranocastro14@gmail.com

Dear Strano Castro:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your email has been documented and will be included in the Draft EIS. Due to difficulties we have had accessing comments via the Google Docs links such as the one provided in your email, as well as our current internet security protocols, on November 10, 2016, we sent an email request to you asking that you provide your comments in the body of an email message or as a PDF attachment. We did not receive any subsequent communications from you and therefore are unable to address your comments specifically. However, we provide the following for your information.

Due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Strano Castro
February 17, 2017
Page 2

HAR-EP
8375.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'FORD N. FUCHIGAMI', written over a horizontal line.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: John Contreras <uakeacontreras@gmail.com>
Sent: Friday, November 04, 2016 8:25 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana pier

Dear DOT,

I am writing to oppose the destruction of our Hana pier. The pier means so much to me and the whole Hana community. The Hana pier is a place that many young kids learned how to swim, it's a places where our kupuna and kids go to fish. If the pier were to be knocked down many things in the area would die like the coral, the fish and the akule will not come into the bay for a long time. The akule comes in the bay and the people go surround them and we give akule to all the people of hana that come help open the nets. Our Hana pier is a historical site that has been standing for about 100 years and that pier has outlived many people. Being a resident of Hana I would hate to see the pier being knocked down. The only reason you folks want to knock it down so there can be big development going on and we don't want that. We just wanted you guys to fix it up to make it a little more safer but you guys can't do that, only like knock up down. Please don't disrespect us and respect our wishes.

Sincerely, John Rylan

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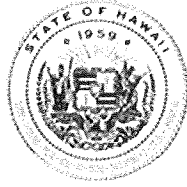
This message has been scanned for viruses and dangerous content using Worry-Free Mail Security <<http://www.intech-hawaii.com/worry-free-solutions/spam-and-virus-filtering/>> , and is believed to be clean. Click here to report this message as spam. <<https://wfms.intech-hawaii.com/bmxplus/viewmail.php?msgid=uA43TpWr026972>>

From: [Hana Pier EIS](#)
To: ["John Contreras"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:50:00 PM
Attachments: [2017-02-17 \(DIR Contreras, John\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. John Rylan Contreras
uakeacontreras@gmail.com

Dear Mr. Contreras:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. John Rylan Contreras
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping "F" and "C".

FORD N. FUCHIGAMI
Director of Transportation

Rossetter, Sandra C

From: Lehua Cosma <huanani1978@yahoo.com>
Sent: Monday, November 07, 2016 10:41 AM
To: Rossetter, Sandra C
Cc: grenard@hff.com
Subject: Hana Pier Removal Comments

Aloha Sandra,

I am responding to the EIS on the Removal of the Hana Pier. The Hana Pier should not be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, Barefoot Café, the Hana Pavillion, and even on to the main road to the bay.

For many years born and raised here in Hana, we have witness The Hana Pier protecting the entire bay from the surges and large waves.

The community of Hana was presented with a survey with poor options that left the community with no hope. The community of Hana expressed their feelings strongly at several public meetings that I attended, the impact of not just having it for commercial use, but the impact on what it would do if the Hana Pier was removed.

Hana Bay is sacred, it is historical and the Hana Pier does not stand by its self, it is connected to its history of Kauiki Hill, Queen Kaahumanu's Birthing place and Cave. A legacy today we the people of Hana respect and honor.

Removal of the Hana Pier, should not take millions of Federal monies to destroy, it is a waste of taxpayers monies. Our hard earn dollars, gets deducted by the Federal big time! Those funds could go to help the homeless, help students go to college and even more...

Please listen to the voices of the Hana Community and do not remove the Hana Pier. There are holes on the pier, from poor maintenance over the years, just fix the holes and let nature takes its course! That Hana Pier will outlived all of us, look at Mala Wharf!

Lehuanani Park Cosma

Founder & President of Hui Laulima O Hana

Hana Community Dialysis Home

P.O. Box 405

Hana, Hawaii 96713

Phone: Cell Phone: (808) 269-5343

Home: (808)248-7205

Aloha Ke Kahi I Ke Kahi

"Love One Another"

From: [Hana Pier EIS](#)
To: ["huanani1978@yahoo.com"](mailto:huanani1978@yahoo.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Tuesday, March 21, 2017 4:49:00 PM
Attachments: [2017-02-24 \(DIR Cosma,Lehua\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 24, 2017

Ms. Lehua Cosma
huanani978@yahoo.com

Dear Ms. Cosma:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

It should be clarified that no federal funding will be used for this project. Funding for this project will be derived from the DOT-H special funds, which are generated by revenues from tariffs and other fees paid by commercial harbor users.

Ms. Lehua Cosma
February 24, 2017
Page 2

HAR-EP
8393.17

In response to your comments that the holes in the pier should be fixed, due to the age of the pier and the extent of damage to the pier, it is beyond maintenance repair for any use. This finding was documented in an engineering report, completed under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation in 1999.

We note your concerns regarding the project's possible effects on cultural, historic and coastal conditions landward of the pier. The Draft EIS will fully assess the potential for impacts on cultural, historic, recreational, water quality, and marine resources (including coastal conditions), and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: James Day <jamesday910@gmail.com>
Sent: Friday, November 04, 2016 10:26 AM
To: sandra.c.rosetter@gmail.com; Gail Renard
Subject: Hana Bay Pier

Dear DOT,

These are some reasons why you shouldn't take down the Hana Bay Pier:

1. It will affect our marine ecosystem dramatically in a negative way
2. Our keiki enjoy having the pier because of its history
3. Our Akule would be gone
4. You would destroy our bay with all the concrete and material if deconstruction were to happen
5. Swimming in that area would cease for a while
6. Fishing would cease in that area for a while
7. Coral reef would be severely impacted with the deconstruction of the pier

Please take these reasons into consideration of NOT deconstructing the Hana Bay Pier

Mahalos- James K. Day

If you would like to say differently about this subject, email me back so we may discuss it

--

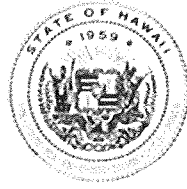
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["James Day"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:51:00 PM
Attachments: [2017-02-17 \(DIR Day, James Kay\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. James K. Day
jamesday910@gmail.com

Dear Mr. Day:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. James K. Day
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'FORD N. FUCHIGAMI', written over a horizontal line.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: shaelynn day <shaelynnday29@gmail.com>
Sent: Friday, November 04, 2016 9:13 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: HANA PIER

aloha ,

--

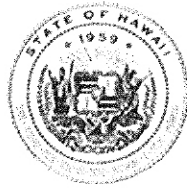
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["shaelynn day"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Tuesday, March 21, 2017 4:45:00 PM
Attachments: [2017-02-17 \(DIR Day, Shaelynn\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8460.17

March 15, 2017

Ms. Shaelynn Day
shaelynneday29@gmail.com

Dear Ms. Day:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your email, which was blank, has been documented and will be included in the Draft EIS. We offer the following information.

Due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Ms. Shaelynn Day
March 15, 2017
Page 2

HAR-EP
8460.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'F. N. Fuchigami', with a stylized flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

Rossetter, Sandra C

From: Natalie E Diaz <dantedd1213@hawaii.rr.com>
Sent: Monday, November 07, 2016 1:00 PM
To: Rossetter, Sandra C
Cc: grenard@hff.com
Subject: HANA PIER - Continue to stand strong!

Aloha Sandra,

I am responding to the EIS on the Removal of the Hana Pier.

The Hana Pier should not be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, Barefoot Café, the Hana Pavilion, and even on to the main road to the bay. For many years those born and raised here in Hana, have witness The Hana Pier protecting the entire bay from the surges and large waves.

The community of Hana was presented with a survey with poor options that left the community with no hope. The community of Hana expressed their feelings strongly at several public meetings that I attended, the impact of not just having it for commercial use, but the impact on what it would do if the Hana Pier was removed.

Hana Bay is sacred, it is historical and the Hana Pier does not stand by its self, it is connected to its history of Kauiki Hill, Queen Kaahumanu's Birthing place and Cave. A legacy today we the people of Hana respect and honor. Removal of the Hana Pier, should not take millions of Federal monies to destroy, it is a waste of taxpayers monies. Our hard earn dollars, gets deducted by the Federal big time! Those funds could go to help the homeless, help students go to college and even more...

Please listen to the voices of the Hana Community and do not remove the Hana Pier. There are holes on the pier, from poor maintenance over the years, just fix the holes and let nature takes its course! That Hana Pier will outlived all of us, look at Mala Wharf!

Aloha Ke Akua. Emmanuel!

Justice+Peace,

Natalie+David

Natalie+David Diaz
168A Ale'a Place
Pukalani, Hawai'i 96768
(808) 573-8942
dantedd1213@hawaii.rr.com

¡Vaya con Dios y
Santa Madre María!



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8395.17

February 24, 2017

Natalie and David Diaz
168A Ale'a Place
Pukalani, Hawai'i 96768

Dear Ms. and Mr. Diaz:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015, to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

We acknowledge the choices offered in the survey were limited, however, DOT-H's authority is constricted by its mission which is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational and non-commercial uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

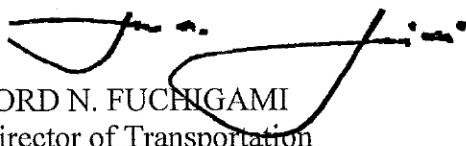
It should be clarified that no federal funding will be used for this project. Funding for this project will be derived from the DOT-H special funds, which are generated by revenues from tariffs and other fees paid by commercial harbor users.

In response to your comments that the holes in the pier should be fixed, due to the age of the pier and the extent of damage to the pier, it is beyond maintenance repair for any use. This finding was documented in an engineering report, completed under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation in 1999.

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including coastal conditions). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHH (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Tyren Feliciano-Benton <tyren.feliciano@gmail.com>
Sent: Friday, November 04, 2016 10:25 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana Pier

Dear D.O.T

My name is Tyren Feliciano-Benton, I am a student of Hana High School and a resident for 15 years. Our Hana Pier is a big part of our Community. I think breaking down the Pier will be a big problem. We would loose all of our fishes, it would also affect all of our coral, swimming places and the things that surround Kapueokahi. The children of our Community will miss out on the experiences that we had during our own childhood.

So please consider another way to fix this issue like turning it as an Historical Site.

Mahalo,

Tyren Feliciano-Benton

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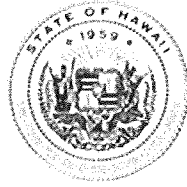
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Tyren Feliciano-Benton"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:55:00 PM
Attachments: [2017-02-17 \(DIR Feliciano-Benton, Tyren\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Tyren Feliciano-Benton
tyren.feliciano@gmail.com

Dear Mr. Feliciano-Benton:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Tyren Feliciano-Benton
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is written in a cursive style with a large, sweeping flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

From: Maile Getzen
To: [Rossetter, Sandra C](#)
Cc: grenard@hff.com
Subject: Hana Pier
Date: Monday, November 07, 2016 5:33:34 PM

Aloha Sandra,

I wanted to write in support of keeping the Hana Pier. I really appreciate all the work Kalani English has done to allocate funds for the Hana Pier. I was born and raised in Hana and like all the kids I loved jumping off the pier. As I grew up we used it for fishing. Now that I am really grow up I realize how important it is to have the Pier for the safety of the Hana people. I remember when the Kaupo road was closed, I can not imagine what could happen if both roads were closed. Please consider working on a plan that could keep the Pier for Hana people and for emergency preparedness.

Mahalo,

Maile Getzen

From: [Hana Pier EIS](#)
To: ["mgetzen@hotmail.com"](mailto:mgetzen@hotmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Wednesday, March 08, 2017 5:39:00 PM
Attachments: [2017-02-24 \(DIR Getzen, Maile\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8394.17

February 24, 2017

Ms. Maile Getzen
mgetzen@hotmail.com

Dear Ms. Getzen:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

We acknowledge your concern for emergency preparedness. The Draft EIS will address public safety and emergency preparedness as it relates to the proposed action. However, due to the DOT-H's mission which is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of people and goods to, from and between the Hawaiian Islands*", DOT-H cannot invest in a project for the sole purpose of emergency use, as it does not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

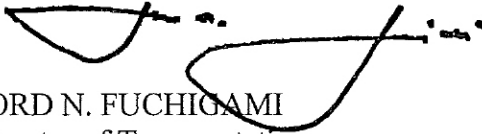
The Draft EIS will fully assess the potential for impacts on public safety and other resources, such as cultural, historic, recreational, water quality, and marine resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Ms. Maile Getzen
February 24, 2017
Page 2

HAR-EP
8394.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping loop at the end.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Rossetter, Sandra C <sandra.c.rossetter@hawaii.gov>
Sent: Thursday, October 13, 2016 10:48 AM
To: Gail Renard
Cc: Scott Ezer
Subject: FW: Aloha, Clif!
Attachments: CMH Signature.jpg; USCG HAWAIIAN ISLANDS COMMERCIAL HARBORS - SAFETY ZONES - HANA HARBOR - EXHIBIT 1.pdf; USCG HAWAIIAN ISLANDS COMMERCIAL HARBORS - TSUNAMI SAFETY ZONES - HANA HARBOR - EXHIBIT 2.pdf; USCG HAWAIIAN ISLAND COMMERCIAL HARBORS - SAFETY ZONES - HANA HARBOR - MAUI - HAWAII - EXHIBIT 3.pdf; HANA HARBOR - MAUI - HAWAII.pdf; Hawaii Attorney David Louie - Water Sports Recreational Liability Issues.pdf; HANA HARBOR - USCG RESPOSNE.pdf

From: Clif Hasegawa [<mailto:clifhasegawa@gmail.com>]

Sent: Thursday, October 13, 2016 9:19 AM

To: Rossetter, Sandra C <sandra.c.rossetter@hawaii.gov>

Cc: Watase, Dean <dean.watase@hawaii.gov>; Dale, Steven R <Steven.R.Dale@hawaii.gov>; Fuchigami, Ford N <Ford.N.Fuchigami@hawaii.gov>; Young, Darrell T <darrell.t.young@hawaii.gov>; Yogi, Davis K <davis.k.yogi@hawaii.gov>; Governor.Ige <Governor.Ige@hawaii.gov>; McMillan, Cindy <Cindy.McMillan@hawaii.gov>; Tsutsui, Shan S <Shan.Tsutsui@hawaii.gov>; Senator Ronald D. Kouchi <senkouchi@capitol.hawaii.gov>; "House Speaker Joseph M Souki" <repsouki@capitol.hawaii.gov>; sens@capitol.hawaii.gov; reps@capitol.hawaii.gov; Senator Gilbert S.C. Keith-Agaran <senkeithagaran@capitol.hawaii.gov>; "Senator Rosalyn Baker" <senbaker@capitol.hawaii.gov>; Senator J. Kalani English <senenglish@capitol.hawaii.gov>; "Representative Justin H Woodson" <repwoodson@capitol.hawaii.gov>; "Representative Angus McKelvey" <repmckelvey@capitol.hawaii.gov>; "Representative Kaniela Ing" <reping@capitol.hawaii.gov>; Kyle Yamashita <repyamashita@Capitol.hawaii.gov>; "Representative Lynn DeCoite" <repdecoite@capitol.hawaii.gov>; "Mayor Alan Arakawa" <alan.arakawa@mauicounty.gov>; "Council Member Mike White" <mike.white@mauicounty.us>; "Council Member Gladys Baisa" <Gladys.Baisa@mauicounty.us>; "Council Member Robert Carroll" <Robert.Carroll@mauicounty.us>; "Council Member Elle Cochran" <Elle.Cochran@mauicounty.us>; "Council Member Don Couch" <Don.Couch@mauicounty.us>; "Council Member Stacy Crivello" <Stacy.Crivello@mauicounty.us>; "Council Member Don Guzman" <Don.Guzman@mauicounty.us>; "Council Member Riki Hokama" <Riki.Hokama@mauicounty.us>; Council Member Michael P. Victorino <Michael.Victorino@mauicounty.us>; Maui Causes <info@maucauses.org>; anthony@mauitime.com; Tommy Russo <tommy@mauitime.com>; Wendy Osher <wendy@mauinow.com>; Debra Lordan <debra.lordan@gmail.com>; Andrew Walden <hfpeditor@email.com>; Dawn Lono <napua@maui.net>

Subject: Fwd: Aloha, Clif!

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HARBORS DIVISION

PLANNING OFFICE

SANDRA ROSSETTER

PROJECT MANAGER

RE: HANA PIER DECK REMOVAL

Dear Ms. Rossetter,

The Hawaii Department of Transportation (DOT) determination that an Environmental Impact Statement is required for the Hana Pier Deck Removal is hereby challenged.

DOT determination,

“Act 172, Session Laws of Hawai‘i (SLH) signed by the Governor on June 27, 2012, allows an agency to determine from the outset that an Environmental Impact Statement (EIS) is likely to be required, and to choose not to prepare an environmental assessment and instead proceed directly to prepare an EIS. Under the provisions of Act 172(12), DOT has determined, through its judgment and experience, that an EIS is required for the proposed action.”[1] [Emphasis Supplied]

Source: Hāna Pier Deck Removal.

State of Hawai‘i Department of Transportation Harbors Division.

Environmental Impact Statement Preparation Notice. September 2016.

http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Maui/2010s/2016-10-08-MA-5B-EISPN-Hana-Pier-Deck-Removal.pdf

See also, [Plans to tear down Hana pier move forward](http://www.mauinews.com/news/local-news/2016/10/plans-to-tear-down-hana-pier-move-forward/). By Colleen Uechi. The Maui News. October 13, 2016. <http://www.mauinews.com/news/local-news/2016/10/plans-to-tear-down-hana-pier-move-forward/>

An Environmental Impact Statement is not required by Statute. Please refer to provisions of HRS 343 provided.

Furthermore, the forwarded message, attachments, and attached response from the Port Captain, Ports of Hawaii, previously provided to Mr. Davis K. Yogi, HIDOT Harbors Administrator, in 2013, states that Hana Harbor is not a Commercial Harbor within the Port of Hawaii system. The correspondence emphasizes that the remnants of the harbor are a safety hazard. Over 3 years have passed without any action. The time for action has been delayed for too long. These matters were being studied as far back as 2009.

For the foregoing reasons, recommend that the DOT proceed with immediacy and due dispatch to remove the remnants of the Hana Harbor Pier as presenting a clear and present danger and an immediate and continuing public safety hazard.

While there exists some sentiment that the pier be rehabilitated and/or reconstructed, the cost analysis of Hana Harbor as sustainable commercial harbor does not support the the expenditure of capital funds required for rehabilitation and reconstruction, maintenance, operational and personnel costs required for a commercial harbor.

Commencement of the Hana Harbor Pier Removal project is mandated, immediately, without further delay.

Thank you very much

Aloha

V/R

Electronically Signed

Clifton M. Hasegawa

President and CEO

Clifton M. Hasegawa & Associates, LLC

1322 Lower Main Street A5

Wailuku, HI 96793

Telephone: 808.244.5425

Email: clifhasegawa@gmail.com

LinkedIn: https://www.linkedin.com/in/cliftonhasegawa

[1] HAWAII REVISED STATUTES CHAPTER 343 ENVIRONMENTAL IMPACT STATEMENTS

§343-5.5 Exception to applicability of chapter.

(a) Notwithstanding any other law to the contrary, for any primary action that requires a permit or approval that is not subject to a discretionary consent and that involves a secondary action that is ancillary and limited to the installation, improvement, renovation, construction, or development of infrastructure within an existing public right-of-way or highway, that secondary action shall be exempt from this chapter; provided that the applicant for the primary action shall submit documentation from the appropriate agency confirming that no further discretionary approvals are required.

(b) As used in this section:

"Discretionary consent" means:

- (1) An action as defined in section 343-2; or
- (2) An approval from a decision-making authority in an agency, which approval is subject to a public hearing.

"Infrastructure" includes waterlines and water facilities, wastewater lines and wastewater facilities, gas lines and gas facilities, drainage facilities, electrical, communications, telephone, and cable television utilities, and highway, roadway, and driveway improvements.

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"Secondary action" means an action involving infrastructure within the highway or public right-of-way. [L. 2012, c 312, §1]

§343-2 Definitions. As used in this chapter unless the context otherwise requires:

"Discretionary consent" means a consent, sanction, or recommendation from an agency for which judgment and free will may be exercised by the issuing agency, as distinguished from a ministerial consent.

----- Forwarded message -----

From: **Clif Hasegawa** <clifhasegawa@gmail.com>
Date: Mon, Oct 28, 2013 at 3:13 PM
Subject: Fwd: Aloha, Clif!
To: hasegawa@wave.hicv.net, Dawn Lono <napua@maui.net>
Cc: davis.k.yogi@hawaii.gov

Davis Yogi, HIDOT Harbors Administrator is provided a copy for information and action.

----- Forwarded message -----

From: **Clif Hasegawa** <clifhasegawa@gmail.com>
Date: Mon, Oct 28, 2013 at 1:52 PM
Subject: Re: Aloha, Clif!
To: "Whaley, Scott O LCDR" <Scott.O.Whaley@uscg.mil>

Lieutenant Commander Scott O. Whatley

Chief, Waterways Management Division

United States Coast Guard

Sector Honolulu

Re: Safety Zones; Hawaiian Island Commercial Harbors – HI
Federal Register, Vol. 78 No. 24, October 24, 2013, pages 63381-63383
Department of Homeland Security – United States Coast Guard
33 Code of Federal Regulations, United States Coast Guard
Docket No. USCG-2013-0021
RIN 1625-AA00
Final Rule

Dear Commander Whaley,

The attached Final Rule was called to my attention, today, October 28, 2013, by Dennis L. Bryant, Esq., Principal, Bryant's Maritime Consulting, Gainesville, Florida,

The publication of this Final Rule without the inclusion of Hana Harbor, Maui, Hawaii exposes the United States Coast Guard, the Hawaii Department of Transportation, Harbors Division, the State of Hawaii, the County of Maui and other governmental agencies to civil suits and suits brought under admiralty law. Governmental immunity may be argued as a defense, *in personam* (individual personal) liability may attach.

Hana Harbor and the surrounding community are within the boundaries of the tsunami evacuation zone. Hana Harbor is within the jurisdiction of the Department of Transportation, Harbors Division. The Ka`uiki Lighthouse, though not currently operational, is owned and managed by the United States Coast Guard. Exhibits 1, 2, 3.

In 1946 Hana Harbor was inundated with a 28 foot wave, in 1960 a 10 foot wave.

The redevelopment plan for Hana Harbor is provided for your information. Exhibit 4. The HIDOT Harbors Division treat lightly exposure to lawsuit on the premise that they are immune from liability as servants of the State. A paper written by

Rossetter, Sandra C

From: Clif Hasegawa <clifhasegawa@gmail.com>
Sent: Thursday, October 13, 2016 11:13 AM
To: Rossetter, Sandra C
Cc: Watase, Dean; Dale, Steven R; Fuchigami, Ford N; Young, Darrell T; Yogi, Davis K; Governor.Ige; McMillan, Cindy; Tsutsui, Shan S; Senator Ronald D. Kouchi; "House Speaker Joseph M Souki"; sens@capitol.hawaii.gov; reps@capitol.hawaii.gov; Senator Gilbert S.C. Keith-Agaran; "Senator Rosalyn Baker"; Senator J. Kalani English; "Representative Justin H Woodson"; "Representative Angus McKelvey"; "Representative Kaniela Ing"; Kyle Yamashita; "Representative Lynn DeCoite"; "Mayor Alan Arakawa"; "Council Member Mike White"; "Council Member Gladys Baisa"; "Council Member Robert Carroll"; "Council Member Elle Cochran"; "Council Member Don Couch"; "Council Member Stacy Crivello"; "Council Member Don Guzman"; "Council Member Riki Hokama"; Council Member Michael P. Victorino; Maui Causes; anthony@mauitime.com; Tommy Russo; Wendy Osher; Debra Lordan; Andrew Walden; Dawn Lono
Subject: Re: Aloha, Clif!
Attachments: 05 05 16 Maui CIP.pdf; CMH Signature.jpg

Dear Ms. Rossetter,

In evaluating rehabilitation and/or reconstruction of Hana Harbor, please consider that House Speaker Joseph M. Souki, Representative Justin H. Woodson, Representative Angus McKelvey, Representative Kaniela Ing, Representative Kyle T. Yamashita and Representative Lynn DeCoite secured **\$33.39 million Capital Improvement Project (CIP) funding for Hana Airport** for the biennium of Fiscal Years 2016 and 2017 for construction for a new aircraft rescue and firefighting station and other related improvements.

Thank you very much

Aloha

V/R

Electronically signed

Clifton M. Hasegawa

On Thu, Oct 13, 2016 at 9:19 AM, Clif Hasegawa <clifhasegawa@gmail.com> wrote:

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HARBORS DIVISION

PLANNING OFFICE

SANDRA ROSSETTER

PROJECT MANAGER

RE: HANA PIER DECK REMOVAL

Dear Ms. Rossetter,

The Hawaii Department of Transportation (DOT) determination that an Environmental Impact Statement is required for the Hana Pier Deck Removal is hereby challenged.

DOT determination,

“Act 172, Session Laws of Hawai‘i (SLH) signed by the Governor on June 27, 2012, allows an agency to determine from the outset that an Environmental Impact Statement (EIS) is likely to be required, and to choose not to prepare an environmental assessment and instead proceed directly to prepare an EIS. Under the provisions of Act 172(12), DOT has determined, through its judgment and experience, that an EIS is required for the proposed action.”^[1] [Emphasis Supplied]

Source: Hāna Pier Deck Removal.

State of Hawai‘i Department of Transportation Harbors Division.

Environmental Impact Statement Preparation Notice. September 2016.

http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Maui/2010s/2016-10-08-MA-5B-EISPN-Hana-Pier-Deck-Removal.pdf

See also, Plans to tear down Hana pier move forward. By Colleen Uechi. The Maui News. October 13, 2016. <http://www.mauinews.com/news/local-news/2016/10/plans-to-tear-down-hana-pier-move-forward/>

An Environmental Impact Statement is not required by Statute. Please refer to provisions of HRS 343 provided.

Furthermore, the forwarded message, attachments, and attached response from the Port Captain, Ports of Hawaii, previously provided to Mr. Davis K. Yogi, HIDOT Harbors Administrator, in 2013, states that Hana Harbor is not a Commercial Harbor within the Port of Hawaii system. The correspondence emphasizes that the remnants of the harbor are a safety hazard. Over 3 years have passed without any action. The time for action has been delayed for too long. These matters were being studied as far back as 2009.

For the foregoing reasons, recommend that the DOT proceed with immediacy and due dispatch to remove the remnants of the Hana Harbor Pier as presenting a clear and present danger and an immediate and continuing public safety hazard.

While there exists some sentiment that the pier be rehabilitated and/or reconstructed, the cost analysis of Hana Harbor as sustainable commercial harbor does not support the the expenditure of capital funds required for rehabilitation and reconstruction, maintenance, operational and personnel costs required for a commercial harbor.

Commencement of the Hana Harbor Pier Removal project is mandated, immediately, without further delay.

Thank you very much

Aloha

V/R

Electronically Signed

Clifton M. Hasegawa

President and CEO

Clifton M. Hasegawa & Associates, LLC

1322 Lower Main Street A5

Wailuku, HI 96793

Telephone: [808.244.5425](tel:808.244.5425)

Email: clifhasegawa@gmail.com

LinkedIn: <https://www.linkedin.com/in/cliftonhasegawa>

[1] HAWAII REVISED STATUTES CHAPTER 343 ENVIRONMENTAL IMPACT STATEMENTS

§343-5.5 Exception to applicability of chapter.

(a) Notwithstanding any other law to the contrary, for any primary action that requires a permit or approval that is not subject to a discretionary consent and that involves a secondary action that is ancillary and limited to the installation, improvement, renovation, construction, or development of infrastructure within an existing public right-of-way or highway, that secondary action shall be exempt from this chapter; provided that the applicant for the primary action shall submit documentation from the appropriate agency confirming that no further discretionary approvals are required.

(b) As used in this section:

"Discretionary consent" means:

- (1) An action as defined in section 343-2; or
- (2) An approval from a decision-making authority in an agency, which approval is subject to a public hearing.

"Infrastructure" includes waterlines and water facilities, wastewater lines and wastewater facilities, gas lines and gas facilities, drainage facilities, electrical, communications, telephone, and cable television utilities, and highway, roadway, and driveway improvements.

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Subject: Fwd: Aloha, Clif!
To: hasegawa@wave.hicv.net, Dawn Lono <napua@maui.net>
Cc: davis.k.yogi@hawaii.gov

Davis Yogi, HIDOT Harbors Administrator is provided a copy for information and action.

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Date: Mon, Oct 28, 2013 at 1:52 PM
Subject: Re: Aloha, Clif!
To: "Whaley, Scott O LCDR" <Scott.O.Whaley@uscg.mil>

Lieutenant Commander Scott O. Whatley

Chief, Waterways Management Division

United States Coast Guard

Sector Honolulu

Re: Safety Zones; Hawaiian Island Commercial Harbors – HI
Federal Register, Vol. 78 No. 24, October 24, 2013, pages 63381-63383
Department of Homeland Security – United States Coast Guard
33 Code of Federal Regulations, United States Coast Guard

Final Rule

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The publication of this Final Rule without the inclusion of Hana Harbor, Maui, Hawaii exposes the United States Coast Guard, the Hawaii Department of Transportation, Harbors Division, the State of Hawaii, the County of Maui and other governmental agencies to civil suits and suits brought under admiralty law. Governmental immunity may be argued as a defense, *in personam* (individual personal) liability may attach.

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In 1946 Hana Harbor was inundated with a 28 foot wave, in 1960 a 10 foot wave.

The redevelopment plan for Hana Harbor is provided for your information. Exhibit 4. The HIDOT Harbors Division treat lightly exposure to lawsuit on the premise that they are immune from liability as servants of the State. A paper written by David Louie now State AG is provided for your information. Mr. Louie and his staff will argue no liability until the plaintiff is exhausted and goes away. The Wharf at Hana Harbor is utilized, as I recall, for recreational fishing and attracts divers. Moving ahead with due speed with the redevelopment will avoid problems.

Your immediate attention to this matter is requested.

Thank you very much.

Respectfully,

Electronically Signed

Clifton M. Hasegawa
1044 Kilani Avenue 12
Wahiawa, Hawaii 96786

Telephone: [\(808\) 622-8968](tel:(808)622-8968)

Email: clifhasegawa@gmail.com

Web: www.linkedin.com/in/cliftonhasegawa



HAWAII HOUSE OF REPRESENTATIVES

News Release - For immediate release

May 5, 2016

Media Contact: Carolyn Tanaka 808-586-6133, 808-381-7752

MAUI LAWMAKERS SECURE \$331.68 MILLION FOR MAUI CIP

Funding includes money for Maui County schools, parks, highways, airports and harbors

Honolulu, Hawaii – Under the state budget passed by the Legislature this week, Maui representatives secured more than \$331.68 million in Capital Improvement Project (CIP) funding for the biennium of Fiscal Years 2016 and 2017 for various projects across Maui County. Maui county lawmakers were also able to secure \$8.5 million in Grants-In-Aid for Maui nonprofit organizations.

Notable CIP funding include:

- \$38 million for Kahului Harbor Land acquisition and design for improvements including demolition of existing structures, paving utilities, landscaping, fencing and plan, design and construction to provide a safer and more efficient use of operational areas at the harbor.
- \$37.5 for the design and construction for Phase II for a new high school in Kihei.
- \$33.39 million for Hana Airport, construction for a new aircraft rescue and firefighting station and other related improvements.
- \$29 million for Hana Highway widening from Kaahumanu Avenue to Haleakala Highway from four to six lanes.
- \$17.5 million for Maui Community Correctional Center, design and construction of a new correctional center including housing and support offices.
- \$13.5 million for Honoapiilani Highway widening and/or realignment from Lahaina to Maalaea and from Launiupoko Road to the vicinity of Lunaiupoko.
- \$13.5 million for Hana Highway improvements.
- \$11.08 million for Kahului Airport, removal of existing sewage lift station and replacement, renovation of airport restrooms, design for lease lots and other related improvements.
- \$10.77 million for Lahainaluna High School, construction and equipment for a new eight classroom building, ground and sites improvements; air conditioning; and reroof Building A.
- \$10 million for Maui Community Correctional Center, design and construction of new housing and support offices.
- \$7.75 million for Central Maui Regional Park, ground and site improvements, equipment and appurtenances.
- \$7.6 million for Kahului Airport, design and construction of hold room and security pass and ID office improvements and a new conference room.
- \$7 million for UH Maui, design, construction and equipment for Maui Food Innovation Center.
- \$6.8 million for Kahului Airport, design for hold room and gate improvements.
- \$6.1 million Maui High School, construction for weight training and wrestling room, renovate and expand the band/choir building including additional storage, replace and expand the gymnasium floor, gymnasium heat abatement, and ground and site improvements.

- \$5.2 million for Lanai Airport.
- \$4.7 million for Molokai Public Library, plans, design and construction to expand the existing library.
- \$4.7 million for Molokai irrigation system improvements.
- \$4 million for Molokai Veterans Center, plans, design and construction of a parking lot and installation of septic tank.
- \$4 million for Maui Office Annex Building, design and construction for replacement building and related improvements to support various departmental division and programs.
- \$3.72 million for Maalaea Small Boat Harbor, plans, design and construction for dredging.
- \$3.5 million for replacement of Makakupaia Stream Bridge.
- \$3.5 million for Molokai High School, plans, design and construction for renovation of the gym/emergency shelter and equipment.
- \$3.4 million for Baldwin High School, design and construction for parking lot improvements including pedestrian routes, improved students drop-off and traffic flow; ground and site improvements; and equipment and appurtenances.
- \$3.2 million for Molokai Airport.
- \$3 million for East Maui Water systems plans, design and construction for water systems.
- \$2.25 million for Lahaina Small Boar Harbor, construction and equipment for emergency dredging and replacement of buoys.
- \$2 million for Maui Motor Sports Park plans, design and construction for track improvements.
- \$2 million for Piilani Highway traffic signal improvements at the intersection with Kalanihakoi Street in Kihei.
- \$2 million for Makawao Elementary School, design and construction of covered play court.
- \$1.8 million for Haleakala Highway widening a mile post 0.8 from one lane to two lanes, extending a box culvert and constructing headwalls and wingwalls.
- \$1.6 million for King Kekaulike High School, plans, design and construction and equipment for amphitheater improvements in the quad area and design, construction and equipment for track and field.
- \$1.5 million for Hawaii Community College, construction for portable trailers.
- \$1.5 million for East Maui water systems, plans, designs and construction for irrigation and water delivery systems for agricultural enterprises and/or agricultural purposes.
- \$1.4 million for Paia Elementary School, plans and design for a classroom building.
- \$1.05 million for Hana Highway/Kaahumanu Ave., Dairy Road to Naniloa Overpass beautification of the main corridor between Kahului and Wailuku to include landscape and irrigation.
- \$900,000 for Waihee Elementary School, plans, design and construction for a new administrative building.
- \$800,000 for Kihei Boat Ramp, plans and construction for maintenance dredging, parking lot and access road improvements.
- \$650,000 Kahului Baseyard improvement.
- \$500,000 for Lipoa Point at Honolua Bay, plan, design, construction and equipment for health, safety and public improvements.
- \$600,000 for Waiakea Uka Community Center, plans, land acquisition and design for a community center.
- \$525,000 for Maui Youth and Family Services, construction for a new administration facility.
- \$500,000 for Kalamaula Homesteaders Association, plans, design and construction for redevelopment of the Kiowea Park facilities. \$405,000 Kalaupapa Settlement, plans, design and construction to close landfills and assess other environmental issues.
- \$500,000 for Hana Health, plans and construction for new health facilities.
- \$500,000 for Kula Elementary School, plans design and construction for water filtration system.
- \$362,000 for Pakalani Elementary School, design, construction and equipment for landscaping.
- \$300,000 for Heritage Hall, construction for facilities in Paia.
- \$300,000 for improvements to Paia Bypass.

- \$213,000 for Kahului Airport, design for inbound baggage handling system improvements.
- \$251,000 for Kalaupapa Settlement, design and construction to re-roof buildings and other related improvements.
- \$250,000 for Haiku crosswalk on Pilihoa Street along Hana Highway.

In addition to the executive CIP funding, appropriations for Grants-In-Aid were also awarded to organizations for the benefit of the Maui County, including:

- \$192,000 for Arc of Maui County.
- \$65,814 for Grow Some Good.
- \$250,000 for Hale Mahaolu.
- \$350,000 for Hale Makua Health Services.
- \$300,000 for Hui Malama Learning Center.
- \$10,000 for Maui High School Band Booster Club.
- \$246,550 for Women Helping Women.
- \$1.5 million for design and construction of senior affordable rental housing at Kulamalu Town Center (Hale Mahaolu).
- \$600,000 for repairs and renovations of J. Walter Cameron Center.
- \$975,000 for restoration of old Kaupo School (Kaupo Community Association).
- \$50,000 for homeless housing first project (Mental Health Kokua).
- \$600,000 for nonpotable agricultural waterline in Keokea (Homestead Community Development).
- \$1.3 million for construction for Kiowea Park and pavilion, Molokai (Kalamaula Homesteaders Association).
- \$1.7 million for improvements to Lanikeha Center and commercial kitchen (Molokai Homestead Farmers Alliance).

For more information, contact:

Joseph M. Souki (District 8: Kahakuloa, Waihee, Waiehu, Puuohala, Wailuku, Waikapu)
 (808) 586-6100
repsouki@capitol.hawaii.gov

Justin H. Woodson (District 9: Kahului, Puunene, Old Sand Hills, Maui Lani)
 (808) 586-6210
repwoodson@capitol.hawaii.gov

Angus McKelvey (District 10: West Maui, Maalaea, North Kihei)
 (808) 586-6160
repmckelvey@capitol.hawaii.gov

Kaniela Ing (District 11: Kihei, Wailea, Makena)
 (808) 586-8525
reping@capitol.hawaii.gov

Kyle T. Yamashita (District 12: Sprecklesville, Pukalani, Makawao, Kula, Keokea, Ulupalakua, Kahului)
 (808) 586-6330
repyamashita@capitol.hawaii.gov

Lynn DeCoite (District 13, Haiku, Hana, Kaupo, Kipahulu, Nahiku, Paia, Kahoolawe, Lanai, Moloka'i, Molokini)
 (808) 586-6790
repdecoite@capitol.hawaii.gov

David Louie now State AG is provided for your information. Mr. Louie and his staff will argue no liability until the plaintiff is exhausted and goes away. The Wharf at Hana Harbor is utilized, as I recall, for recreational fishing and attracts divers. Moving ahead with due speed with the redevelopment will avoid problems.

Your immediate attention to this matter is requested.

Thank you very much.

Respectfully,

Electronically Signed

Clifton M. Hasegawa
1044 Kilani Avenue 12
Wahiawa, Hawaii 96786
Telephone: (808) 622-8968
Email: clifhasegawa@gmail.com
Web: www.linkedin.com/in/cliftonhasegawa

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This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8376.17

February 17, 2017

Mr. Clifton M. Hasegawa
President and CEO
Clifton M. Hasegawa & Associates, LLC
1322 Lower Main Street A5
Wailuku, Hawai'i 96793

Dear Mr. Hasegawa:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your two emails dated October 13, 2016, commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice (EISPN)*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

The following is in response to your statement that “an Environmental Impact Statement is not required by Statute.” While Hāna Harbor is not used as a commercial facility, Act 200, Session Laws of Hawai'i 2008 transferred jurisdiction and administrative authority over the harbor to the Department of Transportation (DOT). Based on this transfer, DOT is the determining authority under Hawai'i Revised Statutes (HRS), Chapter 343, for actions involving the harbor. Use of state land and funds, which both apply to the subject project, triggers an environmental review under HRS, Chapter 343.

Under the provisions of Act 172 (2012), based on the significance criteria set forth in Hawaii Administrative Rules (HAR), Title 11-200, DOT has determined, at the outset, that the proposed action requires the preparation of an EIS. The relevant significance criteria are potential direct and secondary impacts that involve an irrevocable commitment to loss or destruction of a cultural resource and may substantially affect the social welfare of the community (HAR 11-200-12 [b][1] and [4]).

As to your comment beginning with “while there exists some sentiment that the pier be rehabilitated...”, it should be clarified that there is no current proposal for any rehabilitation or redevelopment of the pier. The proposed action, as stated in the EISPN, is to remove the access trestle and superstructure.

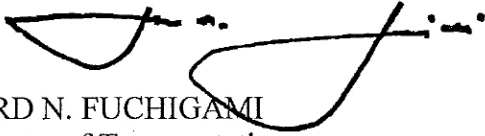
While your comments have been noted and documented for the record, based on its authority and best judgment, DOT will move forward with the preparation of an EIS in accordance with HRS, Chapter 343, and HAR, Title 11-200, in support of the proposal by DOT to undertake the removal of the deck of Hāna Pier.

Mr. Clifton Hasegawa
February 17, 2017
Page 2

HAR-EP
8376.17

We will provide your office with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami', with a stylized flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Kaala Kalalau <brianakalalau@gmail.com>
Sent: Friday, November 04, 2016 9:24 AM
To: sandra.c.rosetter@gmail.com; Gail Renard; paul_burns@notes.k12.hi.us
Subject: Save Hana Peir

Dear DOT,

Aloha. This is one of many kids from Hana High School saying that you are making a big mistake. To many outside of Hana they believe that our peir is just another place we hang out or that its dangerous. To the people of Hana it is a sort of sanctuary where our kupuna have grew up and where we plan to grow up. Just knowing that a piece of our Kupuna's history and Hana's history will be taken away is heart breaking. As a town we have struggled but survived many different types of storms and we are not planning to lose to this one. Before you people take away part of our town, part of us and part of our history, let me ask you, How would you feel if a part of you was taken away and you had to watch it happen in front of your own eyes? In conclusion I advise that you rethink this action for one small act can cause a big impact all around.

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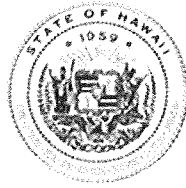
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Kaala Kalalau"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:58:00 PM
Attachments: [2017-02-17 \(DIR: Kalalau, Ka'ala\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Ka'ala Kalalau
brianakalalau@gmail.com

Dear Ka'ala Kalalau:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ka'ala Kalalau
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping flourish that extends to the right and loops back under the name.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: Nakaula Kanakaole-Park <nakaula.k.p@icloud.com>
Sent: Friday, November 04, 2016 9:56 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Cc: paulburns808@gmail.com
Subject: Hāna Wharf

We the people of Hāna love and respect our historic monument. This is where we grew up as kids and learned to swim, hold our breath and even provide fish for our families to eat. Hāna Wharf is a place I want to raise my children around so they can see what we had as kids growing up and what their grandparents and even great grandparents had in their childhood. The people of Hāna do think about the now, but we also know what we need to do for the future and more generations to come. So I, Nakaulakuhikuhi Kanaka'ole Park, age 15, object to the removal of our Historic Hāna Wharf! Aloha and Mahalo.

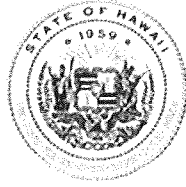
This message has been scanned for viruses and dangerous content using Worry-Free Mail Security and is believed to be clean.

From: [Hana Pier EIS](#)
To: ["Nakaula Kanakaole-Park"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:59:00 PM
Attachments: [2017-02-17 \(DIR Park, Kakaulakuhikuhi Karaka"ole\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Nakaulakuhikuhi Kanaka'ole Park
nakaula.k.p.@icloud.com

Dear Nakaulakuhikuhi Kanaka'ole Park:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "FORD N. FUCHIGAMI". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: Manoa Keaulana <manoa.keaulana20@gmail.com>
Sent: Friday, November 04, 2016 9:06 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Save Hana Bay

Dear DOT,

Don't ruin Hana Bay. You will make a lot of the local residents that live in Hana mad with your decision. Also i am one of those people that lives in Hana and we don't want you and whoever wants to help destroy our pier. So make the the right decision.

--

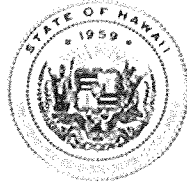
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Manoa Keaulana"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:00:00 PM
Attachments: [2017-02-17 \(DIR Keaulana, Manoa\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Manoa Keaulana
manoa.keaulana20@gmail.com

Dear Mr. Keaulana:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Manoa Keaulana
February 17, 2017
Page 2

HAR-EP
8364.17

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We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'F. N. FUCHIGAMI', with a horizontal line extending to the right from the end of the signature.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: Chayton keegan <chaytonkeegan@gmail.com>
Sent: Friday, November 04, 2016 10:09 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana Pier

Dear, DOT

Aloha, my name is Chayton Keegan. I think there is no reason you should knock down the pier. The only thing that will come from this is bad things. For example, if you were to knock it down (which you shouldn't) it will destroy all the marine life because of the machinery you will be using to do the job. If the marine life is destroyed the community will no longer be able to catch akule for many years. Also the keiki of Hana will have one less place to learn how to fish and dive. Also if you destroy the Hana pier me, my friends, and all the other children will no longer have a place go swim, dive, fish, and make unforgettable memories. So I kindly and sincerely ask you to please not destroy Hana Bay for it will greatly affect me and my entire community in many negative ways, Thank you

Sincerely,
Chayton Keegan

--

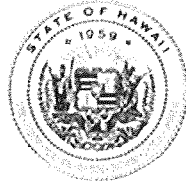
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Chayton.keegan"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:01:00 PM
Attachments: [2017-02-17 \(DIR: Keegan, Chayton\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Chayton Keegan
chaytonkeegan@gmail.com

Dear Mr. Keegan:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

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Mr. Chayton Keegan
February 17, 2017
Page 2

HAR-EP
8364.17

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We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "F. N. Fuchigami", with a stylized flourish extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

Ms. Sandra Rossetter, Project Manager
Attn: Planning Section
Department of Transportation, Harbors Division
79 South Nimitz Highway
Honolulu, HI 96813

Submitted via email to sandra.c.rossetter@hawaii.gov

November 6, 2016

Dear Ms. Rossetter:

On behalf of Hana residents, I am submitting the following comments in response to the *Hāna Pier Deck Removal Environmental Impact Statement Preparation Notice*, issued September 2016 by the Hawai'i Department of Transportation, Harbors Division (DOT-H). As you are aware from your pre-assessment consultation, we are very concerned about any actions taken regarding Hāna Pier, and can assist with acquiring input regarding the potential impacts to the human and natural environment arising from proposed alternatives. The social, subsistence, recreational, and cultural importance of this asset to the native Hawaiian and local communities cannot be overstated. As such, we hereby requests to be designated as a consulting party for the environmental impact statement process.

On behalf of the Hana Community I am requesting to also be included as a consulting party in the identification and evaluation of cultural and historic resources, practices, and traditions that may be adversely affected by the proposed action or alternatives, and the assessment of the types and magnitudes of those impacts. It is important to remember that efforts to identify such impacts must address not only direct effects, but also indirect effects and cumulative effects. Thus the assessment of effects must go beyond the immediate area and time-frame of the project to include long-term effects to resources and practices, and effects to resources located at a distance from the project area.

The EIS Preparation Notice was unclear on whether DOT-H would be consulting with the U.S. Fish and Wildlife Service regarding potential effects to threatened or endangered species from the proposed action or alternatives. Because of the location of the work within the waters of the bay, and the importance of these resources, this consultation should be undertaken.

The EIS Preparation Notice was also unclear on the anticipated involvement of the U.S. Army Corps of Engineers in the DOT-H's development of its EIS under the *Hawai'i Environmental Policy Act*. In addition, because a permit from the Corps will be required by DOT-H for the project under Section 10 of the *Rivers and Harbors Act* (work in navigable waters of the U.S.), it should be considered that compliance by the Corps (as the Lead Agency) with the *National Environmental Policy Act* and the *National Historic Preservation Act* may also be required.

The community at large has been vocal in their desire to retain the pier for foot traffic only, thereby continuing its current use for swimming, fishing, viewing, and various traditional cultural practices. DOT-H has been clear that developing the pier for such uses (non-commercial) is not consistent with its mission. However, there is an example of such a recreational pier in the State of Hawai'i – Ahukini Landing on Kauai. We believe this pier is under the auspices of the State Department of Land and Natural Resources, State Parks Division. If what remains of Hāna Pier could be put under the responsibility of a different state department, after the deck has been removed, this would provide the opportunity to develop the pier in the future into a recreational pier. We request that DOT-H modify the proposed action to include transfer of the remnants of the pier (essentially the pilings) to another state agency that would be able to work with our community to explore development of it into a recreational pier in the future. Appropriate departments could include Land and Natural Resources (which currently has jurisdiction over the adjacent small boat ramp), Department of Hawaiian Homelands, or the Department of Business, Economic Development, & Tourism. With this in mind, DOT-H would also need to revisit the specific demolition plans for the deck to ensure that what remains of the pier and pilings would be usable for such future development. Actions consistent with stabilization of the pilings and pier remnants would need to be added to the proposed action.

The community also requests to look further into deeming pier as a historical site since it was constructed by the Territory of Hawaii and using funds to improve historical site.

Finally, we are concerned with the security and safety of our community, particularly in times of emergency. Removal of the pier deck would leave the community with only one route of ingress/egress, the Hāna Highway. As you are no doubt aware, this highway has been subject to mudslides and other disasters multiple times in the recent past that have rendered it unusable. In these situations, without a pier, the community would be cut off from rescue and assistance, risking public health and safety. Such a dangerous situation would be unacceptable. We request DOT-H to revisit their mission and the responsibilities of the State of Hawai'i with this in mind – maintaining the health and safety of the public would be reason enough to refurbish the pier for emergency use. In addition, this issue would need to be thoroughly addressed in the EIS.

We appreciate the opportunity to provide our comments on the proposed action and the EIS Preparation Notice. We look forward to working hand-in-hand with DOT-H on this project and the environmental analysis to find a solution that works for our community. If you have any questions, please do not hesitate to contact me, Shyanne Lecker-Agnew at 808-344-6572 or via email at Shyanne.la@gmail.com.

Sincerely,

Shyanne Lecker-Agnew
Hana Resident

From: [Hana Pier EIS](#)
To: ["Shyanne Lecker-Agnew"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Wednesday, March 08, 2017 5:41:00 PM
Attachments: [2017-02-24 \(DIR Lecker-Agnew, Shyanne\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 24, 2017

Ms. Shyanne Lecker-Agnew
Shyanne.la@hotmail.com

Dear Ms. Lecker-Agnew:

Subject: Hāna Pier Deck Removal Environmental Impact Statement Preparation
Notice, Hāna, Maui - Project H.C. 30108

Thank you for your email dated November 6, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

As an individual, you will be included as a consulted party to the EIS process. Individual residents of Hāna who provided comments on the EIS Preparation Notice or otherwise requested to become a consulted party within the prescribed time period (i.e., October 8, 2016 through November 7, 2016) will be included as consulted parties in this EIS process. Those who did not meet the requirements of Hawai'i Administrative Rules 11-200-15(b) will not be considered consulted parties solely based on your claim of submitting comments on their behalf.

In response to your request to be consulted to identify and evaluate the cultural and historic resources, practices and traditions that may be adversely affected, the Draft EIS will contain a section on the potential impacts to cultural and historic resources based on studies completed for the project, such as the Cultural Impact Assessment for the Hāna Pier Deck Removal in compliance with Act 50, Session Laws of Hawaii 2000. The Draft EIS will look at indirect and cumulative impacts. The appropriate agencies, such as the Department of Land and Natural Resources, State Historic Preservation Division (SHPD), will be consulted. After the Draft EIS is published, we encourage you to review and provide written comments as part of the process.

The Department of Transportation, Harbors Division (DOT-H) conducted early consultation with several government agencies, which includes the U.S. Fish and Wildlife Service (see page 17 of the Preparation Notice). The Draft EIS will include analysis of potential impacts to water quality and biological resources including terrestrial and marine habitat.

DOT-H conducted early consultation with the U.S. Army Corps of Engineers (see page 17 of the Preparation Notice). We will continue to consult the appropriate agencies throughout the EIS process. As noted on page 2 of the Preparation Notice, the U.S. Army Corps of Engineers will identify specific permits required for the project, such as Section 10, Rivers and Harbors Act (for work in navigable waters of the U.S).

We note your request to look further at deeming the pier a historical site. Historic designation is under the purview of SHPD. The EIS process includes an evaluation of the pier's eligibility for listing on the National Register of Historic Places (i.e., its historic significance), which will be submitted to SHPD for its concurrence. SHPD will determine any preservation measures and mitigation through the Hawaii Revised Statutes, Chapter 6E process.

Regarding your request that the EIS consider access in times of emergency as it relates to the pier, the DOT-H's original proposal to improve the pier was primarily for providing an operational pier in times of an emergency. However, DOT-H's administrative rules would have allowed other vessels that met requirements and obtained all of the proper permits to also use the State facility. As you are aware, the community objected to any commercial use, therefore creating a conflict of use that has led to the current action.

Any plans to repair the pier strictly for non-commercial uses such as emergency access, and recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the akule fishery). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

From: Greggie and Gina Lind
To: [Rossetter, Sandra C](#)
Subject: Hana pier removal testimony
Date: Thursday, November 03, 2016 9:33:57 AM

Aloha

My name is Greg Lind Jr and I am submitting testimony about the removal of the pier in Hana. The removal would negatively impact my ability to launch my boat and engage in my occupation as a commercial fisherman. I use the ramp, the walkway, and the turn around multiple times per week to access the ocean. If I am unable to access the ocean, I cannot make a living, thus putting my family of seven into peril. Our diet consists mostly of the fish I catch, I sell fish in order to pay my mortgage and car payments. If I am unable to access the water from the boat ramp attached to the Hana pier, we could face vehicle repossession and foreclosure on our home, forcing us into homelessness. Not to mention that we would not be able to buy food nor pay our bills. I am a native Hawaiian who operates a successful business, my life and the lives of my wife and children would be adversely effected by limited or denied access at any time to the ramp at Hana pier.

I may be contacted at this email or at 269-9171

Mahalo

Greg Lind Jr
210 Maia Rd.
Hana, HI 96713

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8378.17

February 17, 2017

Mr. Greg Lind, Jr.
210 Maia Road
Hāna, Hawai'i 96713

Dear Mr. Lind:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 3, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following response.

We acknowledge that having access to the boat ramp is important to you and your family's livelihood. It should be noted, that while there may be temporary restricted access during demolition activities, the project does not include the small boat ramp, which is under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation. The Draft EIS will consider and discuss the impacts that temporarily restricting access to the boat ramp will have on the community.

We note the concerns that have been expressed by you and others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

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FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Aquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Nahinu Lind <nahinulind@gmail.com>
Sent: Friday, November 04, 2016 10:17 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Re: my pier

On Fri, Nov 4, 2016 at 10:14 AM, Nahinu Lind <nahinulind@gmail.com> wrote:

dear DOT,

ALOHA my name is Nahinu Lind and I would like to fight for my pier. if you knock it down it will effect Hana bay in many negative ways that my town and I will not appreciate.for example, you will mess up the coral reef where me and my friends like to go dive. also you will mess up the pile akule that my community thrives off of. another bad thing that will come from this is that my friends and i will no longer swim and jump off the pier. in conclusion i sincerely ask you please to not destroy our Hana pier. MY NAME IS NAHINU LIND AND I APPROVE THIS MESSAGE!!!!!!!

THANK YOU

--

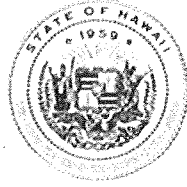
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Nahinu Lind"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:02:00 PM
Attachments: [2017-02-17 \(DIR Lind, Nahinu\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Nahinu Lind
nahinulind@gmail.com

Dear Mr. Lind:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

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Mr. Nahinu Lind
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

From: Shannon Konohia [mailto:spkonohia@yahoo.com]
Sent: Monday, November 07, 2016 2:15 PM
To: Rossetter, Sandra C <sandra.c.rossetter@hawaii.gov>
Cc: grenard@hff.com
Subject: Hana Pier Letter

Aloha Sandra,

It is vital to keep our cultural resorces for our future generation,how can you make this happen for our KEIKI OF HANA....Mahalo Nui

 **May God bless you, Sistah Shannon**

--

This message has been scanned for viruses and dangerous content using [Worry-Free Mail Security](#), and is believed to be clean. [Click here to report this message as spam.](#)

Aloha Sandra,

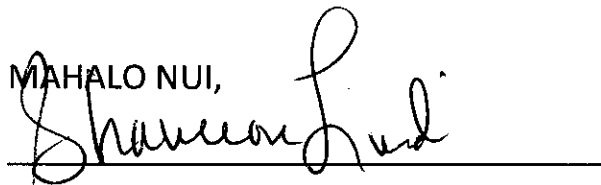
I am responding to the EIS on the Removal of the Hana Pier.

The Hana Pier should not be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, Barefoot Café, the Hana Pavilion, and even the main road to Hana Bay.

Hana Bay is sacred to all our people, it is HISTORICAL and connected to the HISTORY of THE BIRTHING CAVE OF OUR QUEEN KAAHUMANU. A LEGACY today we the People of Hana RESPECT and HONOR. Our Community launch their boats from the Pier, we catch our dinner from the Pier, and we do cultural practices from that PIER. Why would we want that torn down, generation after generation we've utilize the pier during all of our Family Reunion's. It's a Landmark for our People, just let the pier fall on its own.

Please PROTECT OUR RESOURCES before there's nothing for our FUTURE GENERATIONS MAHALO,MAHALO,MAHALO.....

MAHALO NUI,

A handwritten signature in black ink, appearing to read "Shannon Lind", written over a horizontal line.

Shannon Lind

From: [Hana Pier EIS](#)
To: ["spkonohia@gmail.com"](mailto:spkonohia@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Wednesday, March 08, 2017 5:45:00 PM
Attachments: [2017-02-24 \(DIR Lind, Shannon\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8408.17

February 24, 2017

Ms. Shannon Lind
spkonohia@gmail.com

Dear Ms. Lind:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H's mission which is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

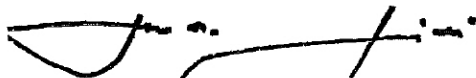
In regards to launching boats from the pier, the boat ramp is under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation and is not part of this project.

Ms. Shannon Lind
February 24, 2017
Page 2

HAR-EP
8408.17

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including coastal conditions). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Deisia-Rae Lind Kaina <deisiraeklk@gmail.com>
Sent: Friday, November 04, 2016 9:22 AM
To: Sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana Pier

Dear DOT,

I am a student of Hana high and elementary school. I feel as if you have no right to take down the pier in any way whatsoever. Seeing as i and many others grew up here, Iv'e never in my life seen anything fatal happen. It makes me wonder why you are taking it down in the first place. We are kindly asking, as citizens of Hana Maui, that you do not take down the pier. I'm sure we would all like to keep it here as a memory of our childhood when we grow older. We want it here to teach the next generation to fish, swim, and much more. It is a very sacred place and it would only be right not to destroy it. Children and Adults of Hana use this as a place to get away from everything. Away from bills, taxes, and money in general. To many of you out there just think this is a broken down, "deteriorated" Pier that you shouldn't have a problem with taking it down. Well in our eyes you are "deteriorating" our childhood memories, parents memories and so on of this very pier. Our source of food to feed our families, and your going out of your way to eradicate it. I honestly don't believe the nerve you have as a "department of transformation". Even trying to fix it would be better than demolishing it in general. Not only is it affecting us, but the marine life down below also. \$3.5-\$16.5 million just for this? Now, to conclude this message. I'm not asking you to stop this plan, i'm telling you. Your making a big mistake.

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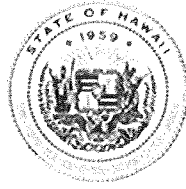
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Deisia-Rae Lind Kaina"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:03:00 PM
Attachments: [2017-02-17 \(DIR Lind Kaina, Deisia-Rae\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Ms. Deisia-Rae Lind Kaina
deisiaracklk@gmail.com

Dear Ms. Lind Kaina:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Deisia-Rae Lind Kaina
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'FORD N. FUCHIGAMI', written over a horizontal line.

FORD N. FUCHIGAMI
Director of Transportation

Rossetter, Sandra C

From: Babette Lopez <babette_lopez1@yahoo.com>
Sent: Monday, November 07, 2016 12:50 PM
To: Rossetter, Sandra C
Cc: grenard@hff.com
Subject: Removal of Hana Pier

Aloha Sandra,

I am responding to the EIS on the Removal of the Hana Pier.

The Hana Pier should not be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, Barefoot Café, the Hana Pavillion, and even on to the main road to the bay. For many years born and raised here in Hana, we have witness The Hana Pier protecting the entire bay from the surges and large waves.

The community of Hana was presented with a survey with poor options that left the community with no hope. The community of Hana expressed their feelings strongly at several public meetings that I attended, the impact of not just having it for commercial use, but the impact on what it would do if the Hana Pier was removed.

Hana Bay is sacred, it is historical and the Hana Pier does not stand by its self, it is connected to its history of Kauiki Hill, Queen Kaahumanu's Birthing place and Cave. A legacy today we the people of Hana respect and honor.

Removal of the Hana Pier, should not take millions of Federal monies to destroy, it is a waste of taxpayers monies. Our hard earn dollars, gets deducted by the Federal big time! Those funds could go to help the homeless, help students go to college and even more...

Please listen to the voices of the Hana Community and do not remove the Hana Pier. There are holes on the pier, from poor maintenance over the years, just fix the holes and let nature takes its course! That Hana Pier will outlived all of us, look at Mala Wharf!

Much Mahalo!

B. Lopez and children

From: [Hana Pier EIS](#)
To: ["babette_lopez1@yahoo.com"](mailto:babette_lopez1@yahoo.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 12:36:00 PM
Attachments: [2017-02-24 \(DIR Lopez, Babette\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8393.17

February 24, 2017

Ms. Babette Lopez
babette_lopez1@yahoo.com

Dear Ms. Lopez:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

It should be clarified that no federal funding will be used for this project. Funding for this project will be derived from the DOT-H special funds, which are generated by revenues from tariffs and other fees paid by commercial harbor users.

Ms. Babette Lopez
February 24, 2017
Page 2

HAR-EP
8393.17

In response to your comments that the holes in the pier should be fixed, due to the age of the pier and the extent of damage to the pier, it is beyond maintenance repair for any use. This finding was documented in an engineering report, completed under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation in 1999.

We note your concerns regarding the project's possible effects on cultural, historic and coastal conditions landward of the pier. The Draft EIS will fully assess the potential for impacts on cultural, historic, recreational, water quality, and marine resources (including coastal conditions), and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Sincerely,

A handwritten signature in black ink, appearing to read 'FORD N. FUCHIGAMI', written over a horizontal line.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Same letter sent to: Ms. Lehua Cosma
huanani978@yahoo.com

Gail Renard

From: Angel Mahadocon <akpmahadocon@gmail.com>
Sent: Friday, November 04, 2016 10:24 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: A'ole Hana Pier

Dear DOT,

My Name is Angel Mahadocon. I am born and raised here in Hana and is a Sophomore enrolled at Hana High & Elementary School. As a child growing up here i spent many of my childhood days with my family at Kapueokahi Bay also known as the famous Hana Bay. I am infuriated that you are thinking of taking down our Pier. This is a very special place for everyone that lives here and all that visit here too. It's a very sacred area and has a lot of sentimental value to our people. It's not just another piece of cement sticking out of the ground but is a home to many of our resource that we need to survive. If you break it down it will chase away all the fish the feeds the future generations of Hana. The pier also a historical site, it has been around for 104 and we would like to keep it around for 104 more. There is no reason to take it down. You can't fix what's not broken. Nothings wrong with the wharf, no one has gotten hurt, no one has had problems with the wharf everyone has good use for this precious are of ours. If you take the pier away from us you might as well take the lives of our people because it's the same thing you're taking away our resources that we live off of. You're killing off our resources same as killing off our people. As long as our culture lives on you will never take away our hawaiian rights of fighting for what we believe in.

Sincerely,
Angel

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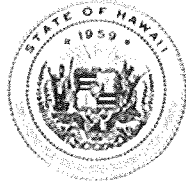
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Angel Mahadocon"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:05:00 PM
Attachments: [2017-02-17 \(DIR, Mahaocon, Angel\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Ms. Angel Mahadocon
akpmahadocon@gmail.com

Dear Ms. Mahadocon:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Angel Mahadocon
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping initial "F" and a long horizontal stroke extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: jesiah malaikini <jesiahmalaikini@gmail.com>
Sent: Friday, November 04, 2016 9:16 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: a`ole hana pier

Jesiah malaikini

waikaloa
702-601-9112
jesiahmalaikini@gmail.com

11/4/2016

Dear DOT,

My name is Jesiah Malaikini and my grand father basically made hana. Knocking down hana peir is like tearing down the statue of liberty. It has been a historic landmark for some years now being over 100 years old. And you want to tear it down. Why? Even if you succeed destroying our peir do you really think youll be able to build a new commercial harbor here? It will never happen not only the people here in hana but people all over the world will take a stand against it, I would like to see you try. This is not a threat just a warning

-sincerley 15 year old Jesiah Malaikini

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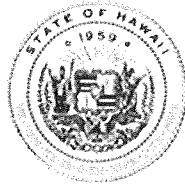
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From: [Hana Pier EIS](#)
To: ["jesiah.malaikini"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:05:00 PM
Attachments: [2017-02-17 \(DIR: Malaikini, Jesiah\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Jesiah Malaikini
jesiahmalaikini@gmail.com

Dear Mr. Malaikini:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Jesiah Malaikini
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping "F" and "N" that connect to the "F" and "G" respectively. The "M" and "I" are also connected to the "G".

FORD N. FUCHIGAMI
Director of Transportation

Rossetter, Sandra C

From: Maydoria Malaikini <maydoria1@gmail.com>
Sent: Monday, November 07, 2016 1:37 PM
To: Rossetter, Sandra C
Subject: Hana Pier

Aloha Sandra

My name is Maydoria Malaikini my Ohana is from Hana I writing to you on behalf of the Hana Pier, as a little girl hana bay was one of the many beaches that we swam at growing up the Pier was how we did some of our training for canoe, we did a lot of challenges like see who can hold their breath long enough to get sand and bring it back to surface, our summers on that Pier is like no other we would Holo Holo gather fish..but 1 main factor that I didn't see come up was how it helps with to block Huge waves that rolls in during storms, that is Pier saves Hana Bay from Hug Destruction I do believe it should be safe, but I also think it can be saved obviously if the community agrees to let commercial ships dock then it is said that the Pier can be saved what kind of non sense is that, it can be fixed for commercial use but not for the safety of the people? I just don't understand.. Please do let them take a part of history away from our town, the train track and the shack foundation for the sugar house is still their. Pleading on behalf of our Hana Community..

From: Hana Pier EIS
To: "maydoria1@gmail.com"
Subject: RE: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 12:51:00 PM
Attachments: [2017-02-24 \(DIR, Malaikini, Maydoria\) HC30108_Hana Pier Deck Removal EIS_response.pdf](#)

Apologies; resending with correct attachment.

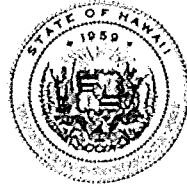
-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

From: Hana Pier EIS
Sent: Thursday, March 09, 2017 12:38 PM
To: 'maydoria1@gmail.com'
Subject: Hana Pier Deck Removal Environmental Impact Statement

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8405.17

February 24, 2017

Ms. Maydoria Malaikini
Maydoria@gmail.com

Dear Ms. Malaikini:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*"

Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the coastal conditions). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Ms. Maydoria Malaikini
February 24, 2017
Page 2

HAR-EP
8405.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami', written over the printed name and title.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Jaedyn Medeiros <jaedynschool08@gmail.com>
Sent: Friday, November 04, 2016 9:19 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard

Dear DOT

I don't care what you do to the pier as long as you clean up the debris so people don't get hurt while swimming. But since the wharf has been there for a very long time it wouldn't look right if you took it down the bay would look empty. Even if the wharf is a dangerous place people still have fun on it so please don't take it down.

From jaedynschool08@gmail.com

--

This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: Hana Pier EIS
To: "Jaedyn Medeiros"
Subject: RE: Hana Pier Deck Removal Environmental Impact Statement
Date: Tuesday, March 21, 2017 4:41:00 PM
Attachments: 2017-02-17 (DIR Medeiros, Jaedyn) HC30108 Hana Pier Deck Removal EIS response.pdf

Apologies; resending with correct attachment.

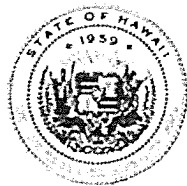
-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

From: Hana Pier EIS
Sent: Thursday, March 09, 2017 4:07 PM
To: 'Jaedyn Medeiros'
Subject: Hana Pier Deck Removal Environmental Impact Statement

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Jaedyn Medeiros
jaedynschool08@gmail.com

Dear Jaedyn Medeiros:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

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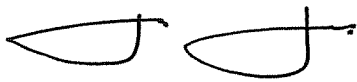
Jaedyn Medeiros
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'F. Fuchigami', with a stylized flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: anthony messina <anthonyboi808@gmail.com>
Sent: Friday, November 04, 2016 9:01 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: save hana bay

Dear DOT,

don't ruin Hana bay. you will make a lot of people mad if your destroy Hana Bay pier. So make the right decision and don't do anything to the pier.

--

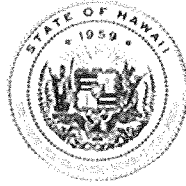
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["anthony_messina"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Friday, March 10, 2017 10:51:00 AM
Attachments: [2017-02-17 \(DIR_Messina, Anthony\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8366.17

February 17, 2017

Mr. Anthony Messina
anthonyboi808@gmail.com

Dear Mr. Messina:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

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We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Mr. Anthony Messina
February 17, 2017
Page 2

HAR-EP
8366.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami', with a stylized, sweeping flourish extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: marley moeai <siliilagim@gmail.com>
Sent: Friday, November 04, 2016 10:21 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana Wharf

Marley Moeai

4th September 2016

DOT

Dear DOT,

Wharf / (h)worf/ noun - a level quayside area to which a ship may be moored to load and unload

Synonyms- quay, pier, dock, berth, landing, jetty:

Wharf- Noun- An area by the ocean where boats come in and out of. An area where the town comes to be as one and practice our culture, an area that provides for not only fishermen but also their families and the whole of the town

Synonyms- Home, Provider, Playground, landmark, sacred structure

My name is Marley (Lagi) Moeai. I am 15 and attend 10th grade in Hana High and Elementary School.

Please look at these definitions. Both define wharf. Both have synonyms. What is the difference. One word: Importance. For over 100 years our ancestors have protected .saved and used this warf. You may just think of it as a dangerous structure ready to crumble at any moment. Do we know that? Yes. Do we know it may not be safe? Yes. But let me ask you a question. Do you know how important this “dangerous structure” is to us and how huge of an impact this wharf has had on us?

Think of it like this, Your great-grandparents built a nice sturdy home that lasted for years. You now live in this house and you want your children to live in too. At the condition it is in now it's falling apart but it'll still last. All of a sudden your landlord says it's not safe, take it down or I'll kick you out. In that situation what do you do? It's the same situation we are in.

To close of my letter I'll say thank you for listening to what I have to say. Please do not destroy our home.

Sincerely,

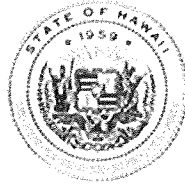
Marley Moeai of Hana

From: [Hana Pier EIS](#)
To: ["marley.moeai"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:19:00 PM
Attachments: [2017-02-17 \(DIR Moeai, Marley\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Ms. Marley Moeai
siliilagim@gmail.com

Dear Ms. Moeai:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

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Ms. Marley Moeai
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "FORD N. FUCHIGAMI". The signature is stylized with a large, sweeping "F" and "U".

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: Kaula Moeai <kaulam20@gmail.com>
Sent: Friday, November 04, 2016 8:41 AM
To: sandra.c.rosetter@hawaii.com; Gail Renard
Subject: hana bay pier

Dear D.O.T,

I am writing this to inform you that taking down the hana bay pier is a mistake. The hana people need the pier to stay as it is because that is one of our most valuable resources. The fish we catch there are everyday meals to us. Rebuilding the pier would cause to many boats to pollute the water, killing the reefs and fish that live there. Taking down the pier would have the same effect, keeping us from getting our dinner. I know you are concerned for our safety and that is great, but we know our own limits. In time when the parents and grandparents see that it is unsafe, I promise you they will stop and tell their children not to go there to play or fish. We are capable of taking care of our waters and would love it if you would reconsider taking away our pier.

Sincerely , Matthias Moeai

--

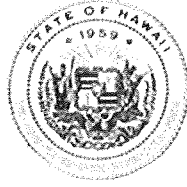
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Kaula Moeai"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:21:00 PM
Attachments: [2017-02-17 \(DIR Moeai, Matthias\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Matthias Moeai
kaulam20@gmail.com

Dear Mr. Moeai:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

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DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Matthias Moeai
February 17, 2017
Page 2

HAR-EP
8364.17

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We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is written in a cursive style with a horizontal line extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

From: Tracen Oania
To: [Rossetter, Sandra C](#); [Kama Pahukoa](#)
Cc: grenard@hff.com
Subject: Oppose - Hana Pier Removal
Date: Monday, November 07, 2016 10:07:37 PM

Aloha,

I am in strong opposition of the removal of Hana Pier, as it will greatly impact our local community & open new doors toward unwanted commercial activity.

Hana pier is considered a break wall to our community grounds, like: Hele Hall, Pavillions, and grass areas that surround Kapueokahi park.

Please make the right decision when making drastic changes to our lifestyles. We have had many meetings with over 97% of the attendees in strong opposition of removing Hana Pier.

Mahalo for your time & hard work.

Mahalo,

Tre Oania
Resident
Ko'olau, Maui

From: [Hana Pier EIS](#)
To: ["tracenoania@gmail.com"](mailto:tracenoania@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 12:41:00 PM
Attachments: [2017-02-24 \(DIR Qania, Tre\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8389.17

February 24, 2017

Mr. Tre Oania
tracenoania@gmail.com

Dear Mr. Oania:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H is sensitive to the community's concerns about not wanting commercial use of the pier and acknowledges the well-documented desire of the community to maintain the rural character of Hāna. The previous proposed action would have repaired the pier and brought it back to a safe and usable condition. However, as you note, the community objected to commercial use of the pier. Commercial use would be required as a part of DOT-H's mission, which is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to repair the pier for strictly non-commercial uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency, and without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

No commercial activity is being proposed. The current proposed action is the removal of the pier deck to maintain public safety and reduce hazards presented by the deteriorated pier. Unless the jurisdiction changes, DOT-H is still responsible for the pier.

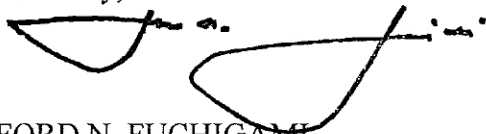
Mr. Tre Oania
February 24, 2017
Page 2

HAR-EP
8389.17

We note the concerns that have been expressed by you and others, regarding cultural, historic, recreational, water quality, coastal conditions, marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami'. The signature is stylized with a large, sweeping loop at the end.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Chevelle Oliveira <kuuipooliveira@gmail.com>
Sent: Friday, November 04, 2016 8:38 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Ku Kia`i Pier

Dear DOT,

I am a 17 year old female that has been living in Hana for all my life and I highly disagree with what you guys are trying to do with our Hana Bay pier. If you guys break down our pier it will ruin our cultural habits. The one cultural activity that all of hana does is surround akule when the akule pile comes into shore. If you guys decide to destroy our pier it'll scare all the fishes away and our cultural ways will no longer be able to occur. That pier has been around for 100s of years, longer than we've all been around so why take it away from us. The next generation coming up is the ones that will have to suffer not knowing about the akule surrounding that this community once experienced. Therefore, I don't think you guys should break down our pier. DOT should leave it for our community to decide what we want to do with OUR pier. Hana community can figure out a way for all of Hana to come together and fix the wharf on our own. The wharf is our playground. Generations of hana people and outsiders go there to fish, jump the bridge, and do many more fun activities. All my life I went down to the pier to jump off the bridge and practice my bombing. All of summer days was spent down at that pier. From early morning till late night. The pier is also a very sacred place, it's part of where queen kaahumanu was born and if you take the pier away, the mana`o that lives with the pier will die with it. We could all pitch in to fix that wharf and make it safe for the next generation. I say no to breaking down our pier because it is one of the most beautiful parts of our community and that you will not take away from us. Thank You!

Sincerely,

Chevelle Oliveira

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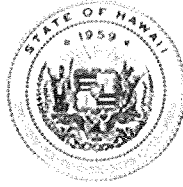
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From: [Hana Pier EIS](#)
To: ["Chevelle Oliveira"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:24:00 PM
Attachments: [2017-02-17 \(DIR Oliveira, Chevelle\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Ms. Chevelle Oliveira
kuuipooliveira@gmail.com

Dear Ms. Oliveira:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Chevelle Oliveira
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping "F" and "N".

FORD N. FUCHIGAMI
Director of Transportation

From: Mary Ann Pahukoa
To: [Rossetter, Sandra C](#)
Cc: grenard@hff.com
Subject: Removal Hana Pier
Date: Monday, November 07, 2016 10:03:39 PM

Aloha mai,

I am responding to the EIS on the Removal of the Hana Bay Pier.

The Hana Pier should NOT be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, The Hana Pavillions, and even on to the main road to the bay.

I have witnessed Hana Pier protecting the entire bay from the surges and large waves.

The community of Hana and East Maui are in great support of new healthy, changes, however, the removal of the Pier, is not a great option for our community, lifestyles, & budget. The community of Hana expressed their feelings strongly at several public meetings that I have hosted & have been apart of.

Hana Bay is sacred, it is historical and the Hana Pier does not stand by its self, it is connected to its history of Kauiki Hill, Queen Kaahumanu's Birthing place. A legacy we the people of Hana have always respected and continue to show honor.

Mahalo for understanding our point of view of the Removal of the Hana Pier.

Me Ke Aloha,

M. Kamalani Pahukoa
Resident
Ke'anae, Maui

From: [Hana Pier EIS](#)
To: ["mpahukoa@gmail.com"](mailto:mpahukoa@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 12:44:00 PM
Attachments: [2017-02-24 \(DIR: Pahukoa, Kamalani\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 24, 2017

Ms. Kamalani Pahukoa
mpahukoa@gmail.com

Dear Ms. Pahukoa:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Kamalani Pahukoa
February 24, 2017
Page 2

HAR-EP
8404.17

We note your concerns regarding the project's possible effects on cultural, historic and coastal conditions landward of the pier. The Draft EIS will fully assess the potential for impacts on cultural, historic, recreational, water quality, and marine resources (including coastal conditions), and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami', with a large, sweeping flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

From: Mary Ann Pahukoa
To: [Rossetter, Sandra C](#)
Subject: Hana Pier
Date: Monday, November 07, 2016 10:07:37 PM

Aloha,

I am in great opposition with the EIS on the Removal of the Hana Bay Pier.

The Hana Pier should NOT be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, The Hana Pavillions, and even on to the main road to the bay.

I have witnessed Hana Pier protecting the entire bay from the surges and large waves. The community of Hana and East Maui are in great support of new healthy, changes, however, the removal of the Pier, is not a great option for our community, lifestyles, & budget. The community of Hana expressed their feelings strongly at several public meetings that I have hosted & have been apart of.

Mahalo for understanding our point of view of the Removal of the Hana Pier.

Me Ke Aloha,

Pearl Pahukoa
Resident
Ke'anae Lowlands, East Maui

@secretshawaii

WWW.SECRETSHAWAII.COM

From: [Hana Pier EIS](#)
To: ["info@secretshawaii.com"](mailto:info@secretshawaii.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 12:47:00 PM
Attachments: [2017-02-24 \(DIR, Pahukoa, Pearl\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8406.17

February 24, 2017

Ms. Pearl Pahukoa
info@secretshawaii.com

Dear Ms. Pahukoa:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following response.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

DOT-H's mission is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

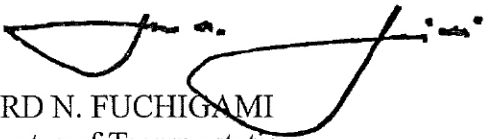
It should be clarified that no federal funding will be used for this project. Funding for this project will be derived from the DOT-H special funds, which are generated by revenues from tariffs and other fees paid by commercial harbor users.

In response to your comments that the holes in the pier should be fixed, due to the age of the pier and the extent of damage to the pier, it is beyond maintenance repair for any use. This finding was documented in an engineering report, completed under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation in 1999.

We note your concerns regarding the project's possible effects on coastal conditions landward of the pier. The Draft EIS will fully assess the potential for impacts on cultural, historic, recreational, water quality, and marine resources (including coastal conditions), and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large loop and a horizontal line extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Rossetter, Sandra C

From: Sky Pierce <skypierce1@gmail.com>
Sent: Monday, November 07, 2016 3:42 PM
To: Rossetter, Sandra C
Cc: grenard@hff.com
Subject: Testimony for Removal of Hana Pier

I have lived in Hana for over 17 years and can testify on how important it is to this community. The community was put in a horrible position when the control was transferred to the Harbors Division. It should never have been transferred in the first place. Now, we are faced with the two horrible options you offered, and you are preparing to act on one of them.

No one in Hana (that I know of) other than Kalani English wanted the pier to be renovated for commercial purposes. That much was made plain to you in the meeting. What you failed to recognize however, was that there should have been a middle ground. A compromise could have been made that would have allowed for a certain small amount of commercial activity while maintaining the access for public use (fishing, recreation, etc.). Without your willingness to compromise, you have forced the community into the situation we have now.

The Pier is a fundamental and important part of life in Hana. Imagine removing the beach from Waikiki. That's how important this pier is to the community of Hana.

I suggest you delay an expensive and harmful demolition/removal project and give the community time to find a way to preserve it. You clearly haven't been in any rush to remove Mala Wharf, which is in much worse shape, so what's the rush?

Furthermore, I have not yet seen any clear communication about HOW you plan to demolish and remove all the debris you will be creating. You say the pilings will remain in place to as not to disturb the coral. That's important, but HOW do you plan to remove everything else without dropping stuff onto the very coral you claim you want to protect. Then, assuming you manage to fill dump trucks, where will that debris be taken? Hopefully, not back out along the Hana Highway, across fragile aging bridges already in need of repair? Hopefully not to the already overgrown landfill? Do you have a PLAN for that? I'm assuming you do, but I have not seen that plan communicated to the community. Please share.

The pier also provides an important breakwater during storms. Without it, you are putting the beach and the existing county infrastructure at serious risk. Of all the public places in Hana, the beach park (beach, grassy area, Helene Hall, Barefoot Cafe, restrooms, pavilions, parking) are the MOST used by Hana residents. By removing the pier, you put these things at risk, and face the potential of ruining yet more treasured Hana landmarks.

Do the right thing. I realize this may differ from what your JOB requires. Think out of the box. DO NOT remove/demolish the pier. Instead, LISTEN to what the community REALLY WANTS (not the decision you forced us into) and find a way to help us find a way to restore it the way it is.

Mahalo for your consideration
Sky Pierce

From: [Hana Pier EIS](#)
To: ["skvpierce1@gmail.com"](mailto:skvpierce1@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 12:48:00 PM
Attachments: [2017-02-24 \(DIR Pierce, Sky\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8388.17

February 24, 2017

Mr. Sky Pierce
Skypierce1@gmail.com

Dear Mr. Pierce:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

The importance of the pier to the community and to the way of life in Hāna is acknowledged and will be included in the Draft EIS. Demolition of the pier was also recommended under the jurisdiction of the Department of Land and Natural Resources prior to the transfer to DOT-H.

At the July 10, 2013 public informational meeting, the presentation included a clarification of DOT-H mission as well as providing several examples of uses that would be allowed under its commercial jurisdiction. These included emergency response, cargo handling (exporting, importing goods and materials such as produce, building materials, fuel etc.), passenger vessels, smaller scale cruise operations and commercial fishing. It was also explained that the design of the pier, depth of the bay, and lack of supporting infrastructure would inherently limit access and use of the pier. Unfortunately, outright objection to any commercial activity does not leave room for compromise. Prohibiting or restricting allowed uses (which would have been limited in the first place due to the lack of supporting infrastructure, remote location and lack of demand) would be in direct conflict with DOT-H's mission, and therefore, not possible to implement.

Mr. Sky Pierce
February 24, 2017
Page 2

HAR-EP
8388.17

As a reminder, DOT-H communicated several times at various community meetings that, because no secured cargo yard (which is subject to the U.S. Department of Homeland Security requirements) was included in the formerly proposed pier repair project, the community would have had access to the reconstructed pier for recreational use unless there was a commercial vessel docked.

We note your suggestion to delay action to allow time for the community to find a way to preserve it. Prior to any work, the EIS will have to be completed, followed by the design of the project, and obtaining all required permits and approvals. Start of construction is also dependent on funding. DOT-H has no authority over the management of Mala Wharf, which is under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation.

General information on the proposed action can be found in the EIS *Preparation Notice* under Section 3.1, which described the likely construction methodology, including removal of the deck and demolition debris disposal. This information will also be included in the forthcoming Draft EIS.

The mission of the DOT-H is *"to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels."* Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

We note the concerns that have been expressed you and others, regarding cultural, historic, recreational, water quality, coastal conditions, marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Gracelynn Piimauna-beck <gpiimaunabeck@gmail.com>
Sent: Friday, November 04, 2016 9:23 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana pier

Dear DOT,

I am a student, writing to you from Hana High School. I believe that it should stay up because that's what keep the waves from coming over. All my life i have seen many kids jumping off the pier because it's fun if you take that away many people would be very sad it has been there for a very long time. Many people say to me every day that they had good memories of the Pier I remember when I was little i cut my very first fish on that pier I was very happy my father cooked that fish i ate it for dinner that's what i would like kids to do when get. My name is Gracelynn and i was born and raised in Hana my life is to Hana so whatever happens to Hana it affects our community thtas where we get our fish.

from gracelynn

--

This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Gracelynn Piimauna-beck"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:25:00 PM
Attachments: [2017-02-17 \(DIR Piimauna-Beck, Gracelynn\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8368.17

February 17, 2017

Ms. Gracelynn Piimauna-Beck
gpiimaunabeck@gmail.com

Dear Ms. Piimauna-Beck:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Gracelynn Piimauna-Beck
February 17, 2017
Page 2

HAR-EP
8368.17

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the akule fishery). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHH (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Roman piimauna-beck <kipahuluroman@gmail.com>
Sent: Friday, November 04, 2016 9:23 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana Pier

Dear DOT,

I am a student from Hana High school and i was born and raised from Kaupo to Keanae.as i get older my elders tell me to live off the land and never rely on the stores.the ways we survive off the land are fishing and hunting.please dont break down our Hana pier because its the easyiest place for our children's to fish off of and for our kupunas

Roman

--

This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

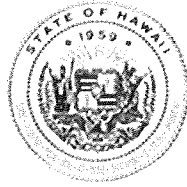
From: [Hana Pier EIS](#)
To: ["Roman piimauna-beck"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:27:00 PM
Attachments: [2017-02-17 \(DIR Piimauna-Beck, Roman\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Roman Piimauna-Beck
kipahuluroman@gmail.com

Dear Roman Piimauna-Beck:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Roman Piimauna-Beck
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is written in a cursive style with a horizontal line extending to the right.

FORD N. FUCHIGAMI
Director of Transportation

From: Edwina Pu
To: [Rossetter, Sandra C](#)
Subject: HANA
Date: Tuesday, November 08, 2016 8:16:59 PM

Aloha Sandra,

I am responding to the EIS on the Removal of the Hana Pier.

The Hana Pier should not be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, Barefoot Café, the Hana Pavillion, and even on to the main road to the bay.

For many years born and raised here in Hana, we have witness The Hana Pier protecting the entire bay from the surges and large waves.

The community of Hana was presented with a survey with poor options that left the community with no hope. The community of Hana expressed their feelings strongly at several public meetings that I attended, the impact of not just having it for commercial use, but the impact on what it would do if the Hana Pier was removed.

Hana Bay is sacred, it is historical and the Hana Pier does not stand by its self, it is connected to its history of Kauiki Hill, Queen Kaahumanu's Birthing place and Cave. A legacy today we the people of Hana respect and honor.

Removal of the Hana Pier, should not take millions of Federal monies to destroy, it is a waste of taxpayers monies. Our hard earn dollars, gets deducted by the Federal big time! Those funds could go to help the homeless, help students go to college and even more...

Please listen to the voices of the Hana Community and do not remove the Hana Pier. There are holes on the pier, from poor maintenance over the years, just fix the holes and let nature takes its course! That Hana Pier will outlived all of us, look at Mala Wharf..

MALAMA PONO!!!

EDWINA PU BORN AND RAISED IN HANA MAUI "HANA NO KA OI!!!"

From: [Hana Pier EIS](#)
To: ["edwina.pu@travaasa.com"](mailto:edwina.pu@travaasa.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 3:29:00 PM
Attachments: [2017-02-24 \(DIR Pu, Edwina\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8403.17

February 24, 2017

Ms. Edwina Pu
edwina.pu@travasa.com

Dear Ms. Pu:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 8, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

Your email was received after the 30-day review period, which ended on November 7, 2016. Due to the proximity of the receipt of the email to the deadline, we have decided to accept the comment. In the future please submit comments within the review period or they may not be accepted.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Edwina Pu
February 24, 2017
Page 2

HAR-EP
8403.17

It should be clarified that no federal funding will be used for this project. Funding for this project will be derived from the DOT-H special funds, which are generated by revenues from tariffs and other fees paid by commercial harbor users.

In response to your comments that the holes in the pier should be fixed, due to the age of the pier and the extent of damage to the pier, it is beyond maintenance repair for any use. This finding was documented in an engineering report, completed under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation in 1999.

We note your concerns regarding the project's possible effects on cultural, historic and coastal conditions landward of the pier. The Draft EIS will fully assess the potential for impacts on cultural, historic, recreational, water quality, and marine resources (including coastal conditions), and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping loop that extends to the right and then curves back down to the left, crossing over itself.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: makenzie pu <makenziepu@gmail.com>
Sent: Friday, November 04, 2016 9:21 AM
To: Sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana pier

Dear DOT,

I am a student of Hana high and elementary school. I was born and raised in Hana and for all the children of Hana, the pier has always been one of the fondest memories of our childhood. Unlike other places, Hana doesn't have many places such as parks or playgrounds for the kids. The pier and the land/ocean has always been our playground. we fish off of it, we get our food off of it, we jump and play off of it. It has become apart of Hana and it's people. If the pier gets torn down then we won't be able to get our food like we have been doing for many years and the younger generations won't get a chance to experience it like the older generations. Tearing down the pier would be like tearing down a piece of our childhood. I know the pier isn't in the same shape it use to be, and it could use some improving, but we are aware of it and over all these years i haven't heard of anyone getting injured due to it's flaws. The Hana pier is a memory of our childhood and for some of us it still remains our childhood. Please don't take that away from us!

--

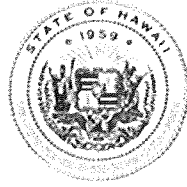
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["makenzie pu"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:28:00 PM
Attachments: [2017-02-17 \(DIR Makenzie, Pu\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Ms. Makenzie Pu
makenziepu@gmail.com

Dear Ms. Pu:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Makenzie Pu
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ford N. Fuchigami', with a stylized flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: fushia pua <fushia.tpua@gmail.com>
Sent: Friday, November 04, 2016 10:08 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana Pier

Dear D.O.T,

Aloha! My name is Fushia Pua, I am a student at Hana high and Elementary school and I am in tenth grade. When I heard that your company is tearing down the Hana wharf my heart just dropped. Like why would you want to remove it? The wharf is literally where we go fishing and have the most fun when we go to the bay! It will ruin our reef and fishes that are over there. It took ten months for our Akule to come back and now we're going to wait even longer because the pollution's going to be more worst. I do not understand why you guys want to even touch that, It's been over a hundred years the wharf been here. So if you want to touch our pier then you're going to have all the Hana people hating on you and your company. You may tear down our wharf But you will not tear down our people!!!

Mahalo,
Fushia pua

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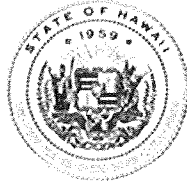
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["fushia pua"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:29:00 PM
Attachments: [2017-02-17 \(DIR: Fushia, Pua\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8367.17

February 17, 2017

Ms. Fushia Pua
fushia.tpua@gmail.com

Dear Ms. Pua:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the akule fishery). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Ms. Fushia Pua
February 17, 2017
Page 2

HAR-EP
8367.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'F. N. Fuchigami', with a stylized flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

Gail Renard

From: irie pu-akima <iriepuakima11@gmail.com>
Sent: Friday, November 04, 2016 9:34 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard

Dear, DOT

Save hana bay pier

Aloha!!!!!!! My name is irie pu-akima and i was born and raised in Hana. i would like to share my mana'o about the Hana pier im against the removal of the pier . all the kids that lived in hana learn how to swim and fish off the pier. My statement is to leave the pier alone.

--

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From: [Hana Pier EIS](#)
To: ["irie pu-akima"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:32:00 PM
Attachments: [2017-02-17 \(DIR Pu-Akima, Irie\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8369.17

February 17, 2017

Mr. Irie Pu-Akima
iriepuakimal1@gmail.com

Dear Mr. Pu-Akima:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Irie Pu-Akima
February 17, 2017
Page 2

HAR-EP
8369.17

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the akule fishery). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is fluid and cursive, with a large, sweeping flourish at the end.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Lily Rings <lily.rings@gmail.com>
Sent: Friday, November 04, 2016 10:06 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard; Paulo Burns
Subject: The Pier

Dear DOT,

I would like to say that just so you know all of us Hana citizens have a lot more experience with the Hana Bay Pier than you. You say it's dangerous when you have no proof plus no experience with it at all. We have used the pier all our lives plus we've jumped off it a hundred times and no one has gotten hurt. So..... we know better than you that there is no danger in keeping the pier. The pier is part of our community and has been for many generations. You can't just come in one day and say "Oh, somethings come up, we think it's a good idea to just rip it out." Also it will do lots of harm to the reef and it will take forever to come back. Also if you ever get news that someone has gotten hurt on this pier you can not use it as an excuse to take it away because for one, the damage you will do to the reef will be much, much worse than the damage to that person who got hurt on accident. And for two, the number of people who get hurt skateboarding by their own will is for sure much greater than the number of people who get hurt on the pier by their own will. If you respect our community then don't even get involved.

Sincerely, Lily Rings

--

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From: [Hana Pier EIS](#)
To: ["Lily Rings"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:33:00 PM
Attachments: [2017-02-17 \(DIR Rings, Lily\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8370.17

February 17, 2017

Ms. Lily Rings
lily.rings@gmail.com

Dear Ms. Rings:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*"

Any plans to accommodate recreational uses would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

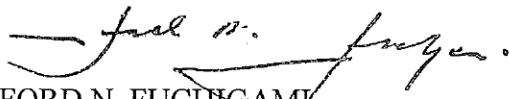
Ms. Lily Rings
February 17, 2017
Page 2

HAR-EP
8370.17

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the coral reefs). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Madge <msch4@ccmaui.net>
Sent: Monday, November 07, 2016 4:11 PM
To: Gail Renard; Sandra.C.Rossetter@hawaii.gov
Subject: Comments to EIS for Hana Pier Deck

MADGE SCHAEFER
520 MIKIOI PLACE
KIHEI, HI 96753
(808)874-9293
msch4@ccmaui.net

VIA EMAIL

RE: Hana Pier Deck removal EIS

Ms. Gail Renard
grenard@hhf.com

I have a number of concerns regarding the proposed removal of the Hana Pier Deck.

Hana is a culturally sensitive area, unique and treasured by residents of Maui. The people of Hana have, out of necessity, become fiercely protective of their environment. The area around the Hana Pier contain many historical areas, some with sacred meanings. It also provides sustenance fishing for many Hana families.

When the proposal was made for the new pier, it raised appropriate alarms. Could Hana Pier be a new stop on the cruise ship routes? Would hundreds of passengers be regurgitated into Hana, dramatically changing the community and overfilling the pristine beaches. With no written assurances from state agencies, Hana residents have no choice but to think of the worst case for their charming rural area.

While a new pier would provide emergency access and safe recreational uses, without culturally sensitive regulations, the price was simply too high.

I would suggest an alternative choice. The pilings are in good condition. Why wouldn't repairing of the deck be feasible? Clearly for recreational purposes alone, it is a valuable resource. First, the transfer of the pier from DOT-Harbors, back to DNLR, would free the restrictions required for commercial harbor use. The safety concerns would be alleviate. The cost of destruction would certainly be more than the cost of repairs. The impacts to sea life would be minimized. Assurances that there would be no commercial use except in the case of grave emergency could be granted. The pier could be protected as a historical asset.

If DLNR lacks funding to repair the whole pier, it could be done in sections. Could the repairs be made by Harbors and then turned over to DLNR? Since it is a "repair", would an EIS be necessary?

I urge you to consider and study the repair alternative.

Please put me on the mailing list for this issue. Thank you.

Madge Schaefer



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8384.17

February 17, 2017

Ms. Madge Schaefer
520 Mikioi Place
Kihei, Hawai'i 96753

Dear Ms. Schaefer:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H is sensitive to the community's concerns about not wanting commercial use of the pier and acknowledges the well-documented desire of the community to maintain the rural character of Hāna. Community opposition to any commercial use of the pier led to the present proposed action to remove the pier superstructure in the interest of protecting public safety.

The previous proposed action would have repaired the pier and brought it back to a safe and usable condition. However, as you note, the community objected to commercial use of the pier, which would be required as a part of DOT-H's mission. The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational and subsistence uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Madge Schaefer
February 17, 2017
Page 2

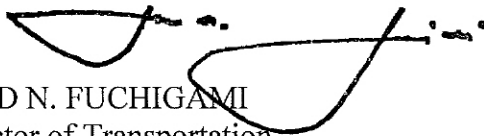
HAR-EP
8384.17

Questions about pier repair and funding options for recreational uses are outside of the scope of this effort and DOT-H's jurisdictional responsibility. If the pier were to be repaired for recreational use, determination of the appropriate level of environmental documentation required by Hawai'i Revised Statutes, Chapter 343 would be made by the proposing or approving agency.

We note the concerns that have been expressed you and others, regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping loop that extends to the right and then curves back down to the left, crossing over itself.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: Hauoli Sinenci <hauolisinenci18@gmail.com>
Sent: Friday, November 04, 2016 9:31 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: save da wharf

Save Hana Bay

Dear DOT,

I would like to share this message with you that the people of Hana Maui grew up on the Hana Wharf. We the children would like to see the next generation swim at the wharf. That was the main swimming spot in hana that's where we all the kupuna come to bring their keiki. That is the Keikis play ground its better then any other school play ground. LEAVE THE PIER ALONE
!!!!!!!!!!!!!!

--

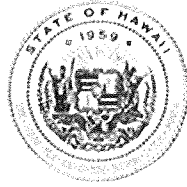
This message has been scanned for viruses and dangerous content using [Worry-Free Mail Security](#), and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["Hauoli Sinenci"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:35:00 PM
Attachments: [2017-02-17 \(DIR Sinenci, Hauoli\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Hauoli Sinenci
hauolisinenci18@gmail.com

Dear Mr. Sinenci:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Hauoli Sinenci
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "FORD N. FUCHIGAMI". The signature is stylized with a large, sweeping loop at the end.

FORD N. FUCHIGAMI
Director of Transportation

Rossetter, Sandra C

From: Shane Sinenci <ssinenci@yahoo.com>
Sent: Wednesday, November 02, 2016 8:48 AM
To: Rossetter, Sandra C; grenard@hff.com
Subject: The Hana Pier

Aloha, I am responding to the Maui News Article dated October 13, 2016, 'Plans to tear down Hana pier move forward'. I feel it is my responsibility to respond and shed some light on how this entire process developed. The Hana Pier gained notoriety several years ago when the pier was put under the jurisdiction of the Department of Transportation from DLNR, to qualify for the State Harbors' Renovation funding, an amount of 20 million dollars. The Hana Community was only made aware of this when the Harbors' Division came to the community to present their plans. At that first meeting, DOT explained that the Hana Pier would be deemed commercial after renovations, to recoup the funds put into the project. When the community asked what types of 'commercial' activities, the DOT could not specify. The Hana bay area is a social and cultural location for the community and the idea of commercial operations in the area was disconcerting for fishermen and residents alike. The community also looked at other commercial harbors like Kahului, Kaunakakai and Kawaihae where there is little or no public access beyond the chain link fencing. Last year, the DOT sent out 732 surveys to Hana residents with the explicit option to either fix the pier and commercialize it or tear it down. This, despite offering 9 different building options in its original construction plans. The community felt hostage to such alternatives and reluctantly chose 'b'. The Hana Pier is endearing to the Hana Community and is part of its historic storied past—they don't want to see it torn down. The EIS to remove the decking and leave the pylons in place (to save endemic coral), goes against the DOT's claim that the pier is a safety hazard because those structures will only attract curious children. The DOT engineers all agree that 80% of the pylons are structurally sound and 80% of the renovation work was going to improving the pier decking. If at all possible, a small group of community residents want to preserve the pier and move it into a historical designation.

From: [Hana Pier EIS](#)
To: ["ssinenci@yahoo.com"](mailto:ssinenci@yahoo.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 12:59:00 PM
Attachments: [2017-02-24 \(DIR Sinenci, Shane\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8387.17

February 24, 2017

Shane Sinenci
ssinenci@yahoo.com

Dear Mr. Sinenci:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 2, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses and clarifications.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

While under the jurisdiction of the Department of Land and Natural Resources (DLNR), Division of Boating and Ocean Recreation (DOBOR), Hāna Pier was determined to be unsafe and was restricted from public access. It was their recommendation that the pier be completely demolished and replaced with a new pedestrian type pier. Unfortunately, DLNR, DOBOR lacked funds to repair the pier.

The transfer of the pier to DOT-H changed its jurisdiction to commercial and was an attempt to have the structure repaired to provide access in times of an emergency. Pier improvements were intended to accommodate a small commercial barge, which would be the *smallest* vessel that could deliver goods and materials should they be needed in the case of an emergency.

The objective of the *Hāna Harbor Development Plan* was to see if there was consensus concerning the use. At the time of the plan's completion, while there was consensus on a design, there was no resolution to the conflict of use. The previous proposed action would have repaired the pier and brought it back to a safe and usable condition. However, as you note, the community objected to commercial use of the pier, which would be required as a part of DOT-H's mission. The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

At the July 10, 2013 public informational meeting, the presentation included a clarification of the DOT-H's mission as well as providing several examples of uses that would be allowed under DOT-H's commercial jurisdiction. These included emergency response, cargo handling (exporting, importing goods and materials such as produce, building materials, fuel etc.), passenger vessels, smaller scale cruise operations and commercial fishing. It was also explained that the design of the pier, depth of the bay, and lack of supporting infrastructure would inherently limit access and use of the pier. Unfortunately, outright objection to any commercial activity does not leave room for compromise. Prohibiting or restricting allowed uses (which would have been limited in the first place due to the lack of supporting infrastructure, remote location and lack of demand) would be in direct conflict with DOT-H's mission, and therefore, not possible to implement.

As a reminder, DOT-H communicated several times at various community meetings that, because no secured cargo yard (which is subject to U.S. Department of Homeland Security's requirements) was included in the formerly proposed pier repair project, the community would have had access to the reconstructed pier for recreational use unless there was a commercial vessel docked.

The preservation of the existing structure does not meet the purpose and need of the project, which is to address the safety issue posed by the poor condition of the structure. Historical designation is under the purview of the Department of Land and Natural Resources, State Historic Preservation Division, whom we are consulting with as part of the EIS process. Preservation of the pier for alternate uses would require a change of jurisdiction which is beyond the authority of the DOT-H and would require either a willing, accepting agency or legislative action.

We note the concerns that have been expressed by you and others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Mr. Shane Sinenci
February 24, 2017
Page 3

HAR-EP
8387.17

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ford N. Fuchigami". The signature is stylized with a large, sweeping loop that extends to the right and then curves back down to the left.

FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Gail Renard

From: mauarii tehiva <mauariit1@gmail.com>
Sent: Friday, November 04, 2016 9:14 AM
To: sandra.c.rosetter@hawaii.gov; Gail Renard
Subject: Hana Bay pier testimony

Dear DOT,

I am a young Kanaka Maoli born and raised in the roots of Hana.

Hana bay is a respected area and should continue to be respected. Hana bay is a place where we grew up and we all gathered and provided food for our families. I am against the removing of the pier because of how it would affect the community by killing our natural resources such as the reef, the fish. It would also be disturbance to the historic site of Kaahumanu. You should fix up the pier to make it safe to walk on and not tear it down. Make it so nobody could get hurt. This is our fishing grounds. If you take it down we will not be able to access the fish anymore. We want it to stay for another 100 years for the next generations to enjoy it as we do. What are the reasons of you guys breaking this down and interfering with sacred grounds? How are you planning to take it down? How would you be able to make sure that our fishing grounds are stable? What are our rights to keep it the way it is and protest your proposal? What do you have against us? Thank-you for taking the time to read my concerns.

Sincerely,
Mauarii

--

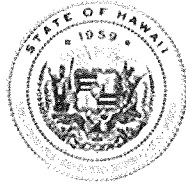
This message has been scanned for viruses and dangerous content using **Worry-Free Mail Security**, and is believed to be clean. [Click here to report this message as spam.](#)

From: [Hana Pier EIS](#)
To: ["mauarii tehiva"](#)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 4:36:00 PM
Attachments: [2017-02-17 \(DIR Tehiva, Mauarii\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
8364.17

February 17, 2017

Mr. Mauarii Tehiva
mauariit1@gmail.com

Dear Mr. Tehiva:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 4, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational uses, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Mr. Mauarii Tehiva
February 17, 2017
Page 2

HAR-EP
8364.17

We note the concerns that have been expressed by others regarding cultural, historic, recreational, water quality, and marine resources (including the akule fishery), and other resources. The Draft EIS will fully assess the potential for impacts on these resources, and will work with the appropriate agencies to determine mitigation for these impacts.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "FORD N. FUCHIGAMI". The signature is stylized with a large, sweeping "F" and "U".

FORD N. FUCHIGAMI
Director of Transportation

From: Caroline Walker
To: [Rossetter, Sandra C](#)
Cc: grenard@hff.com
Date: Tuesday, November 08, 2016 12:03:30 PM

Aloha Sandra,

I am responding to the EIS on the Removal of the Hana Pier.

The Hana Pier should not be removed because of the huge impact it will create on the entire Hana Bay when we have strong surge and large waves. The Pier is a break wall for the entire bay, if removed, it will be a huge disaster with waves that will reach Helene Hall, Barefoot Café, the Hana Pavillion, and even on to the main road to the bay.

For many years born and raised here in Hana, we have witness The Hana Pier protecting the entire bay from the surges and large waves.

The community of Hana was presented with a survey with poor options that left the community with no hope. The community of Hana expressed their feelings strongly at several public meetings that I attended, the impact of not just having it for commercial use, but the impact on what it would do if the Hana Pier was removed.

Hana Bay is sacred, it is historical and the Hana Pier does not stand by its self, it is connected to its history of Kauiki Hill, Queen Kaahumanu's Birthing place and Cave. A legacy today we the people of Hana respect and honor.

Removal of the Hana Pier, should not take millions of Federal monies to destroy, it is a waste of taxpayers monies.

Our hard earn dollars, gets deducted by the Federal big time! Those funds could go to help the homeless, help students go to college and even more...

Please listen to the voices of the Hana Community and do not remove the Hana Pier. There are holes on the pier, from poor maintenance over the years, just fix the holes and let nature takes its course! That Hana Pier will outlive all of us, look at Mala Wharf!

Mahalo for your kokua!

Aloha, Caroline Walker

From: [Hana Pier EIS](#)
To: ["cwalkergo@gmail.com"](mailto:cwalkergo@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 1:00:00 PM
Attachments: [2017-02-24 \(DIR Walker, Caroline\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8407.17

February 24, 2017

Ms. Caroline Walker
cwalkergo@gmail.com

Dear Ms. Walker:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 8, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

Your email was received after the 30-day review period, which ended on November 7, 2016. Due to the proximity of the receipt of the email to the deadline, we have decided to accept the comment. In the future please submit comments within the review period or they may not be accepted.

We acknowledge your objection to the proposed action. However, due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for Department of Transportation, Harbors Division (DOT-H) to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

DOT-H has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action, removal of the deck and pile caps.

The mission of the DOT-H is "*to effectively manage and operate a statewide commercial harbors system that facilitates the efficient movement of commercial cargo, passenger and fishing vessels entering, leaving, or travelling within the State, and facilities and supporting services for loading, off-loading, and handling of cargo, passengers, and vessels.*" Any plans to accommodate recreational and, would have to be proposed under a different jurisdiction, as accommodating those uses would not fulfill the statutory mission of our agency. DOT-H cannot unilaterally transfer jurisdiction to another agency. Without a willing receiving party, transferring jurisdiction of the pier would require legislative action.

Ms. Caroline Walker
February 24, 2017
Page 2

HAR-EP
8407.17

It should be clarified that no federal funding will be used for this project. Funding for this project will be derived from the DOT-H special funds, which are generated by revenues from tariffs and other fees paid by commercial harbor users.

In response to your comments that the holes in the pier should be fixed, due to the age of the pier and the extent of damage to the pier, it is beyond maintenance repair for any use. This finding was documented in an engineering report, completed under the jurisdiction of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation in 1999.

We note your concerns regarding the project's possible effects on cultural, historic and coastal conditions landward of the pier. The Draft EIS will fully assess the potential for impacts on cultural, historic, recreational, water quality, and marine resources (including coastal conditions), and other resources, and will work with the appropriate agencies to determine mitigation for these impacts.

Sincerely,



FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Acquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

Rossetter, Sandra C

From: Michael Zarate <mykoz5@gmail.com>
Sent: Monday, November 07, 2016 1:42 PM
To: Rossetter, Sandra C
Cc: Grenard@hff.com
Subject: Wharf at Kapueokahi
Attachments: IMG_0589.JPG

Aloha no e Ms. Rossetter,

I am writing in opposition to the plans for demolishing our cherished "Wharf".

I am a 62 year old male and keiki o ka aina o Hana. This icon does not deserve to be treated as a pile of rubbish. Speaking of piles, it has been stated that the pilings or concrete pillars remain strong and intact. But I regress.

There are too many reasons for the pier to be left alone. Just gaze at my attached photo. It was taken yesterday during a birthday luncheon. This is a sight seen over an over on a daily basis. I even "bomb" the wharf whenever I visit Hana n for a kupuna like me, it's not easy to climb the bridge but it is a priority of mine to enjoy my youth.

You see, when the trains stopped and sugar was no more, this icon was still a coming of age landmark. I rember at about 4 or 5 years old my uncle Leslie Mederios picked me up by my shorts n flung me into the blue waters there. Luckily I knew the dog paddle. I am not unique as many of my peers have learned this way. And I'm talking about the 1950's. It's no different in 2016 many many years since.

Residents of Hana have too many wonderful memories and stories to relate to. Like diving to the bottom to retrieve sand. Or running off the wharf, diving into the water and seeing who can hold their breath till "second rock".

The point is, there is no need to spend ridiculous amounts of money that will only ruin our lifestyle. Yea, it's beat up and puka puka here n there but that can be repaid for far less then what is planned as breaking hearts an spirits of our local families.

Do u want us to look at remnants like the pillars sticking out at the "old wharf" site. There are steel spikes protruding from those pillars but no reports of injuries..

I believe the right course of action is to get our manao on how to save this icon from our residents rather than cramming the States solution down our throats.

The real solution for a win win objective is to table your plans and reroute more discussion from our residents. Do not hurt our future.

If we are not heard, I will be the first to block any machinery trying to hurt "My Wharf"!!!

I am a warrior, literally, and it will not be difficult to rally the troops.

Before touching any thing here...look at Mala wharf. Huh?

Haaheo o Hana,

Michael Zarate

--

Myko Z

808 866-8851

Sent from my iPad



From: [Hana Pier EIS](#)
To: ["mykoz5@gmail.com"](mailto:mykoz5@gmail.com)
Subject: Hana Pier Deck Removal Environmental Impact Statement
Date: Thursday, March 09, 2017 1:03:00 PM
Attachments: [2017-02-17 \(DIR, Zarate, Michael\) HC30108 Hana Pier Deck Removal EIS response.pdf](#)

Aloha,

Please see the attached for the State of Hawaii Department of Transportation's response to your comments on the Hana Pier Deck Removal Environmental Impact Statement Preparation Notice.

-sent on behalf of State of Hawaii, Department of Transportation, Harbors Division

DAVID Y. IGE
GOVERNOR



FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097
February 17, 2017

IN REPLY REFER TO:
HAR-EP
8385.17

Mr. Michael Zarate
Mykoz5@gmail.com

Dear Mr. Zarate:

Subject: Hāna Pier Deck Removal Environmental Impact Statement, Hāna, Maui
Project H.C. 30108

Thank you for your email dated November 7, 2016 commenting on the *Hāna Pier Deck Removal Environmental Impact Statement (EIS) Preparation Notice*. Your comments have been documented and will be included in the Draft EIS. We offer the following responses.

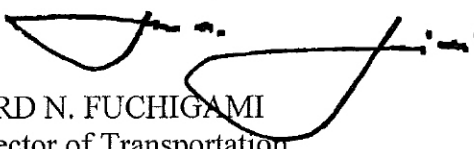
We acknowledge your objection to the proposed action. However, please note that the Department of Transportation, Harbors Division (DOT-H) has considered the future of the pier at length, presented information at two public meetings and received input on the community's preference via a survey that was distributed in December 2015 to each household in Hāna. Results of the survey helped DOT-H to formulate the proposed action.

Due to the pier's progressively deteriorating condition, the potential for injury to individuals who continue to access the pier without authorization also increases. In spite of the lack of injuries to date, it would be irresponsible for DOT-H to assume that this will be the case in the future. Therefore, DOT-H decided on the proposed action in order to protect public safety and the people of the State of Hawai'i from liability associated with this risk.

We note your concerns regarding the project's possible effects on cultural, historic, recreational, water quality, and marine resources (including the akule fishery). The Draft EIS will fully assess the potential for impacts on these, and other resources, and will work with the appropriate agencies to determine mitigation for these impacts. There will be another opportunity to provide comments after the Draft EIS is published.

We will provide you with access to the Draft EIS for your review. We appreciate your participation in the environmental review process and look forward to your continued involvement in this project.

Sincerely,


FORD N. FUCHIGAMI
Director of Transportation

bc: Councilmember Bob Carroll, Senator Lorraine Inouye, Senator J. Kalani English,
Representative Lynn DeCoite, Representative Henry Aquino, HHF (Gail Renard),
DEP-H, HAR, HAR-M, HAR-ESP

SR: ai

APPENDICES

A

Environmental Surveys
AECOS, Inc.

Environmental surveys for the Hāna Pier Improvements Project Hāna, Maui



Department of Transportation, Harbors Division

June 18, 2013

Revised February 17, 2017

Environmental surveys for the Hāna Pier Improvements project Hāna, Maui

June 18, 2013
Rev. February 17, 2017

AECOS No. 1344A

Katie Laing, Stacey Kilarski, and Chad Linebaugh
AECOS, Inc.
45-939 Kamehameha Hwy, Suite 104
Kāneʻohe, Hawaiʻi 96744
Phone: (808) 234-7770 Fax: (808) 234-7775 Email: aecos@aecos.com

The biological survey and this report were completed at a time when Hawaiʻi Department of Transportation, Harbors Division (DOT-H) was planning to make improvements to Hāna Pier and access trestle to allow safe use for berthing vessels transporting cargo and people to and from Hāna. After receiving public input largely opposed to the pier improvements, plans for the structure were changed. The proposed action now is to remove the superstructure of Hāna Pier and access trestle; existing piles would remain in place. A more recent document (AECOS, 2017) includes an impact assessment for the revised Project, based on the survey results described herein which remain applicable to the current project.

Introduction

The Hawaiʻi Department of Transportation, Harbors Division (DOT-H) proposes to remove the deck and superstructure of the deteriorating Hāna Pier facility in Hāna Bay, District of Hāna, Maui, Hawaiʻi (Fig. 1). The Hāna Pier facility is located along the southern perimeter of Hāna Bay and consists of a historical wharf, which is the base of a large T-shaped concrete pier on piles, a boat ramp, and two boat docks (Fig. 2). Hāna Pier was originally constructed in the 1920s for commercial shipping purposes by the sugar cane industry, while the adjacent boat ramp and docks were added in the 1970s and 1980s. Act 272, Session Laws of Hawaiʻi 1991 transferred the pier from DOT-H to the Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DLNR-DOBOR), since the pier was then being used primarily for recreational purposes. In 2010, jurisdiction of the pier was transferred back to DOT-H. Hāna Pier was originally condemned while it was under the jurisdiction

of DLNR-DOBOR and has been closed to vehicular traffic since 1991. The pier was restricted from public access after a 2002 DOBOR inspection, and after its 2010 transfer, DOT-H upheld the condemnation. In spite of the pier's deteriorated condition and addition of fencing and warning signage, the public continues to access the pier.

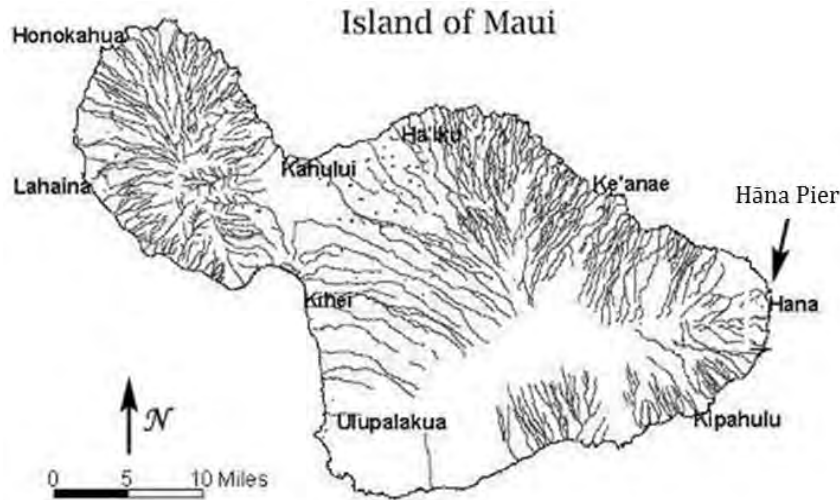


Figure 1.
Map of
Maui
showing
location of
Hāna Pier
in Hāna
Bay at
eastern
most end
of Maui.

Over the decades since initial construction, a small-boat ramp and concrete docks have been added to the protected western side of the wharf (now under DLNR's jurisdiction). This boat ramp is the only public boat-launching structure in the Hāna area and is heavily used by fishermen and recreational boaters. The ramp and boat docks provide entry points for snorkelers and divers accessing nearby coral bottom areas. The boat docks are frequented by families and used as access points for swimmers; the pier is used as a diving platform.

Hāna Highway, with its numerous winding turns and 59 bridges is the only land route for travelers to reach this remote region of Hāna. In the event of a tsunami, earthquake, or other disaster that yields the highway impassable, the transport of goods and services will need to be maintained through an alternative method, such as by sea. AECOS, Inc. was contracted by Helber Hastert and Fee Planners¹ to provide surveys of the marine and terrestrial resources at the Project site and in the Project vicinity. For this purpose, a survey was undertaken by AECOS biologists from May 1 through 3, 2013.

¹ Report prepared for a Project EA (Helber Hastert and Fee Planners) and to become part of the public record.



Figure 2. Hāna Pier and vicinity along in Hāna Bay. Ka'uiki Head is in foreground (photo credit: Kanoa Withington).

Project Description

The design for the Hāna Pier Improvements Project (“Project”) was developed based on community input, structural engineering requirements, and biological resources present. Many variations were vetted, and it was determined that “Option 7A” would retain the historic aspect of the pier and have the least environmental impact. Option 7A (*Hāna Harbor Final Development Plan, 2011*) entails removing the entire existing concrete deck, including girders, beams, and pile caps entirely within the existing footprint of the pier. In this alternative, a new 17,250 SF reinforced concrete deck would be constructed and designed to have a load capacity that supports vehicles and equipment for loading and off-loading of barges, roll-on/roll-off capabilities, and barge mooring and berthing capabilities such as new fenders attached to the ocean side of the pier. A 7-pile mooring dolphin will be installed at each end of the pier for assisting mooring of supply barges.

According to the *Hāna Harbor Final Development Plan*, the advantages of Option 7A include: 1) a safe and usable pier for emergency situations; 2) an opportunity for the Hāna community to continue using the pier for recreational fishing, swimming, cultural activities, and leisurely pedestrian activities; 3) an opportunity for barges more appropriate in size to Hāna and other smaller sea craft to moor at the pier, maintaining the rural character of the area; 4) an unchanged footprint that would preserve water circulation and water quality currently existing, as well as limiting impacts to coral habitat surrounding the site; and 5) a more cost effective design than other options.

The T-shaped Hāna Pier has two sections: the “trestle” which is perpendicular to shore and the “pier” or “t-head” which is parallel to shore (Fig. 2). The t-head is roughly 103 m (338 ft) long and 13 m (43 ft) wide, whereas the trestle is 42 m (138 ft) long and 7 m (24 ft) wide (*Hāna Harbor Final Development Plan*, 2011). The Project limits are within the existing footprint of Hāna Pier. Alternative Option 7A would require the removal of all above water structure leaving existing piles in place. New decking would be placed on the remaining piles with a joint between old and new structures. Pile surfaces within 6 ft (2 m) of the sea surface may be impacted during demolition and construction. A work barge with estimated dimensions of 175 x 40 ft (53 x 12 m) would be situated perpendicular to the seaward face of the pier during construction. Another barge would be married alongside this barge to receive demolition debris. Barges would be maintained in position by spuds and anchors. A roughly 200-ft (61-m) swath off the seaward face of the pier may be used as an anchorage.

Site Description

Hāna (22° 13.443" N, 159° 26.724" W) is located on the eastern most point of Maui, approximately 60 miles from the population centers of Wailuku and Kahului. Hāna, or *Kapueokahi*, “the single owl”, is considered one of the most beautiful and historically important areas of Maui (Clark, 1980). Prior to the unification of the Hawaiian Islands by King Kamehameha I in 1802, Hāna was used as a staging ground for battles between warring chiefs on Maui and the island of Hawaii. The sugar industry transformed the ecology of Hāna beginning in 1860 with the Ka’eleku Sugar Company that formed the backbone of Hana’s economy until sugar production ceased in the early 1930s. Paul Fagan bought the sugarcane plantation, converting the area into cattle ranching, and in 1946, built the exclusive Hotel Hāna Ranch, historically known as Hotel Hāna Maui and today as Travaasa Hāna.

Hāna Bay faces east toward the open ocean and is bordered to the north by Nanualele Point, a lava outcrop, and to the south by Ka’uiki Head (Fig. 2), a crumbling remnant cinder cone which rises 386 ft (118 m) above sea level. The

black sand beach at the south end of Hāna Bay offers a safe swimming area along an otherwise exposed rocky coastline. During rough conditions, a small shore break and a light longshore current occasionally develop (Clark, 1980). These waters are often murky with fine resuspended sediments. Public facilities at the south end of the bay, in addition to the wharf facility, include, Helene Hall, a community center used for social gatherings and church services, and Hāna Beach Park, a one-quarter acre park with access to a black sand beach, parking, restrooms, showers, a canoe hale, and a picnic pavilion (Maui County, 2006).

Along the southeast curve of the Bay past Hāna Beach Park and Hāna Pier facility, the coast around Ka'uiki Head offers little to no shoreline access due to steep, unstable terrain and impinging waves. The waters beyond the wharf represent oceanic waters blown in by the northeast trade winds and provide snorkelers and divers excellent visibility and a diverse flora and fauna (Clark, 1980). Sea conditions change drastically seaward past Ka'uiki Head and Pu'uiki'i Islet with its light house, where strong currents and waves prevail (Clark, 1980).

Hana Bay receives inputs from the Kawaipapa Stream, a perennial stream at the north end of the Bay which drains the 18.6 km² (7.2 mi²) Kawaipapa Watershed (DLNR-DAR and Bishop Museum, 2013). Runoff is also known to sheet flow over land into the Bay (pers. comm., Maria Orr). Heavy rainfall can result in high volumes of freshwater and sediment discharging into the Bay. Periods of calm conditions allow sediments to build up on the reefs, leaving deposits, which due to low wave energy in the south portion of the Bay are only slowly removed from the system. Sediment loading, whether discrete or chronic, can be a key factor in determining the marine biota that resides in shallow Hawai'i benthic environments (Jokiel, 2006).

Marine environment – NOAA-NOS benthic habitat maps (Batista et al., 2007) have not been compiled for the Project area or vicinity that can be used to identify physical zones (i.e., reef flat, channel, reef crest, fore reef, and bank/shelf) and biological cover (i.e., % coral, % macroalgae, % turf, % coralline algae, and uncolonized). The historical AECOS Coastal Zone map (AECOS, 1979) indicates that an area west of the pier is "rb" (solid or hard bottom; a massive rock surface) and the adjacent shoreline is "sb1" (sand beach of predominantly detrital sediments). Satellite images, and percent coral cover for the area (MRC, 2010), indicate coral cover occurs on the landward side of the pier, east and west of the trestle, and to the north and east of the pier. The most common coral species reported here are *Porites lobata* and *Montipora capitata*. Other species reported include *M. patula*, *M. flabellata*, *P. compressa*, *Pavona varians*, *Pocillopora meandrina*, and *Poc. damicornis*; all at less than 5% coral cover on

average, presented here in descending order of abundance (MRC, 2010). Piles are heavily encrusted with large plating colonies of *M. capitata*.

In June 2006, AECOS biologists conducted a baseline survey in and around the wharf facility prior to boat ramp and wharf repairs (AECOS, 2007). Survey areas included the nearshore portions of the bottom to either side of the pier, the inshore pilings (out to the 5th row on the trestle), and the boat ramp area. Following are descriptions from that survey report.

Bottom west of Hāna Pier — The benthic environment on the leeward side of the wharf, adjacent to the boat dock varies in depth from roughly 8 to 25 ft (2.5 to 8 m) deep. The portion of reef nearest to the boat dock is physically compromised by tangles of fishing line with many dead coral colonies. These corals have been encroached on by algae, including fleshy and coralline red algae. Knobby finger coral (*Porites duerdeni*), noted for large deep calyces, occurs at the lower reaches of this damaged reef. The reef area about 9 ft (3 m) from the dock and at greater depths is more pristine with nearly 50% live coral cover. Rice coral (*M. capitata*), Duerden's coral (*Pav. duerdeni*), and finger coral (*Porites compressa*) dominate the coral community, while lobe coral (*P. lobata*), cauliflower coral (*Poc. meandrina*), spreading coral (*M. patula*), and blue rice coral (*M. flabellata*) are present, but less common. Petroglyph shrimp (*Alpheus deuteropus*) channels are visible on the surfaces of many *P. lobata* and *M. capitata* colonies. Several other coral species including corrugated coral (*Pav. varians*), ocellated coral (*Cyphastrea ocellina*), and lace coral (*Poc. damicornis*) are found here but are more cryptic than those mentioned above. Invertebrates include the blue-black urchin (*Echinothrix diadema*), rock boring urchin (*Echinometra mathaei*), and sea cucumber.

A total of 26 fish species were recorded across this coral bottom. The most well-represented families are: Acanthuridae (surgeonfish), with eleven species; Chaetodontidae (butterflyfish), with seven species; and Labridae (wrasse), with six species. Only a few fish species occur in great abundance: only whitebar surgeonfish (*Acanthurus leucopareius*) and lavender tang (*Acanthurus nigrofuscus*). Commonly seen fishes include the white saddle goatfish, four-spot butterflyfish (*Chaetodon quadrimaculatus*), Hawaiian sergeant or *mamo* (*Abudefduf abdominalis*), saddle wrasse (*Thalassoma duperrey*), ring-tail surgeonfish (*Acanthurus blochii*), eye-stripe surgeonfish (*Acanthurus dussumieri*), orangeband surgeonfish (*Acanthurus olivaceus*), *manini* (*Acanthurus triostegus*), goldring surgeonfish (*Ctenochaetus strigosus*), and orangespine unicornfish (*Naso lituratus*). Fishes sighted in low numbers (less than 12) include peacock grouper or *roi* (*Cephalopholis argus*), wholehole, stocky hawkfish (*Cirrhitis pinnulatus*) manybar goatfish (*Parupeneus multifasciatus*), chub, threadfin butterflyfish (*Chaetodon auriga*), raccoon butterflyfish (*C.*

lunula), oval butterflyfish (*C. lunulatus*), ornate butterflyfish (*C. ornatissimus*), one-spot butterflyfish (*C. unimaculatus*), forcepsfish (*Forcipiger flavissimus*), black spot sergeant, blackfin chromis (*Chromis vanderbilti*), Pacific gregory, pearl wrasse (*Anampses cuvier*), Hawaiian cleaner wrasse (*Labroides phthirophagus*), bird wrasse (*Gomphosus varius*), Christmas wrasse (*Thalassoma trilobatum*), belted wrasse (*Stethojoulis balteata*), pale nose parrotfish (*Scarus psittacus*), red-lipped parrotfish (*Scarus rubroviolaceus*), yellowfin surgeonfish (*Acanthurus xanthopterus*), yellow tang (*Zebrasoma flavescens*), sailfin tang (*Zebrasoma veliferum*), black durgon (*Melichthys niger*), ambon toby (*Canthigastor amboensis*), and spotted toby (*Canthigastor jactator*).

Bottom east of Hāna Pier — The benthic environment east from the wharf is made up of several very large boulders amid a field of smaller boulders. Atop the large boulders occur cauliflower and rice coral colonies of varying sizes. Macro-invertebrates in this area include sea cucumbers, blue-black urchin, rock-boring urchin, and oblong urchin (*Echinometra oblonga*). The bottom to the east side has the greatest diversity of fishes of the survey areas, with 41 species observed. Mixed schools, primarily Acanthurid herbivores, swim amongst the large boulders. The most abundant fishes are the whitebar surgeonfish accompanied by manini, lavender tang, orangeband surgeonfish, orangespine unicornfish, and goldring surgeonfish or *kole* (*Ctenochaetus strigosus*). Other fishes sighted include a variety of butterflyfish: raccoon, oval, ornate, and four-spot butterflyfish. A wide variety of wrasses occur including the commonly sighted saddle wrasse and Christmas wrasse. Occurring in low numbers are pearl wrasse, bird wrasse, yellow striped coris, yellowtail wrasse, Hawaiian cleaner wrasse, and the belted wrasse. Fishes closely associated with the benthos are blackspot sergeant (*Abudefduf sordidus*), bright eye damsel (*Plectroglyphidodon imparipennis*), Pacific gregory (*Stegastes fasciolatus*), roi, and a blenny (*Cirripectes* sp.).

Several meters beyond the boulders, where the bottom grades from scattered boulder outcrops to sand, blue goatfish (*Parupeneus cyclostomus*), manybar goatfish, and whitesaddle goatfish search the soft bottom in search of prey. Fishes observed in the water column above include: cornetfish (*Fistularia commersonii*), bluefin trevally or *omilu* (*Caranx melampygus*), green job fish or *uku* (*Aprion virescens*), chub or *nenu* (*Kyphosus hawaiiensis*), red-lip parrotfish (*Scarus rubroviolaceus*), and black durgon.

Trestle piles — Between the east reef and trestle pilings, encrusting colonies of rice coral, blue rice coral, lobe coral, and ocellated coral are somewhat sparsely situated on a slightly undulating bottom amid silt covered turf algae. Bottom depth increases as it approaches the wharf and lobe coral colony mounds line the face of the drop off associated with the end of the wharf. The upper parts of

the concrete wharf pilings are encrusted with rice coral colonies, whereas the deeper portions are rimmed by plate-like growths of the same.

Overall, fleshy macro-algae are uncommon except along the west facing rock revetment adjacent to the boat ramp. Few macro-invertebrates are observed throughout the survey area. The highest coral cover occurs along the reef located to the west of the wharf with the most common corals being rice coral, lobe coral, and Duerden's coral. Herbivorous surgeonfish are the most abundant fish group throughout the area with the most common being the whitebar surgeonfish, lavender tang, orangeband surgeonfish, manini, and gold-ring surgeonfish. In addition, the saddle wrasse, a carnivore, was equally common. Of the 53 marine fish species recorded, 15% are endemic, meaning they are found only in the Hawaiian Islands and no other geographic region. The areas of greatest fish diversity occur in the coral reef environments on either side of the wharf, each with at least 40 fish species observed. No endangered or threatened species (DLNR 1998, USFWS 2005a, USFWS 2005b) were encountered during the marine survey.

Methods

AECOS biologists surveyed the marine environment in the Project area between May 1 and 3, 2013. An environmental survey was conducted to establish existing conditions in the Project area and vicinity, and to assess Project impacts based on alternative Option 7A; the survey results are also applicable to the current project to demolish the pier superstructure.

Water Quality

On May 1, May 2, and May 3, 2013, water samples were collected and field parameters measured at three water quality stations in the Project vicinity (Figure 3). Station "Trestle" was located on the west side of the trestle, in the middle of the "V" created by the west pier head and the trestle. The location of this station was established by a biologist lining up between the 5th trestle pile and 5th west pier-head pile, counting from the corner where the trestle and west pier head meet. Station "West" was located roughly 2 m (6 ft) from the mid-line of the west end of the pier. Station "East" was located roughly 2 m (6 ft) from the mid-line of the east end of the pier. Samples were collected at two depths: surface (actually 1 foot below the sea surface) and bottom (actually 1 foot above the sea floor).

Temperature, salinity, pH, dissolved oxygen (DO), and turbidity were measured *in situ*. Water samples were collected in appropriate labeled sample containers

and immediately chilled or frozen. Chlorophyll samples were filtered within 2 hours of collection, and filters frozen.

Samples were packed on ice and returned to the *AECOS* laboratory for analyses (*AECOS* Log No. 29100, 29101, and 29103). Total suspended solids (TSS) and bench salinity were measured at *AECOS* and nutrient samples were sent to University of Hawai'i for analyses. Table 1 lists the instrumentation and analytical methods used for field and laboratory analyses.

Sediment Quality

Sediment samples were collected from three locations within 10 m (30 ft) of the pier on May 3, 2013 (Fig. 3). At Sta. East, the biologist swam east from the pier end until a soft bottom area was encountered. Samples were collected in glass screw-cap jars, capped underwater immediately after filling. Sediment samples were placed into a chilled cooler and returned to the *AECOS* laboratory (*AECOS* Log No. 29102) for shipping to CalScience in California for the following analyses: Metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn), tributyltin, pesticides (8081A), polychlorinated biphenyls (PCBs; 8082), and herbicides (8151A). A full list of analytes and analytical methodologies is provided in Appendix B.



Figure 3. Water quality and sediment sampling locations sampled in May 2013 (photo: WorldView II, 2010).

Terrestrial Biota

A walking survey was conducted for flora (terrestrial plants) and fauna (terrestrial mammals and birds) at Hāna Pier and within a proposed staging area located adjacent to Hāna Pier (Fig. 4). The uplands were surveyed from the Hana Beach Park sea wall (fronting nearby Helene Hall) in the west to the base of the wharf in the east (boat trailer turn around area).

Table 1. Analytical methods used in water quality sampling for the Hāna Pier.

Analysis	Method	Reference	Instrument
Temperature	SM 2550B	SM (1998)	YSI Model 550 DO meter thermistor
Salinity	Bench salinometer	Grasshoff et al. (1999)	AGE Model 2100 salinometer
pH	SM 4500H+	SM (1998)	pH Hep HANNA meter
Dissolved Oxygen	SM 4500-O G	SM (1998)	YSI Model 550 DO meter
Turbidity	EPA 180.1, Rev. 2.0	USEPA (1993)	Hach 2100Q Turbidimeter
Total Suspended Solids	SM 2540D	SM (1998)	Gravimetric (analytical balance)
Ammonia	Kérouel and Aminot (1997)	Kérouel and Aminot (1997)	Seal AA3 Autoanalyzer, colorimetric
Nitrate + Nitrite	Grasshoff	Grasshoff et al. (1983)	Seal AA3 Autoanalyzer, colorimetric
Total Nitrogen	Grasshoff 9.6.3	Grasshoff et al. (1983)	Seal AA3 Autoanalyzer, UV
Total Phosphorus	Grasshoff 9.1.5	Grasshoff et al. (1983)	Seal AA3 Autoanalyzer, UV
Chlorophyll α	SM10200H(M)	SM (1998)	Fluorometric

Terrestrial plants — Botanical resources were identified by walking around the area on May 2, 2013 and noting the names and relative abundances of all ferns, fern allies, gymnosperms, and flowering plants growing there. The survey area extended well-beyond the actual project site (see Fig. 4). Field notes and photographs were translated into a flora listing. For the most part, plant names given in the listing follow *Manual of the Flowering Plants of Hawai'i* (Wagner et al., 1990, 1999) for native and naturalized flowering plants, and *A Tropical*

Garden Flora (Staples and Herbst, 2005) for ornamental plants. Names have been updated as appropriate to reflect more recent taxonomic or nomenclatural name changes as recorded in Imada (2012).

Avian biota — The bird survey included a series of four stationary point counts in which all birds observed during a 5 minute viewing period were recorded within a visible radius of observer and by listening for vocalizations. Survey points were located adjacent to Helene Hall (Sta. 1), in a parking area beside concrete barrier where the roadway bends toward the wharf (Sta. 2), beside the boat ramp (Sta. 3), and on the Hana Pier loading dock (Sta. 4). Time not spent counting at point count stations was used to search the rest of the site for species and habitats not detected during the point counts. Point counts and incidental observations were conducted in the evening on May 2nd between 1700 and 1815, and on the morning of May 3rd between 0845 and 0945. Weather conditions during the survey period were ideal, with no rain, unlimited visibility and winds of between 3 and 10 km per hour. Species identifications were verified with *A photographic guide to the birds of Hawaii: the main islands and offshore waters* (Denny, 2010). Taxonomy follows the Checklist of North and Middle American Birds by American Ornithologists' Union (AUO, 2013).



Figure 4. Flora and fauna survey area (blue dots) and four bird survey stations at Hāna Pier.

Terrestrial mammals— With the exception of the endangered Hawaiian hoary bat or ‘ōpe‘ape‘a (*Lasiurus cinereus semotus*), all terrestrial mammals found on the Island of Maui are alien species, and most are ubiquitous. The survey of mammals was limited to visual and auditory detection, coupled with visual observation of scat, tracks, and other animal sign. A running tally was kept of all terrestrial vertebrate mammalian species detected within the project area during the survey.

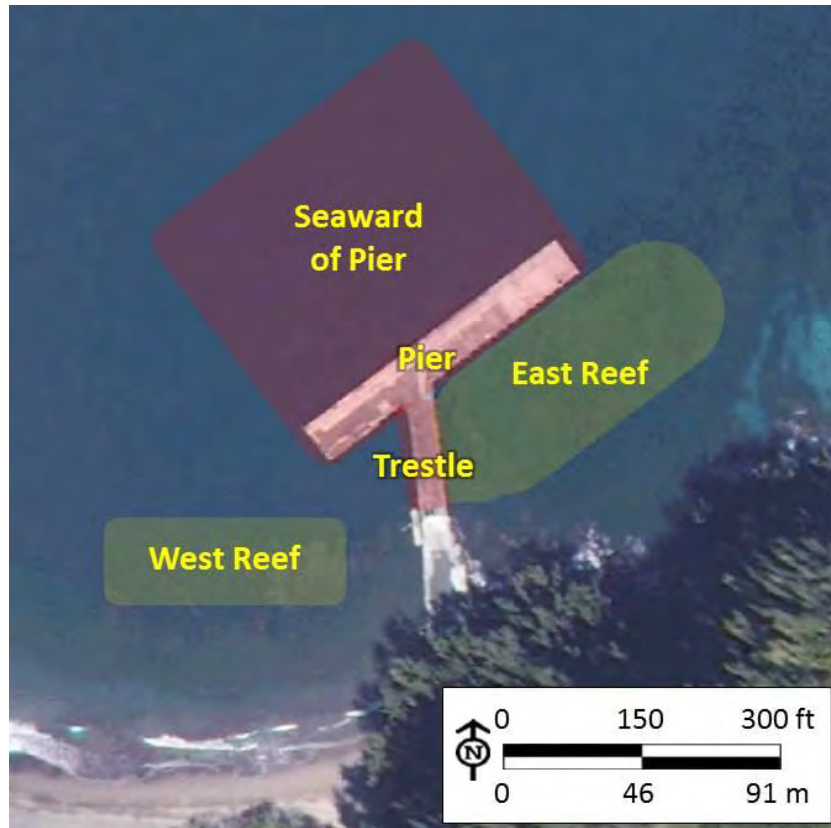


Figure 5. Survey areas at and around Hāna Pier (photo: WorldView II, 2010).

Marine Biota

Quantitative benthic surveys were conducted in three areas (see Figure 5, above) of the marine environment: 1) an area seaward of pier; 2) under the pier; and 3) under the trestle. Qualitative benthic surveys were conducted in two other areas: 1) west of the pier (“West reef”) and 2) east of the pier (“East reef”). Biologists conducted: 1) a coral delineation survey to aid with barge anchor

placement; 2) a quantitative benthic survey for coral and benthic composition in areas likely to be impacted either from barge anchoring (seaward of pier) or from demolition and construction activities (sea floor under the pier); 3) a survey of the pier piles with efforts focused on the portion of piles most likely to be directly impacted; and, 4) a qualitative survey of the bottom to landward of the pier t-head (West reef and East reef). Additionally, a survey for invasive algal species was conducted to determine their presence at the boat ramp area, as reported by community members.

Coral delineation – A coral delineation survey was conducted in the Project area and vicinity to determine coral reef resources occurring where barge anchors may be placed during construction activities, and to suggest a suitable anchoring area, having minimal coral resources. The seaward extent of coral cover was visually delineated. The survey area spanned from between a point 110 m (360 ft) west of the (base of the) trestle to a point 30 m (100 ft) north of the northeast pier corner and out to 80 m (260 ft) from the pier face. To accomplish this survey, a pair of divers using SCUBA, towed a hand-held Global Positioning System (GPS) in track mode over the visually determined line between coral presence and absence. One biologist swam offshore of the biologist towing the GPS to detect any offshore colonies, and correct the line as required. The GPS unit was attached to a float and maintained over the diver using a taught line. The GPS collected position data every two seconds along the route.

After conducting the delineation, divers spot-checked for corals in the area seaward of the coral/no-coral line. Divers scanned the seafloor for signs of coral cover and any instances of coral cover were noted and GPS points recorded. Divers swam a 76 m (250 ft) line perpendicular to the seaward pier face from a point at the pier's east end. From the distal point, divers followed a compass heading parallel with the pier on a westward path for 100 m (328 ft) before returning to within 20 m (66 ft) of the pier face and making an easterly traverse off the pier face.

Seafloor coral community and benthic composition — At ten stations (Figure 6), divers collected data on percent benthic composition, coral abundance, and coral size-class distribution. Benthic cover and coral size class distribution were surveyed for the bottom seaward of the pier and for the bottom below the pier decking. Five randomly placed 10-m transects were surveyed for each area (Fig. 6), with separate methods for randomizing locations. To achieve randomization within 25 m (82 ft) of the seaward face of the pier, a weighted buoy was thrown into the water, in a randomly selected cardinal direction, beginning at the western end of coral presence area. The location of each transect was then recorded with a hand-held GPS. Divers

descended the weighted line and deployed a transect line in a northeasterly direction (that is, parallel with the seaward face of the pier) from the buoy weight. To randomize transect locations underneath the pier, start points were selected with a random number generator based on the number of piles and rows. The location for pier transects was recorded as the pair of piles the transect start-point was situated between.

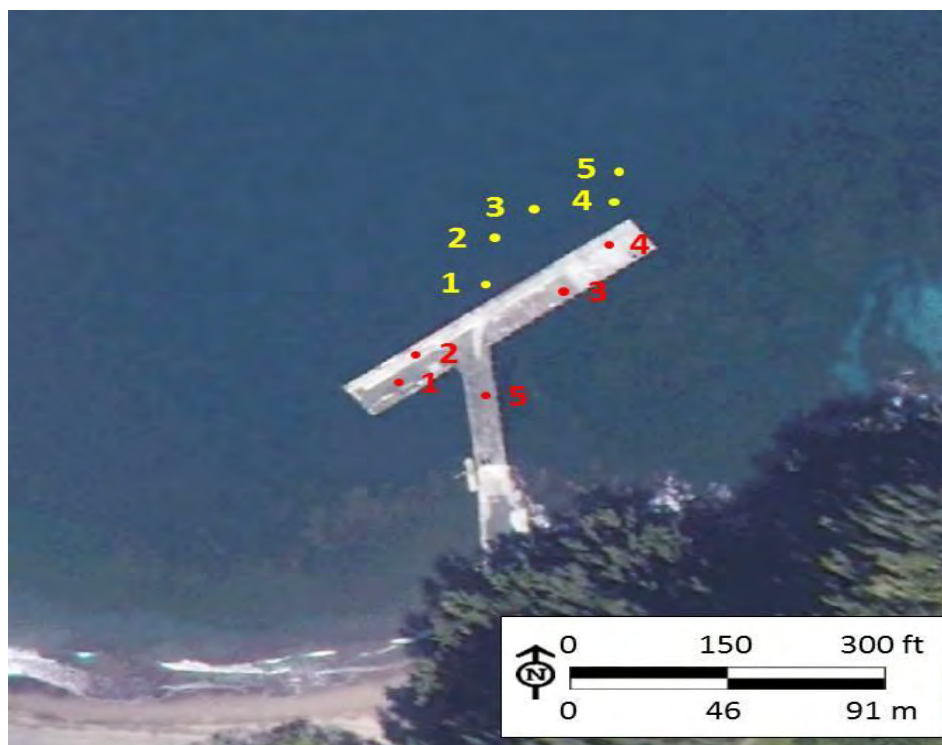


Figure 6. Locations of benthic quantitative transects at Hāna Pier: seaward in yellow, below pier or trestle in red (photo: WorldView II, 2010).

Percent benthic composition was measured using the line point-intercept method along each 10-m transect. The bottom or organism below each 0.1-m mark was categorized as one of the following: sand/mud, rubble, turf algae, macroalgae, crustose coralline algae, macroinvertebrate, live coral, dead coral, or other bare substrate. A total of 100 points was evaluated along each transect.

Coral size class distribution data was collected for all coral colonies observed within 0.5 m to either side of the transect line if at least 50% of the colony fell inside the 1-m wide transect area. A biologist swam along the 10-m transect, surveying 0.5 m to either side of the line, for a 10 m² (1 x 10 m) survey area. The following parameters were recorded for coral colonies observed: species

name, maximum diameter measured to the closest 5 cm, morphology, percent morbidity, and presence of disease (Aeby et al., 2011). Coral colonies were then separated into the following size-classes (1 - 5 cm; 6 - 10 cm; 11 - 20 cm; 21 - 40 cm; 41 - 80 cm; 81 - 160 cm; or ≥ 161 cm). Photos of the general survey area and of notable colonies were taken. GPS points were recorded for notable colonies.

Pier pile coral community — The coral community growing on the 146 piles of Hāna pier (4 rows with 28 piles each) and trestle (3 rows with usually 12 piles each) were evaluated. To record each pile, a diver began at the first pile of a row and videotaped the full height of each pile and the seabed between piles, along each row for the four rows of pier piles and three rows of trestle piles. To ensure data were collected from all piles in the limited time available, a rapid assessment method was achieved by video recording each pile for subsequent evaluation.

Seven pile sets under the pier and four pile sets under the trestle were selected using a random number generator. For each pile set (numbered 1-28 for the pier and 1-12 for the trestle) chosen all rows A-D under the pier and all rows A-C under the trestle were surveyed. Thus, of the total of 148 piles, the biologists surveyed a total of 28 under the pier and 12 under the trestle. Piles were assessed for the presence of coral colonies, considering both direct and indirect impact areas where “direct impact” area extends 2 m from the encrusting coralline algae intertidal zone and “indirect impact” area being pile surfaces below direct impact area. Biologists surveyed the direct impact area on the piles for corals (species, size class, morphology, mortality and disease presence). An inventory of the indirect impact area on the piles was made for corals, other macro-invertebrates and invasive and ESA-listed species.

Relative abundance of marine biota — The area of probable impacts (bottom seaward of pier, bottom below pier, and pier piles), and the two reef areas east and west of the trestle were surveyed for relative abundance of marine biota (Fig. 5). A pair of biologists snorkeled the reef areas, and used SCUBA to survey the piles, recording occurrence and relative abundance of all species encountered. The methods do not accurately census seasonal, cryptic, or nocturnal species, or those that may flee divers before being observed. A variety of on-line resources and texts were referenced for species identification.

Protected Species

Biologists recorded observations of any listed (threatened or endangered) or proposed for listing terrestrial or marine species encountered during the course of the three-day survey.

Results

Water Quality

A summary of water quality results is presented in Table 2. Complete water quality data for each sampling event are provided as Appendix A. As might be expected, given their proximity to each other, the stations had very similar results.

Table 2. Mean water quality results for May 2013 (n=3) at three stations with two depths. “S” denotes sample collected at surface depth and “B” denotes bottom depth.

Station	Temp. (°C)	Salinity (PSU)	DO (mg/l)	DO sat. (%)	pH	Turbidity[†] (ntu)
Sta. Trestle (S)	25.8	33.14	6.48	97	8.07	1.39
Sta. Trestle (B)	25.4	34.77	6.54	97	8.10	2.74
Sta. West (S)	25.6	33.61	6.43	96	8.15	1.31
Sta. West (B)	25.4	34.78	6.56	97	8.15	1.96
Sta. East (S)	25.2	33.66	6.48	96	8.16	0.76
Sta. East (B)	25.3	34.87	6.62	98	8.15	1.21

Station	TSS[†] (mg/l)	NH₃[†] (µg N/l)	NO₃ + NO₂[†] (µg N/l)	Total N[†] (µg N/l)	Total P[†] (µg P/l)	Chlorophyll α[†] (mg/l)
Sta. Trestle (S)	6.4	1	11	61	12	0.26
Sta. Trestle (B)	8.8	2	3	69	10	0.45
Sta. West (S)	6.6	<1	10	88	11	0.23
Sta. West (B)	6.8	1	4	62	10	0.38
Sta. East (S)	5.0	<1	7	61	10	0.23
Sta. East (B)	7.0	<1	6	60	8	0.24

† - geometric mean

The sampling stations had similar water temperature, salinity, dissolved oxygen (DO), and pH. Mean water temperatures ranged from 25.2 to 25.8°C. Salinities were close to 34 PSU (practical salinity units; typical of seawater). DO ranged from 6.43 to 6.62 mg/l, representing saturation levels of 96 to 98%. pH ranged from 8.07 to 8.16. Chlorophyll α levels in the water column give an indication of the amount of phytoplankton biomass present and were low at all stations, ranging from 0.23 to 0.45 mg/L. TSS, turbidity, and nutrients (nitrate + nitrite, total nitrogen, and total phosphorus) were low at all stations. Concentrations of

ammonia nitrogen (NH₃) were low at all stations, being at or below the limits of detection.

Table 3. Analytical results for three sediment samples collected on May 2, 2013 at Hāna Pier and PELs†.

Analyte	Sta. Trestle	Sta. West	Sta. East	Environmental Action Level† (PEL)
Arsenic (mg/kg)	22.0	19.2	30.5	41.6
Cadmium (mg/kg)	1.67	1.31	<2.10	4.21
Chromium (mg/kg)	15.0	12.5	52.9	160
Copper (mg/kg)	8.45	6.53	20.5	108
Lead (mg/kg)	7.24	6.25	20.6	112
Mercury (mg/kg)	<0.150	<0.113	<0.351	0.7
Nickel (mg/kg)	23.1	32.8	35.8	42.8
Selenium (mg/kg)	<1.35	<1.02	<3.15	no PEL
Silver (mg/kg)	<0.450	<0.339	<1.05	1.77
Zinc (mg/kg)	48.3	40.6	55.1	271
Tributyltin (µg/kg)	<5.4	<4.1	<13	no PEL
20 Herbicides (µg/kg)	ND	ND	ND	various PELs
10 Pesticides (µg/kg)	ND	ND	ND	various PELs
8 PCBs / Aroclors (µg/kg)	ND	ND	ND	various PELs

NOTES:

Analytical results and PELs are presented as mg or µg/kg dry weight sediment.

† The Probable Effect Level or PEL (Buchman, 2008) are based upon a database of synoptic contaminant concentrations and sediment toxicity bioassays or benthic community metrics.

PELs were converted from parts per billion (Buchman, 2008).

ND - Not detected or below analytical detection limits

Sediment Quality

The analytical results for 49 chemicals analyzed in sediments are presented as Appendix B. Table 3 (above) is a synopsis of these results and provides the Probable Effects Level (PEL) or the level at which toxicity to benthic-dwelling organisms is predicted to be probable (Buchman, 2008). A report of “ND” (not detectable) indicates the concentration of the chemical falls below the analytical detection limit. Detection limits of some chemicals may be above the PELs. Therefore, although these chemicals were not detected, they may still be present at levels above the PELs.

Because sediments are deposited fine materials (silt, clay, sand)—in this case collected from the sea floor—it is customary to report metals concentrations in mg per kilogram (mg/kg or parts per million [ppm]) of sediment dry weight. Correcting for water content—highly variable in sediments, much less so in soils—brings the sediment results into fair comparison with soil environmental action levels and background values.

The U.S. EPA is working on standards, but has yet to promulgate generally acceptable levels. Using the NOAA prepared Screening Quick Reference Tables (SQuiRTs; Buchman, 2008) for inorganics in marine sediments provides a means of assessing the results, however lack statutory significance. All chemicals were either not detected (mercury, selenium, silver, herbicides, pesticides, and PCBs) in the samples or are present at levels below PEL values. All chemicals tested are considered to be present in concentrations of no particular concern in the marine sediments at Hāna Pier.

Terrestrial Biota

Terrestrial plants — The flora of the project area comprises flowering plants and is dominated by alien (non-native) species (Table 4). A total of 48 plant species were recorded during the survey on May 2, 2013. Only five (10%) of these species are known from the Hawaiian Islands before the arrival of James Cook in 1778. Typically, in most lowland areas on Maui, the native and Polynesian-introduced numbers are no more than 10-16% of the total species identified from a location (see, for example, David, Guinther, and Miranda, 2012). No species of plants were noted that are of particular concern or are listed as threatened or endangered (DLNR, 1998; USFWS, 2005a, 2012).

Table 4. Checklist of plants and relative abundances at Hāna Pier project vicinity on May 2, 2013.

Family	Genus species	Common name	Status	Abundance
FERNS AND FERN ALLIES				
PTERIDOPHYTA				
NEPHROLEPIDACEAE	<i>Nephrolepis multiflora</i> (Desv.) Hovenkamp & Miyam	sword fern	Nat	R

Table 4 (continued).

Family	Genus species	Common name	Status	Abundance
POLYPODIACEAE				
	<i>Phymatosorus grossus</i> (Langsd. & Fisch.) Brownlie	<i>lauae</i> , maile-scented fern	Nat	R
PTERIDACEAE				
	<i>Adiantum radianum</i> C. Presl	maidenhair fern	Nat	R
FLOWERING PLANTS				
DICOTYLEDONS				
ACANTHACEAE				
	<i>Asystasia gangetica</i> (L.) T.Anderson	Chinese violet	Nat	C
APIACEAE				
	<i>Centella asiatica</i> L. Urb	Asiatic pennywort	Nat	U
APOCYNACEAE				
	<i>Hoya australis</i> R.Br. ex Traill	wax flower	Orn	R
ARALIACEAE				
	<i>Schefflera actinophylla</i> (Endl.) Harms	octopus tree	Nat	O
ASTERACEAE (COMPOSITAE)				
	<i>Bidens alba</i> (L.) DC. var. <i>radiata</i> (Sch. Bip.) Ballard ex T.E. Melchert	beggartick	Nat	O
ASTERACEAE (continued)				
	<i>Pluchea carolinensis</i> (Jacq.) G.Don	sourbush	Nat	O
	<i>Youngia japonica</i> (L.) DC	Japanese hawks beard	Nat	C
BRASSICACEAE				
	<i>Lepidium virginicum</i> L.	peppergrass	Nat	U
CARICACEAE				
	<i>Carica papaya</i> L.	papaya	Nat	R
CASUARINACEAE				
	<i>Casuarina equisetifolia</i> L.	ironwood	Nat	C
CLUSIACEAE				
	<i>Clusia rosea</i> Jacq.	autograph tree	Nat	R
COMBRETACEAE				
	<i>Terminalia catappa</i> L.	false <i>kamani</i> , sea almond	Nat	A
CRASSULACEAE				
	<i>Kalanchoë pinnata</i> (Lam.) Pers.	air plant	Nat	O
CUCURBITACEAE				
	<i>Momordica charantia</i> L.	bitter melon	Nat	O
EUPHORBIACEAE				
	<i>Codiaeum variegatum</i> (L.) Blume	croton	Orn	R
	<i>Euphorbia hirta</i> (L.)	garden spurge	Nat	O
	<i>Euphorbia hypericifolia</i> (L.)	graceful spurge	Nat	O
	<i>Euphorbia prostrata</i> Aiton	prostrate spurge	Nat	O
FABACEAE				
	<i>Canavalia cathartica</i> Thours	<i>maunaloa</i>	Nat	U
	<i>Leucaena leucocephala</i> (Lam.) de Wit	<i>koa haole</i>	Nat	R

Table 4 (continued).

Family <i>Genus species</i>	Common name	Status	Abundance
MALVACEAE			
<i>Hibiscus rosa-sinensis</i> L. cultivars	Chinese hibiscus	Orn	R
MORACEAE			
<i>Ficus</i> sp.	---	Nat	R
MYRSINACEAE			
<i>Ardisia elliptica</i> Thunb.	shoebutton ardisia	Nat	C
MYRTACEAE			
<i>Syzygium cumini</i> (L.) Skeels	Java plum	Nat	C
OXALIDACEAE			
<i>Oxalis corniculata</i>	yellow wood sorrel	Pol	U
PHYTOLACCACEAE			
<i>Rivina humilis</i> L.	coral berry	Nat	R
PLANTAGINACEAE			
<i>Plantago major</i> L.	broad-leaved or common plantain	Nat	O
PORTULACACEAE			
<i>Portulaca oleracea</i> L.	pigweed	Nat	U
SCROPHULARIACEAE			
<i>Buddleja asiatica</i> Lour.	<i>huelo ilio</i> , dog tail	Nat	R
URTICACEAE			
<i>Pliea microphylla</i> (L.) Liebm.	artillery plant	Nat	C
MONOCOTYLEDONS			
ARECACEAE			
<i>Cocos nucifera</i> L.	<i>niu</i> , coconut palm	Pol	U
AGAVACEAE			
<i>Cordyline fruticosa</i> (L.) A. Chev.	<i>ki</i> , <i>ti</i>	Pol	U
BROMELIACEAE			
<i>Aechmea</i> sp.	---	Orn	U
CYPERACEAE			
<i>Cyperus rotundus</i> L.	nut grass	Nat	A
<i>Kyllinga nemoralis</i> (J.R. Forst. & G. Gorst.) Dandy ex Hutch.&Dalziel	kyllinga	Nat	U
<i>Cyperus polystachyos</i> Rottb.	---	Ind	O
LILIACEAE			
<i>Asparagus plumosus</i> Baker	asparagus fern	Nat	R
PANDANACEAE			
<i>Pandanus tectorius</i> Parkinson ex Z.	<i>hala</i> , screwpine	Ind	R
POACEAE (GRAMINEAE)			
<i>Chloris barbata</i> Sw.	swollen fingergrass	Nat	O
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	Nat	A
<i>Digitaria insularis</i> (L.) Mez. Ex Ekman	sourgrass	Nat	O
<i>Eleusine indica</i> (L.) Gaertn.	wire grass	Nat	U
<i>Panicum maximum</i> Jacq.	Guinea grass	Nat	R
<i>Paspalum conjugatum</i> Bergius	Hilo grass	Nat	C
<i>Sporobolus</i> sp.	dropseed	Nat	U

Table 4 (continued).

Legend to Table 4:

STATUS = distributional status for the Hawaiian Islands:

- End** = endemic; native to Hawaii and found naturally nowhere else.
- Ind** = indigenous; native to Hawaii, but not unique to the Hawaiian Islands.
- Nat** = naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.
- Orn** = exotic, ornamental or cultivated; plant not naturalized (not well-established outside of cultivation).
- Pol** = Polynesian introduction before 1778.

ABUNDANCE = occurrence ratings for plants:

- R** - Rare seen in only one or perhaps two locations
- U** - Uncommon seen at most in several locations
- O** - Occasional seen with some regularity
- C** - Common observed numerous times during the survey
- A** - Abundant found in large numbers; may be locally dominant

Avian biota— A total of 42 individual birds, of six different species were recorded during station counts during the morning and evening counts (Table 5). An additional 65 birds, including two additional species were recorded as incidental sightings as biologists walked between survey areas. Approximately 70% of the individual birds identified in the project area were Common Myna (*Acridotheres tristis*) or House Sparrow (*Passer domesticus*). The former were ubiquitous throughout the area, utilizing the beach, parking lot, and false *kamani* trees (*Terminalia catappa*) in the park. Red-crested Cardinals (*Paroaria coronata*) and Zebra Doves (*Geopelia striata*) frequent the lawn at the beach park.

Table 5. Checklist and counts for birds observed at Hāna Pier Project vicinity on May 2 and 3, 2013.

PHYLUM, CLASS, ORDER	FAMILY	Genus species	Common name	Status	Abundance		
					AM count	PM count	Incid. sighting
CHORDATA, AVES			BIRDS				
		unid.	--		1	2	--
AVES, CHARADRIIFORMES							
	SCOLOPACIDAE						
		<i>Tringa incana</i> Gmelin	Wandering Tattler, <i>‘ūlili</i>	Ind	--	1	--
AVES, COLOMBIFORMES							
	COLUMBIDAE						
		<i>Geopelia striata</i> Linnaeus	Zebra Dove	Nat	--	3	3
AVES, PASSERIFORMES							
	CARDINALIDAE						
		<i>Cardinalis cardinalis</i> Linnaeus	Northern Cardinal	Nat	--	--	1
	THRAUPIDAE						
		<i>Paroaria coronata</i> J.F. Muller	Red-crested Cardinal	Nat	--	--	2

Table 5 (continued).

PHYLUM, CLASS, ORDER	FAMILY	<i>Genus species</i>	Common name	Status	Abundance		
					AM count	PM count	Incid. sighting
PASSERIDAE							
		<i>Passer domesticus</i> Linnaeus	House Sparrow	Nat	3	2	13
STURNIDAE							
		<i>Acridotheres tristis</i> Linnaeus	Common Myna	Nat	15	16	33
AVES, PHAETHONTIFORMES							
PHAETHONTIDAE							
		<i>Phaethon lepturus dorotheae</i> Mathews	White-tailed Tropicbird, <i>koa'e kea</i>	Ind	--	--	2
AVES, SULIFORMES							
FREGATIDAE							
		<i>Fregata minor palmerstoni</i> Gmelin	Great Frigatebird, 'iwa	Ind	1	4	8

Legend:

STATUS = distributional status for the Hawaiian Islands:

End = endemic; native to Hawaii and found naturally nowhere else.

Ind = indigenous; native to Hawaii, but not unique to the Hawaiian Islands.

Nat = naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.

Orn = exotic, ornamental or cultivated; plant not naturalized (not well-established outside of cultivation).

Pol = Polynesian introduction before 1778.

Though naturalized urban dwelling birds comprised the bulk of species encountered, three native species were encountered. One Wandering Tattler (*Tringa incana*) was observed foraging on boulders near the boat ramp. Several Great Frigatebirds (*Fregata minor palmerstoni*) were sighted soaring above the project site and into areas *mauka* of Hāna Bay. Similarly, two White-tailed Tropicbirds (*Phaethon lepturus dorotheae*) were observed circling above the shoreline of the bay along the steep slopes of nearby Ka'uki Head. All three native species encountered during the survey are reported to be common throughout the Main Hawaiian Islands (Denny, 2010).

Terrestrial mammals — During the course of surveys only the domestic cat (*Felis catus*) and domestic dog (*Canis lupus familiaris*) were observed in the Project vicinity. No bats were observed.

Marine Biota

Coral delineation — The coral delineation survey established a distinct boundary between coral presence on the bottom and coral absence in the

vicinity of Hāna Pier (Figure 7). To the west of the pier, coral colonies are growing within 17 m (56 ft) of the west end of the pier, but coral cover ends abruptly near the boat ramp channel. Between the boat ramp and the west end of the t-head is a small section of live coral located off the north end of the boat dock. Live coral cover carries through from the west to the east side of the trestle, at the 5th piling row from land. The delineation line runs northerly along the east side of the trestle, runs under the pier, and emerges near the middle of the pier. The line continues northwesterly incorporating a couple of isolated coral outcrops, extending at most 27 m (86 ft) from the pier face. Coral cover is not contiguous landward of the solid line. Under the pier and on the reef there are sections with no coral cover. There is a tongue of sand and hard bottom east of the trestle which has no live coral cover (shown in Fig. 7). Neither hard bottom nor live coral was observed seaward of the delineation line. Water depth at 76 m or 250 ft off the pier face was 34 ft in the east and 23 ft in the west.

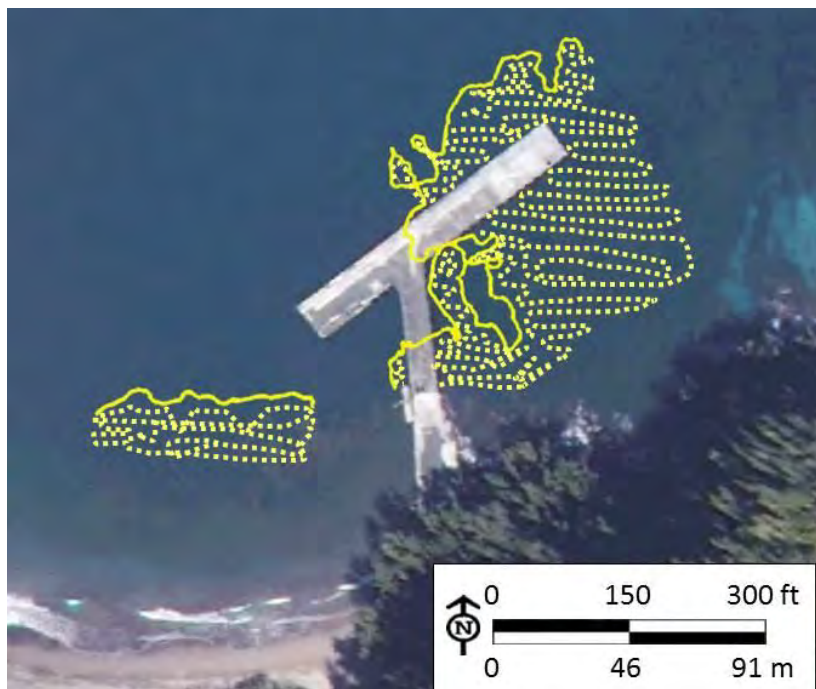


Figure 7. Coral delineation survey; solid yellow line represents delineation between live coral presence inshore and a bottom barren of corals offshore; dotted area is coral presence (photo: WorldView II, 2010).

Benthic Composition — Ten 10-m transects were used to calculate benthic community composition in three survey areas: 1) under the pier; 2) under the

trestle; and 3) seaward of the pier. Depth at transects seaward of the pier ranged from 8 to 10 m (28 to 33 ft); under the pier, these ranged from 5 to 8 m (15 to 26 ft); and the one transect under the trestle was at 5 m (17 ft). Figure 8 presents the results of the benthic survey. Photos in Figure 9 present representative views of the bottom in the three survey areas.

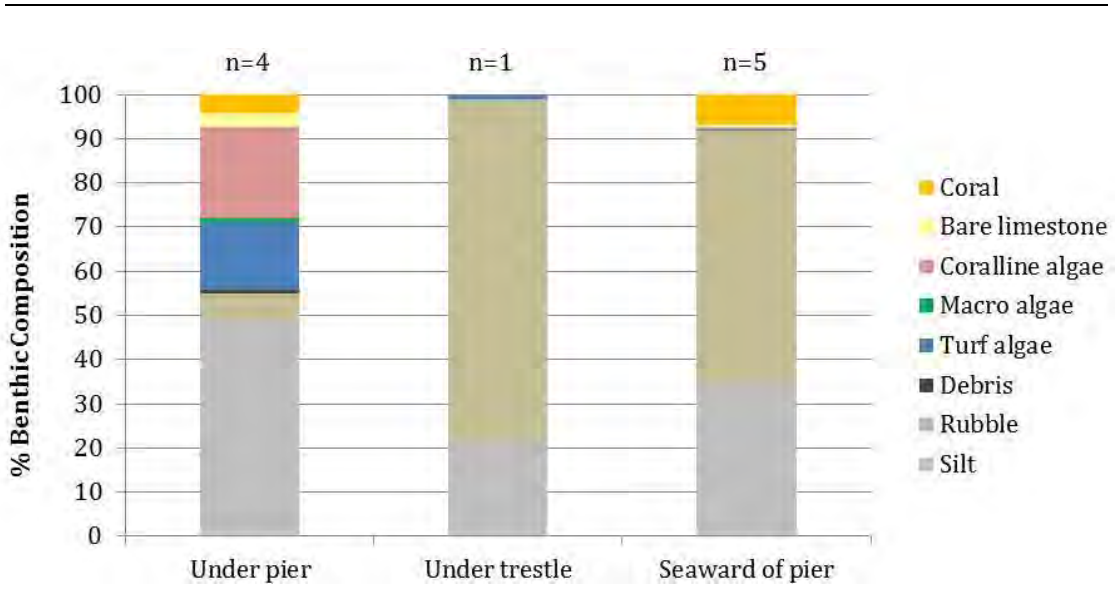


Figure 8. Percent benthic community composition near and under Hāna Pier from 10, 10-m transects.

On the four transects under the pier non-living substrata, primarily silt (49%) predominates (Fig. 8). Coralline and turf algae are found growing on silt-coated rubble. Debris (including bicycles, tires, and broken concrete slabs) is also present, especially towards the east end of the pier where large mounds of broken concrete pieces and other pier debris were encountered. Average coral cover is low (4%), and corals were only encountered on transect 3. The transect under the trestle crossed rubble (78%), silt (21%), and turf algae (1%).

The five transects seaward of the pier were dominated by non-living substrata, primarily rubble (57%) and silt (35%). Average coral cover in this area was 7%, and consisted mostly of large plating and encrusting *Montipora capitata* colonies and small *Lep. Purpurea* colonies. No macro-invertebrates were recorded on the transects.

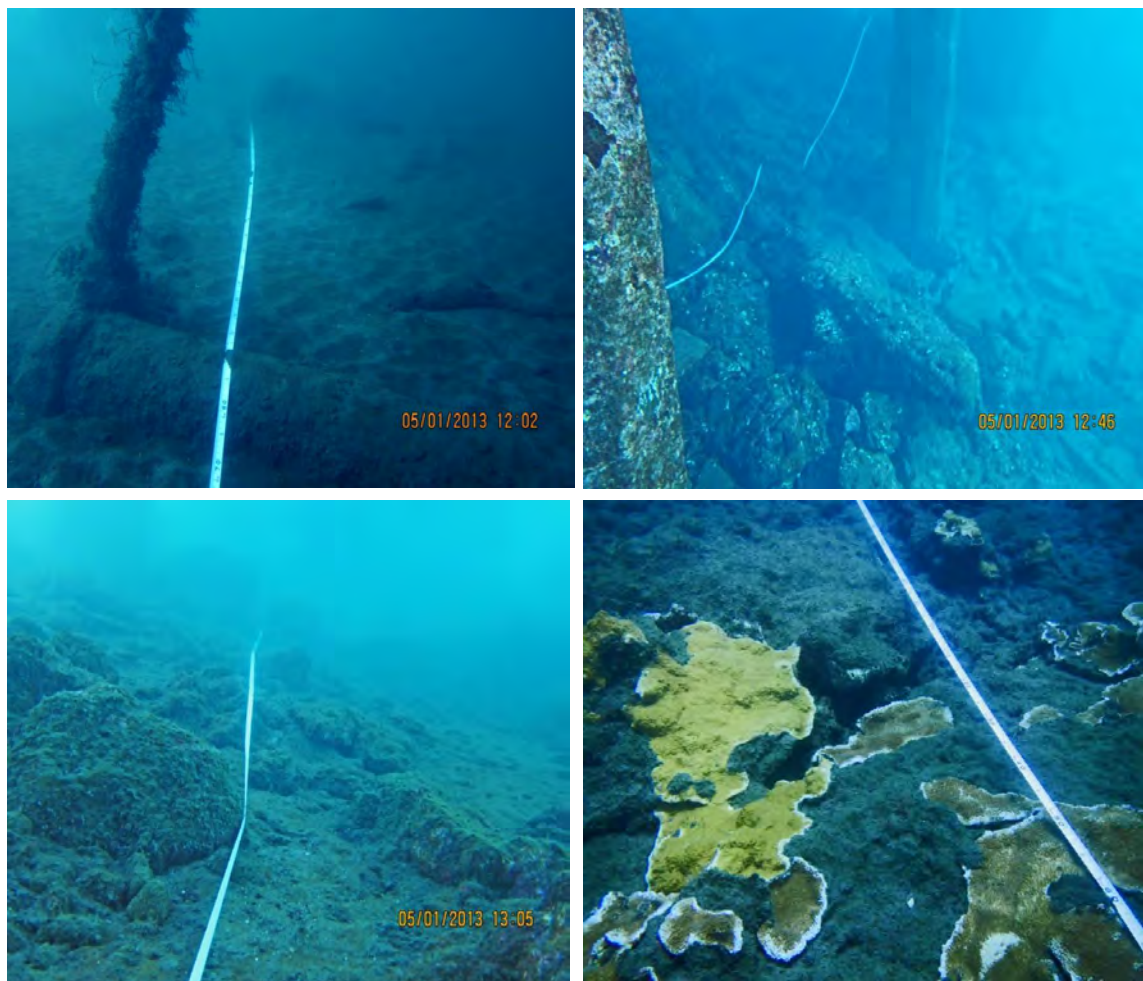


Figure 9. Representative benthic composition under pier (top left and right), under trestle (bottom left), and seaward of the pier (bottom right).

Seafloor Coral Community – A total of ten 10-m transects was used to characterize the coral community of the seafloor under the pier, under the trestle, and to seaward of the pier (total survey area: 100 m² or 1,076 ft²). A total of 118 coral colonies of at least 10 different taxa was observed across the three survey areas (Table 6). The most common taxa present are *M. capitata* and *Pavona duerdeni* (28% and 25%, respectively); present with lower coverage are *M. patula* and *Pav. varians* (11.9% each), *L. purpurea* (9.3%), *M. flabellata* (5.9%), *C. ocellina* (3.4%), *Porites* sp. and *Poc. damicornis* (1.7% each), and *Poc. meandrina* (0.8%). Of the 118 coral colonies observed in the three survey areas, 27% are in the 1- to 5-cm size class; most of these smallest colonies are *Pav.*

duerdeni. An equal amount of corals in the 6- to 10-cm and 21- to 40-cm size classes were encountered (23%), with *M. capitata*, *Pav. duerdeni* and *Leptastrea* making up the majority of these size classes. A total of 14 colonies in the 41- to 80-cm size class was observed, eleven of which were *M. capitata*. No corals larger than 80 cm were observed across the three survey areas. Coral size class distribution specific to each of the three survey areas is presented in sections that follow.

Table 6. Number of coral colonies in each size class for coral species observed throughout three survey areas around the pier (100 m² total survey area).

Taxa	Size class (cm)						Total	Percent of total
	1 to 5	6 to 10	11 to 20	21 to 40	41 to 80	>81		
<i>C. ocellina</i>	4	--	--	--	--	--	4	3.4
<i>M. capitata</i>	1	6	6	11	9	--	33	28.0
<i>M. patula</i> *	--	3	1	9	1	--	14	11.9
<i>M. flabellata</i>	1	3	1	--	2	--	7	5.9
<i>Pav. varians</i>	3	--	4	6	1	--	14	11.9
<i>Pav. duerdeni</i>	18	7	4	--	1	--	30	25.4
<i>Poc. damicornis</i>	1	1	--	--	--	--	2	1.7
<i>Poc. meandrina</i>	--	1	--	--	--	--	1	0.8
<i>L. purpurea</i>	2	6	2	1	--	--	11	9.3
<i>Porites</i> sp.	2	--	--	--	--	--	2	1.7
Total count	32	27	18	27	14	--	118	
Percent of total	27	23	15	23	12	--		

* Species proposed to be listed as threatened under the Endangered Species Act.

Under pier – The coral community under the pier consists of scattered encrusting colonies adhered to rubble and fallen concrete from the pier which is otherwise silt-coated (see Fig. 9). Figure 10 presents the size class distribution for all coral species observed under the pier. Representative coral species on the seafloor under the pier is presented in Figure 11. A total of 51 coral colonies from 6 different taxa were identified and measured: *Pav. duerdeni* (28), *M. flabellata* (7), *M. patula* (6), *Pav. varians* (6), *C. ocellina* (3) and *Poc. meandrina* (1). *Pav. duerdeni* is the most frequently encountered coral species with mostly small (1- to 5-cm) colonies. Seven colonies of *M. flabellata* were encountered: one in each the 1- to 5-cm and 11- to 20-cm size class, three in the 6- to 10-cm size class, and two in the 41- to 80-cm size class. Five colonies of *M. patula* were observed in the 21- to 40-cm size class, and one in the 41- to 80-cm size class. A total of 4 colonies of *Pav. varians* occurred: three in the 21- to 40-cm size class

and one in the 41- to 80-cm size class. Three small (1- to 5-cm) *C. ocellina* colonies and one colony of *Poc. meandrina* (6- to 10-cm) were encountered under the pier.

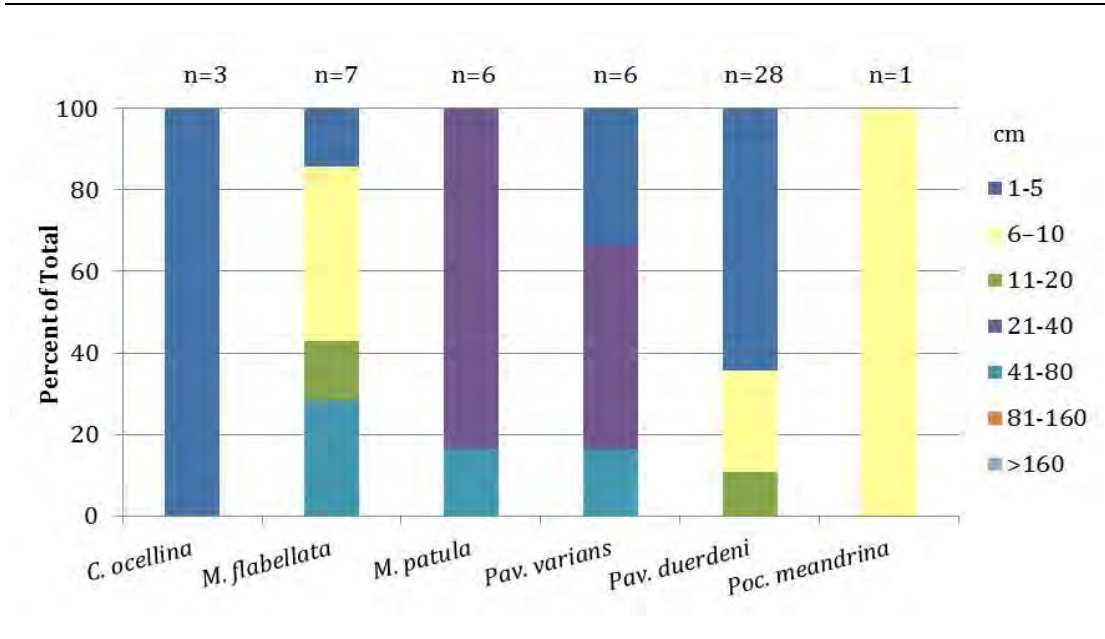


Figure 10. Size class distribution for coral species (4 10-m² transects) on seafloor under the pier (n = total number of coral colonies).

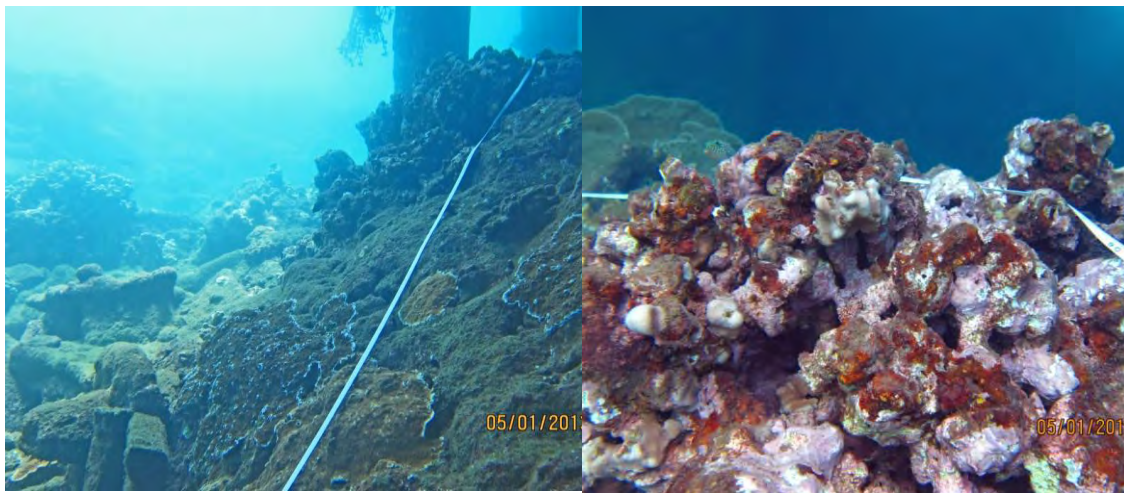


Figure 11. Representative areas of coral cover on seafloor under the pier.

Under trestle – The coral community on the seafloor under the trestle consists of few scattered encrusting colonies adhered to silt-coated rubble and fallen concrete from the trestle (Figure 12). Two colonies of *Leptoseris incrustans* were encountered in the one trestle transect. Both colonies recorded are in the 21- to 40-cm size class.

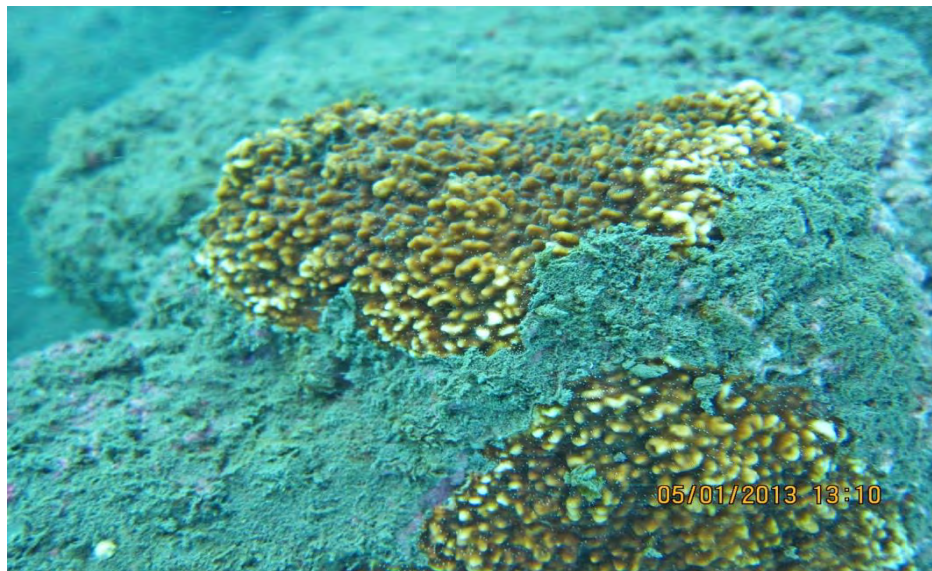


Figure 12. Two encrusting *Leptoseris incrustans* colonies were observed under the trestle (10 m² survey area).

Seaward of pier – The coral community on the seafloor seaward of the pier consists of large (>20 cm) encrusting *M. capitata* colonies and small *L. purpurea* colonies (see Fig. 9). A total of 65 coral colonies from 8 different taxa were identified and measured: *M. capitata* (33), *M. patula* (8), *L. purpurea* (11), *Pav. varians* (6), *Pav. duerdeni* (2), *Poc. damicornis* (2), *Porites* sp. (2), and *C. ocellina* (1). Figure 13 presents the size class distribution for all coral species observed on the transects seaward of the pier. Representative coral species on the seafloor under the pier is presented in Figure 14. *M. capitata* is the most frequently encountered coral species in the vicinity, and is represented in size classes 1- to 80-cm. Most *M. capitata* colonies are in the 21- to 40- and 41- to 80-cm size classes. Eleven colonies of *L. purpurea* were encountered, most in the 6- to 10-cm size class. A total of 8 colonies of *M. patula* was observed: three in the 6- to 10-cm size class, one in the 11- to 20-cm size class and four in the 21- to 40-cm size class. One small (1- to 5-cm) *C. ocellina* colony and two small (1- to 5-cm) *Porites* sp. were encountered under the pier.

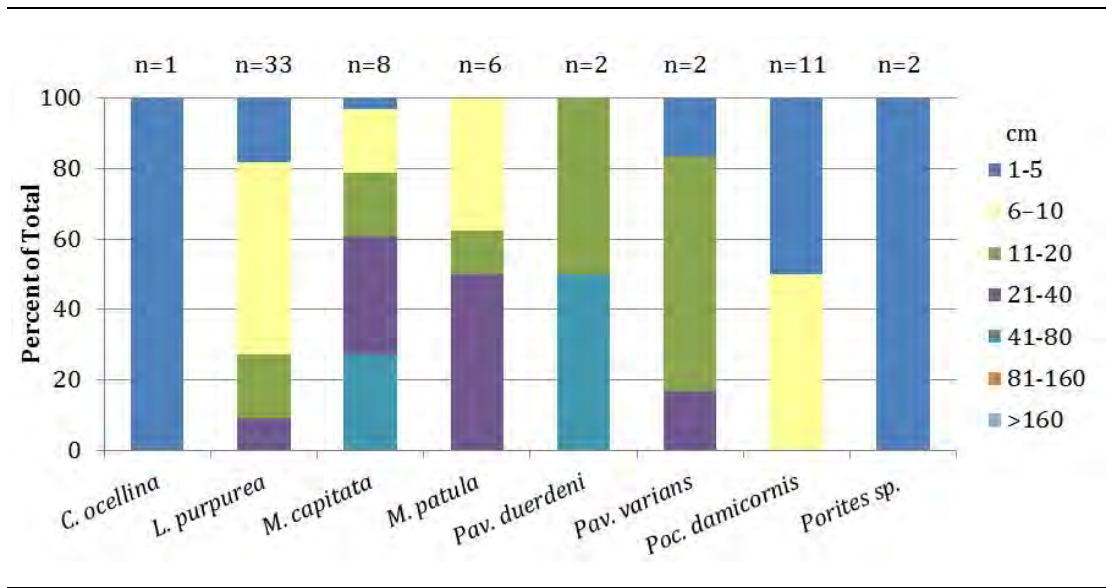


Figure 13. Size class distribution for coral species (5 10-m² transects) seaward of pier (n = total number of coral colonies).



Figure 14. Representative coral community on seafloor seaward of pier.

Pier pile coral size class – Six of the twenty-eight pier piles surveyed host no coral colonies in the direct impact area (upper 2 m of each pile). Each of these

piles with no coral growth was an inner pile (row B or C). The coral assemblage on the remaining 22 seaward and landward facing piles host coral colonies, consisting mainly of encrusting/plating *Montipora* colonies, encrusting *Cyphasastrea* colonies and few small *Pocillopora* colonies. Representative pier pile coral community can be seen in Figure 15. Table 7 and Figure 16 present the size class distribution for all coral species observed on the pier piles. A total of 292 coral colonies of at least 7 different taxa was observed in the survey area. The most common corals observed are *M. flabellata* (39.4%), *M. patula* (25%), and *M. capitata* (21.6%). Also occurring are *C. ocellina* (12%), *Poc. meandrina* (1.3%), *Poc. damicornis* (0.3%), and *P. lobata* (0.3%). Of the 292 coral colonies observed in the survey area, 26% are in the 1- to 5-cm size class; most of these small colonies are *M. flabellata* and *C. ocellina*. There is a similar distribution of corals in the 6- to 10- and 21- to 40-cm size classes (24%, and 21%, respectively), with *M. flabellata*, *M. capitata*, and *M. patula* making up the majority of these size classes. A total of 32 large (>41 cm) colonies was observed (11%).

Table 7. Number of coral colonies in each size class for coral species observed in direct impact area (upper 2 m) of 28 pier piles, Hāna Pier facility.

Taxa	Size class (cm)						Total	Percent of total
	1 to 5	6 to 10	11 to 20	21 to 40	41 to 80	81- 160		
<i>Poc. damicornis</i>	1	--	--	--	--	--	1	0.3
<i>Poc. meandrina</i>	2	--	1	1	--	--	4	1.4
<i>C. ocellina</i>	21	9	4	1	--	--	35	12.0
<i>M. capitata</i>	11	15	9	14	10	4	63	21.6
<i>M. flabellata</i>	31	34	28	18	4	--	115	39.4
<i>M. patula</i>	9	12	11	27	10	4	73	25.0
<i>P. lobata</i>	--	--	1	--	--	--	1	0.3
Total count	75	70	54	61	24	8	292	
Percent of total	26	24	19	21	8	3		

There is a fairly even distribution of *M. flabellata* colonies across the 1 to 40 cm class sizes, most being in the 1- to 5-cm and 6- to 10-cm class sizes. Larger colonies of *M. flabellata* were observed; 4- in the 81- to 160-cm class size. *M. patula* and *M. capitata* are also common in the survey area (47% of total, combined). Colonies of *M. capitata* and *M. patula* colonies are found in each class size up to 160 cm), with most in the 6- to 10-cm and 21- to 40-cm class sizes, and several larger colonies are present; 8 in the 81- to 160-cm class size. A total of 35 colonies of *C. ocellina* was observed, most in the 1- to 5-cm class size.

Colonies of *Poc. meandrina* and *Poc. damicornis* are uncommon (1.7% of total, combined) and most are in the 1- to 5-cm class size. One colony of *P. lobata* (0.3%) was in the 11- to 20-cm size class.

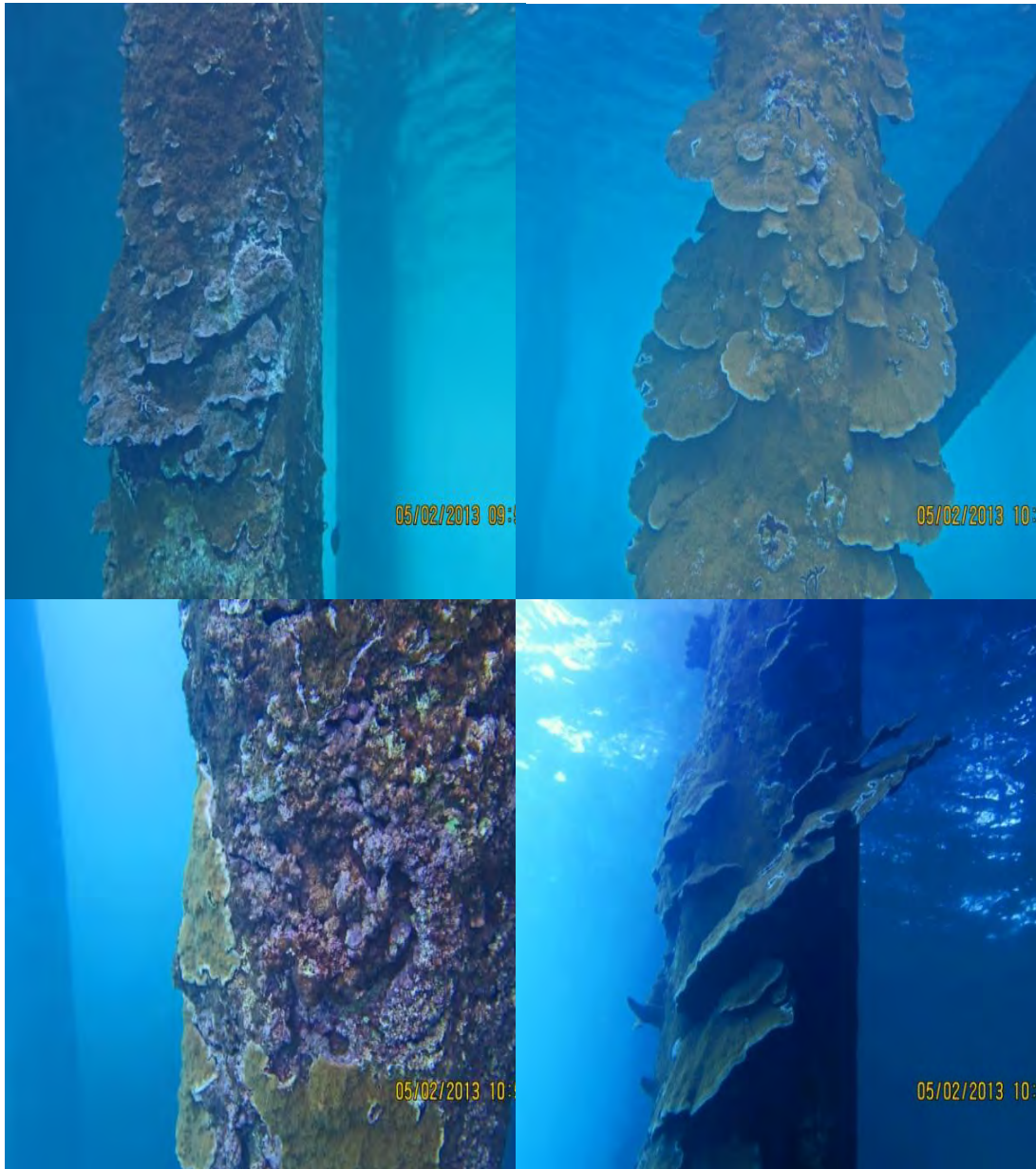


Figure 15. Representative pier pile coral community.

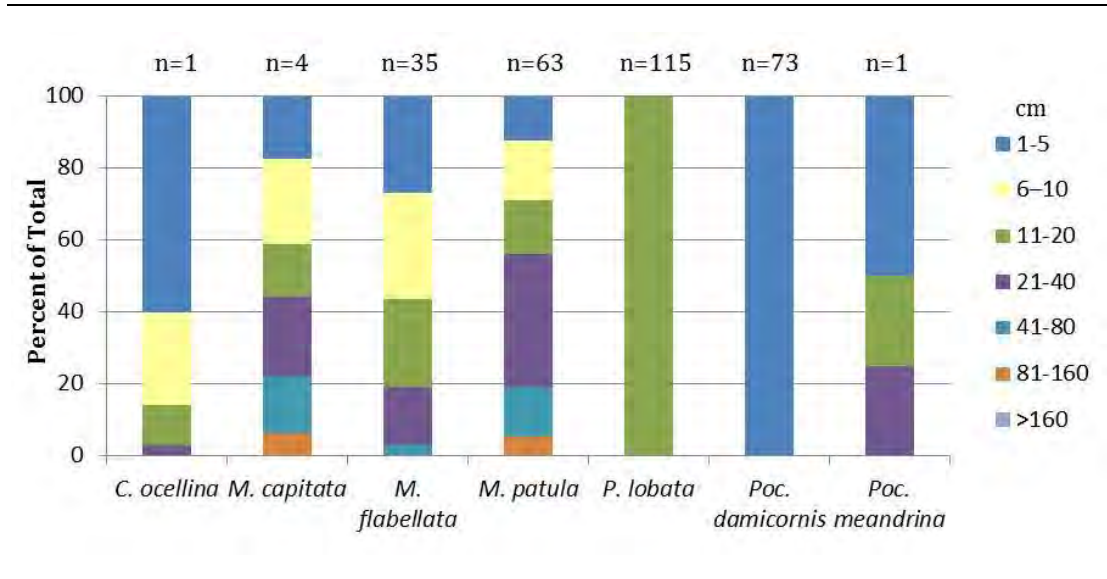


Figure 16. Coral size class distribution on 28 pier piles, Hāna Pier facility.

Pier pile coral morphology — Table 8 presents the general coral growth forms by species on the upper 2 m of piles under the pier. Growth forms include: encrusting, plating, branching, or multiple (exhibiting both encrusting and plating growth forms). Most of the corals in the survey area (upper 2 m of 28 piles) under the pier have encrusting growth forms (256 colonies; 88%), a total of 13 colonies have a plating form, and 17 colonies have a mixed (encrusting and plating) form. Branching corals are uncommon, with only 5 colonies (2%) encountered in the survey area of the piles. Additionally, on the seaward, outer piles (row A), no mound-forms occur; small plates start around 2 m depth on the pile, and by 3 m depth, large plates are the dominant morphology. On the landward piles (row D), encrusting and mound morphologies are both observed.

Trestle pile coral size class — All 12 trestle piles surveyed host coral colonies in the direct impact area (upper 2 m of each pile). The coral assemblage on the piles consists mainly of encrusting and plating *M. patula* colonies and encrusting *Cyphastrea* colonies. Table 9 and Figure 17 present the size class distribution for all coral species observed on the trestle piles. Representative coral community can be seen in Figure 18. A total of 204 coral colonies of at least 7 different taxa were identified and measured in the survey area: *M. patula* (118), *M. capitata* (33), *M. flabellata* (5), *C. ocellina* (43), *Poc. meandrina* (2), *Poc. damicornis* (1), and *Pavona duerdeni* (2). *M. patula* is the most frequently encountered coral species (57.8%). There is a fairly even distribution of *M.*

Table 8. Morphology of corals on piles under pier, Hāna Pier facility.

Species	Morphology							
	Encrusting		Plating		Branching		Multiple [†]	
	count	%	count	%	count	%	count	%
<i>Poc. damicornis</i>	--	--	--	--	1	100	--	--
<i>Poc. meandrina</i>	--	--	--	--	4	100	--	--
<i>M. capitata</i>	60	97	8	7	--	--	2	3
<i>M. flabellata</i>	99	85	8	7	--	--	8	7
<i>M. patula</i>	61	84	5	7	--	--	7	10
<i>C. ocellina</i>	35	100	--	--	--	--	--	--
<i>P. lobata</i>	1	100	--	--	--	--	--	--
Total count	256		13		5		17	
Percent of total	88		4		2		6	

† Colonies that exhibit both encrusting and plating or pillar morphologies.

Table 9. Number of coral colonies in each size class for coral species observed in direct impact area (upper 2 m) of 12 trestle piles, Hāna Pier facility

Taxa	Size class (cm)							Total	Percent of total
	1 to	6 to	11 to	21 to	41 to	81 to	>160		
	5	10	20	40	80	160			
<i>Poc. damicornis</i>	--	1	--	--	--	--	--	1	0.5
<i>Poc. meandrina</i>	--	--	1	1	--	--	--	2	1.0
<i>C. ocellina</i>	24	17	2	--	--	--	--	43	21.1
<i>M. capitata</i>	--	4	10	9	10	--	--	33	16.2
<i>M. flabellata</i>	1	2	--	2	--	--	--	5	2.5
<i>M. patula</i>	26	22	21	26	17	4	2	118	57.8
<i>Pav. duerdeni</i>	2	--	--	--	--	--	--	2	1.0
Total count	53	46	34	38	27	4	2	204	
Percent of total	26	23	17	19	13	2	1		

patula colonies across the 1- to 80-cm class sizes, most being in the 1- to 5-cm and 21- to 40-cm class sizes. Large colonies of *M. patula* were observed: 4

colonies in the 81- to 160-cm class size and 2 colonies >161 cm class size. *C. ocellina* is also common in the survey area (21.1%). *C. ocellina* colonies are small (1 to 20 cm), with most in the 1- to 5-cm class size. A total of 33 (16.2%) *M. capitata* colonies was observed, most in the 11- to 20-cm and 41- to 80-cm class sizes. *Poc. damicornis* and *Poc. meandrina* are uncommon (1.5% combined). Two colonies (1%) of *Pavona duerdeni* were observed, both in the 1- to 5-cm class size.

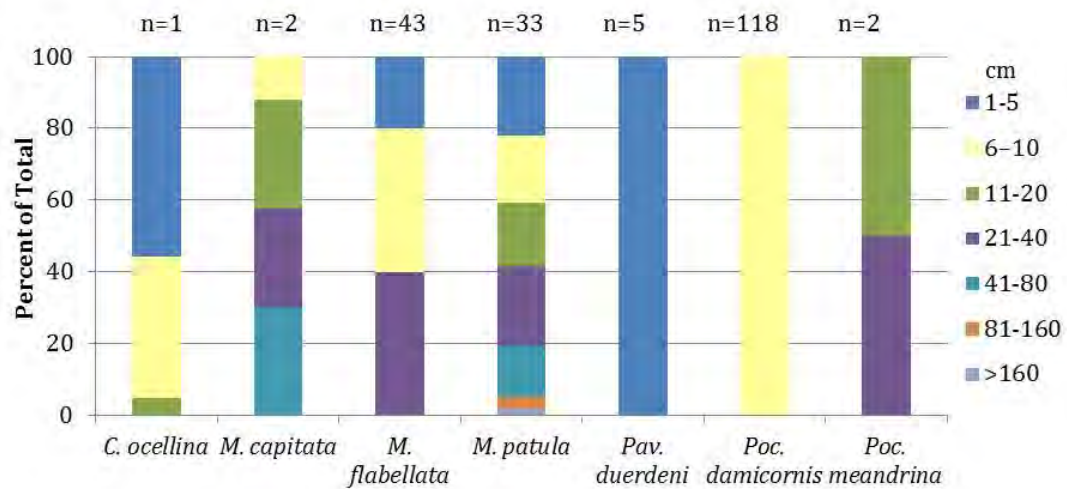


Figure 17. Coral size class distribution on 12 trestle piles, Hāna Pier facility.

Trestle pile coral morphology — Table 10 presents the coral growth forms by species on the upper 2 m of the piles under the trestle. Growth forms include: encrusting, plating, branching, or multiple (exhibiting both encrusting and plating growth forms). Most of the corals here have an encrusting growth form (183 colonies; 90%). A total of 16 colonies with multiple (encrusting and plating), 3 with branching, and 2 with plating form were encountered.

Relative Abundance of Marine Biota — All marine biota recorded from four survey areas (pier and trestle piles and associated seafloor, west reef, east reef, and seaward reef) are presented with relative abundance scores for each (Appendices C-F). The boat ramp was also visited and surveyed for algal species only.

Table 10. Coral morphology of corals on trestle piles, Hāna Pier facility.

Species	Morphology							
	Encrusting		Plating		Branching		Multiple [†]	
	count	%	count	%	count	%	count	%
<i>Poc. damicornis</i>	--	--	--	--	1	100	--	--
<i>Poc. meandrina</i>	--	--	--	--	2	100	--	--
<i>M. capitata</i>	28	85	--	--	--	--	5	15
<i>M. flabellata</i>	5	100	--	--	--	--	--	--
<i>M. patula</i>	105	89	2	2	--	--	11	9
<i>C. ocellina</i>	43	100	--	--	--	--	--	--
+ <i>Pav. duerdeni</i>	2	100	--	--	--	--	--	--
Total count	183		2		3		16	
Percent of total	90		1		1		8	

† colonies that exhibit both encrusting and plating morphologies.

Pier piles – The most conspicuous pile biota are plating colonies of *M. capitata*. Barnacle (*Chthamalus proteus*), limpet, (*Cellana talcosa* and *C. exarata*), dotted periwinkle (*Littoraria pintado*), black nerite (*Nerita picea*), and rock crabs ('*ama'ama*; *Grapsus tenuicrustatus*) occupy the littoral and splash zones on the piles. Urchins (*Tripneustes gratilla* and *Echinothrix calamaris*) also are found on the piles. The seaward and landward-facing piles (or “outer piles:” A and D) host more coral than the inner rows of piles (B and C), with many of the inner piles void of coral colonies. Biologists noted that the seaward-facing piles host coral growth only on their seaward and west sides. Photos in Fig. 15 show the biological assemblage on the pier piles.

Trestle piles – The most common coral on the trestle piles are plating colonies of *M. patula*. The three rows of piles (A-C) under the trestle all host corals, and biologists observed coral growth on all four sides of the piles. Photos in Figure 18 show the biological assemblage on the trestle piles. Barnacle (*C. proteus*), limpet (*C. talcosa* and *C. exarata*), dotted periwinkle (*L. pintado*), black nerite (*N. picea*), and rock crab ('*ama'ama*; *G. tenuicrustatus*) occupy the littoral and splash zones on the piles. Zooanthids (*Zoanthus* sp.), urchins (*T. gratilla* and *E. calamaris*), and coralline algae are also found on the piles. Five species of butterflyfish, eight species of damselfish, and six species of surgeonfish were observed, with a total of 30 fish species observed at the pier and trestle piles.



Figure 18. Representative trestle pile community.

West Reef – The coral reef located west of Hāna Pier is a shallow reef with an abundance of *M. flabellata* and *Porites* spp. Present but not as common are *Poc. damicornis*, *Poc. meandrina*, and *M. capitata*. *Pav. varians*, *M. patula*, and *P. compressa* are rare. The seaward facing edge of the reef has upwards of sixty to seventy percent coral cover (visually estimated) while the reef crest has lower coral cover of between thirty and forty percent coral cover (visually estimated). *Pav. duerdeni* was common in the deeper areas. Silt covers surfaces between live colonies and some live colonies had a thin layer of silt. Few macro-invertebrates were observed with only a few sea urchins (*Echinothrix calamaris*, *Echinometra mathaei*, and *Tripneustes gratilla*) and a sea cucumber (*Actinopyga mauritiana*) recorded. Fishes were somewhat abundant with four species of butterflyfish, three species of goat fish, and ten species of surgeonfish observed. A total of 31 fish species was observed.

East Reef - East of the Hāna Pier trestle are a number coral outcroppings interspersed with sand bottom. Outcroppings reach to within 2-3 ft of the water's surface close to the trestle. Outcroppings host a wide variety of coral with *P. lobata* and *M. flabellata* being most common, followed by *Poc. meandrina*, *M. capitata*, *M. patula*. Further east, water depth is 12 to 15 ft and the reef becomes more continuous. In these deeper areas *Pav. duerdeni* and *P. compressa* occur. Few macro-invertebrates were observed (*E. calamaris*, *E. mathaei*, *A. mauritiana*, and *H. atra*). A wide variety of fish were observed with greater concentrations observed in the far east of the survey area, where a more

continuous reef with greater topographic relief occurs. The most species of the survey areas was observed in the East Reef survey area, with seven species of butterflyfish, six species of damselfish, nine species of surgeonfish, and five species of wrasses, with a total of 39 fish species observed.

Seaward Reef – The seafloor off the east end of the pier is primarily soft bottom with rubble and debris with a low-growing algal turf covered in fine sediment. *Acanthophora pacifica* is commonly observed here with *Halimeda opuntia* and an unidentified wispy red cyanobacteria occasional. Plating and encrusting *M. capitata* coral colonies are scattered on the seafloor. Some of these colonies are large, reaching 3 to 4 m (ft) in diameter. Many dead encrusting and plating colonies were observed with some showing layer upon layer, with the upper layer providing growing surfaces for live colonies. *M. patula*, *Pav. varians*, *Pav. duerdeni*, *Poc. damicornis*, and *Porites* spp. also occur but are less common.

A coral disease was observed affecting colonies of *M. capitata* and *Porites* spp. (Figure 19). The disease is referred to as growth anomaly (Aeby et. al, 2011) which is identified by sections of inflated skeleton in an otherwise normal appearing colony. The diseased portions were white with coral polyps often retaining zooxanthellate pigmentation. A few large *M. capitata* and *M. patula* colonies had many bite marks which could be confused for coral disease. A few *M. capitata* colonies exhibited a white streak across a less than 20 cm section of otherwise normal colony.

Only a few macro-invertebrates including two nudibranchs (*Phyllidia varicosa* and *Phyllidiopsis sphingis*) and two lobster carapace (*Panularis marginatus* and *Panularis penicillatus*) were observed. Few fishes were observed (*Parupeneus multifasciatus*, *Canthigastor jactator*, *Acanthurus nigrofuscus*, *Thalassoma duperrey*, and *Chaetodon multicinctus*), however it is likely that most fishes observed in other survey areas would also occur here. A total of 12 fish species was observed.

Boat Ramp – The boat ramp and associated boulders was visited to determine presence of invasive algae. No invasive algae were observed. The most common algae observed was *A. glomerata*, which thickly covers the boulders. *Jania* sp. and *M. fragilis* were common while *Dictyota ceylanica* and *Pterocliadiella caerulescens* were rare. Silt covered surfaces that were not perturbed by water action. The foot of the boat ramp consists of fine sediment. And, no coral was observed.

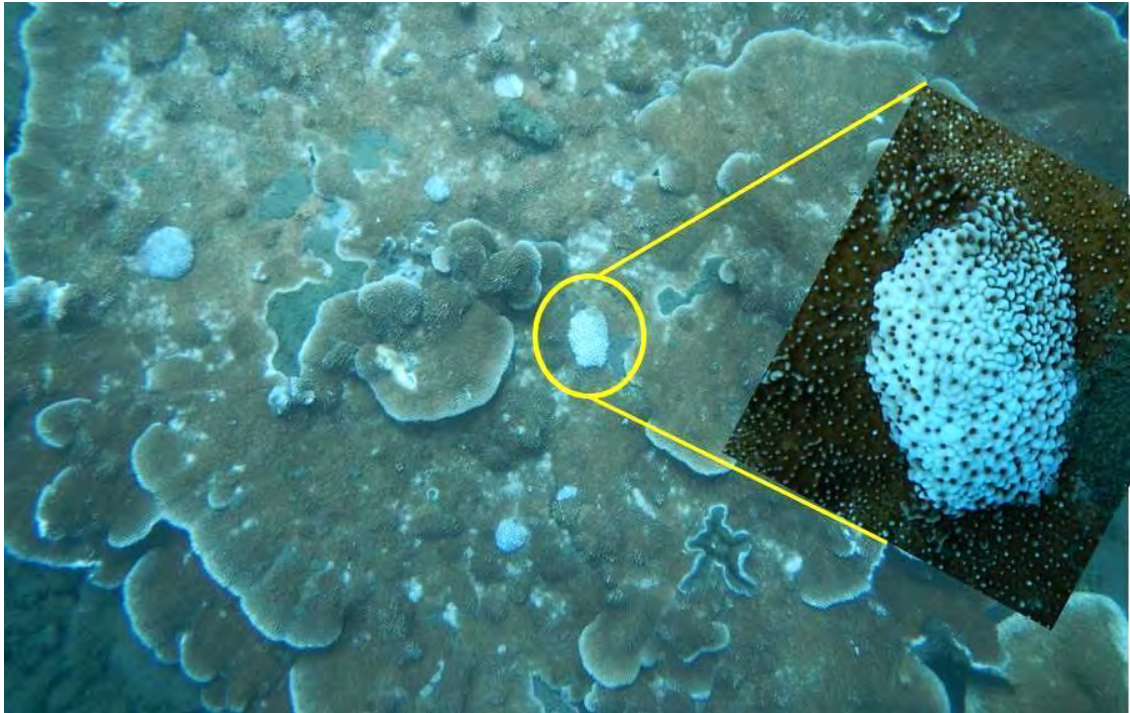


Figure 19. *Montipora* growth anomaly coral disease.

Protected Species

Terrestrial – No protected terrestrial species of plants, birds, or mammals were observed, nor are any expected known to occur in the Project area and vicinity with the exception of bats that might roost in nearby trees and seabirds flying over the project area.

Marine – One marine protected species was observed in the Project vicinity: green sea turtle or *honu* (*Chelonia mydas*; Figure 20). Also known to occasion the marine environment off the Project is Hawaiian monk seal (*Neomonachus schauinslandi*) and spinner dolphin (*Stenella longirostris*; pers. comm., Russell Sparks, Maui DLNR-DAR).



Figure 20. One marine protected species observed in the Project vicinity was green sea turtle or *honu* (*Chelonia mydas*).

Discussion

Water Quality

State of Hawai'i, Water Quality Standards classify the waters in the Project area as Class AA, open coastal waters (between Huelo Point and Puu Olai; HDOH 2012). It is the objective of Class AA waters that these "...remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected." Applicable state water quality criteria for the Project vicinity are shown in Table 11.

Table 11. Selected state of Hawai'i water quality criteria for open coastal waters (HAR §11-54-5.2; HDOH, 2012).

Parameter	Geometric Mean value not to exceed this value	Value not to be exceeded more than 10% of the time	Value not to be exceeded more than 2% of the time
Total Nitrogen (µg N/l)	150.0 <i>110.0</i>	250.0 <i>180.0</i>	350.0 <i>250.0</i>
Ammonia Nitrogen (µg NH ₄ -N/l)	3.50 2.00	8.50 5.00	15.00 9.00
Nitrate+Nitrite (µg N/l)	5.00 <i>3.50</i>	14.00 <i>10.00</i>	25.00 <i>200.0</i>
Total Phosphorus (µg P/l)	20.0 <i>16.0</i>	40.0 <i>30.0</i>	60.0 <i>45.0</i>
Chlorophyll α (ug/l)	0.30 <i>0.15</i>	0.90 <i>0.50</i>	1.75 <i>1.00</i>
Turbidity (NTU)	5.0 <i>2.0</i>	15.0 <i>5.5</i>	25.0 <i>10.0</i>

Two values: upper, "wet season" criteria apply November 1 through April 30; lower "dry season" (italicized) criteria apply May 1 through October 31.

Other "standards":

- pH units shall not deviate more than 0.5 units from ambient and not lower than 5.5 nor higher than 8.0.
- Dissolved oxygen shall not decrease below 80% of saturation.
- Temperature shall not vary more than 1C° from ambient conditions.

State criteria for turbidity and various nitrogen and phosphorus compounds (plant nutrients) are based upon comparison of a given criterion with a geometric mean obtained through representative sampling (requiring a minimum of three sampling events) at a given location. The mean values obtained in this sampling cannot be used to establish compliance with Hawai'i water quality standards, and should be used only to characterize the water at the time of the field survey.

Water quality in the nearshore area of Hāna Bay is controlled primarily by three processes: 1) nearshore groundwater seepage, which introduces dissolved nutrients into the ocean; 2) waves and currents, which suspend bottom

sediments and transport them along the shore; and 3) biological processes, especially photosynthesis by marine algae and phytoplankton, which can alter nutrient and pH levels.

Water quality at the Project site, as measured on May 1, 2, and 3, 2013, showed temperatures, DO, pH, and salinity values within normal ranges. Surface water salinities were less than 34.00 PSU on average, indicating input of some fresh and/or brackish water to the Project area. The average bottom salinity values (greater than 34.00 PSU) are indicative of minimal fresh water inputs to these deeper waters.

Turbidity values (see Table 2) were less than the state geometric dry criterion at all stations, except Sta. Trestle (B). There are no specific state criteria for TSS in open coastal waters, but this parameter is often monitored for construction projects to ensure that project activities do not significantly increase TSS in adjacent waters. The geometric mean concentrations reported herein for TSS are typical of coastal waters in Hawai'i.

Concentrations of ammonia, total nitrogen (TN), total phosphorus (TP) and chlorophyll α were all less than the state geometric mean criteria at all stations. Nitrate-nitrate concentrations, on the other hand, were elevated, especially in the surface waters and probably related to lowered salinities from terrestrial inputs.

These water quality results provide the baseline for comparison with during construction water quality monitoring undertaken to minimize potential Project impacts. Water quality samples will also be collected following the completion of construction activities to monitor any long-term impacts from the Project.

Sediment Quality

No sediment contaminants were found above Probable Effect Levels (Buchman, 2008), the level at which toxicity to benthic organisms is predicted to be probable.

Marine Biota

Coral delineation - In general, the coral delineation survey corroborated the results of a historical coral cover survey conducted in 2010 (MRC, 2010; see Fig. 21). Deviations include a high level of coral cover reported off the boat ramp and coral cover reported adjacent to the east side of the trestle. In the present survey, coral cover either did not occur or was found to be lower than indicated

in the 2010 report. An additional difference is the extension of coral cover off the northeast end of the pier. In the present study, coral cover was found to extend further offshore of the pier than interpreted from the satellite image. This is likely a result of water depth and poor water clarity in this area compared to the rest of the survey area having an influence on the ability to translate satellite imagery color data into coral cover.

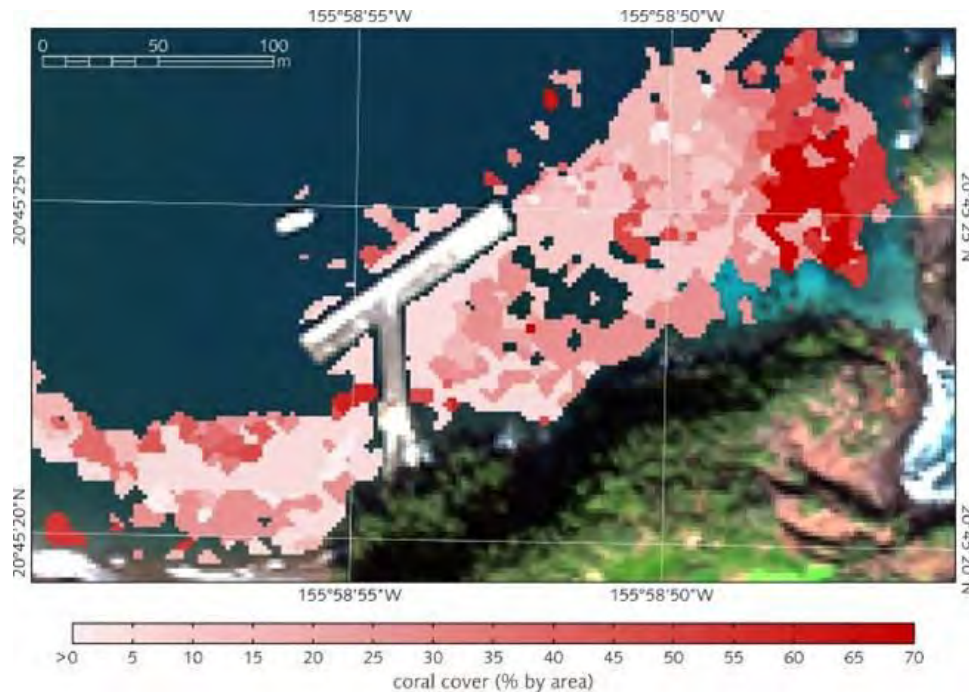


Figure 21. Coral cover in Project vicinity. Interpretation of satellite image calibrated to coral cover measurements. Dark colors indicate higher coral cover (MRC, 2010).

Rare, Protected or Invasive Species

Hawaiian Hoary Bat – The principal potential impact that development activity poses to bats is during the clearing and grubbing phases of construction as vegetation is removed. The removal of vegetation within a construction project site may temporarily displace individual bats, which may use the vegetation as a roosting location. During the pupping season, females carrying their pups may be less able to rapidly vacate a roost site while the vegetation is being cleared. Additionally, adult female bats sometimes leave their pups in the roost tree when they forage. Very small pups may be unable to flee a tree that is

being felled. Potential adverse effects from such disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 meters (15-feet), between June 15 and September 15, the period in which bats are potentially at risk from vegetation clearing. It is unclear if bats occur at the Project area, however bats are known to occur in Haleakala National Park in the Kipahulu section, some 10 km (6.2 mi) away (Fraser et al. 2007). There is no suitable bat roosting habitat within the Project area, therefore it is not expected that the proposed action will result in impacts to this listed species. However, if a staging area requires tree clearing, presence of bats will need to be considered.

Sea Turtles – Of the sea turtles found in the Hawaiian Islands, only the green sea turtle is common in the Project vicinity. The hawksbill sea turtle (*Eretmochelys imbricata*) is rare in the Hawaiian Islands and only known to nest in the southern reaches of the state (NOAA-PIFSC, 2010). In 1978, the green sea turtle was listed as a threatened species under the Endangered Species Act (ESA; USFWS, 1978, 2001). Since protection, the green sea turtle has become the most common sea turtle in the Hawaiian Islands with a steadily growing population (Chaloupka et al., 2008). Threats to the green sea turtle in Hawai'i include: disease and parasites, accidental fishing take, boat collisions, entanglement in marine debris, loss of foraging habitat to development, and ingestion of marine debris (NMFS-USFWS, 1998).

Green sea turtle nesting mostly occurs on beaches of the Northwestern Hawaiian Islands, with 90% occurring at French Frigate Shoals (Balazs et al., 1992). None of the Hawaiian sea turtles is known to nest in the Project vicinity; however, Green turtle and Hawksbill turtle are known to nest at nearby Hamoa Beach (NOAA-PIFSC, 2010).

The green sea turtle diet consists primarily of benthic macroalgae (Arthur and Balazs, 2008), which the shallow reefs of the main Hawaiian Islands provide in abundance. Red macroalgae generally make up 78% of their diet, whereas green macroalgae make up 12% (Arthur and Balazs, 2008). Turbidity (murky water) does not appear to deter green sea turtles from foraging and resting areas and construction projects in Hawai'i have found sea turtles adaptable and tolerant of construction-related disturbances (Brock, 1998a,b). During our survey, a green sea turtle was observed at the pier, although preferred algal food species are not common there.

Hawaiian Monk Seal - The Hawaiian monk seal is endemic to the Hawaiian Islands and is the only pinniped found in Hawaiian waters. The Hawaiian monk seal was listed as endangered throughout its range under the ESA in 1976 (USFWS-NMFS, 1976). Monk seal numbers are currently dropping at a rate of 4 percent annually, with approximately 1,200 individuals remaining (NOAA,

2011). Threats to the monk seal population include: food limitations, entanglement in marine debris, human interactions, accidental catch in fishing gear, mother-pup disturbance on beaches, and exposure to disease.

Critical habitat for Hawaiian monk seals has been designated (NOAA-NMFS, 2015) and includes the seafloor and marine habitat to 10 m above the seafloor from the 200 m depth contour through the shoreline and extending into terrestrial habitat 5 m inland from the shoreline between identified boundary points. These terrestrial boundary points define preferred pupping areas and significant haul-out areas (NOAA-NMFS, 2015). Terrestrial critical habitat along the shoreline of Hāna Bay falls within assigned boundary points MA 11 to MA 12 (Kuloa Point through Hāna Wharf and Ramp) and MA 21 to MA 22 (Hāna Wharf and Ramp through Kainalimu Bay). Hāna Wharf and ramp fall between boundary points MA 12 and MA 21, and is thus excluded from terrestrial critical habitat designation (Fig. 22). Marine critical habitat in Hāna Bay starts at the waterline and extends from there out to the 200-m depth contour, including the seafloor and marine habitat 10 m in height. As such, the Project occurs in designated terrestrial (excluding the ramp) and marine critical habitat area. The Hāna pier structure is excluded in the designation because this manmade structure does not meet the definition of critical habitat (NOAA-NMFS, 2015). Monk seals are sighted in Hāna Bay and pupping has been known to occur nearby.

Spinner Dolphin - The spinner dolphin (*Stenella longirostris*) is protected under the Marine Mammal Protection Act (MMPA), and are not considered depleted in the waters of the Pacific Islands Region, where they are frequently encountered. During the day, spinner dolphins can be found in coastal waters and calm bays where they rest, care for young, and avoid predators. At night, they travel to deeper waters to hunt. Research indicates that pursuit and close approach of boats, swimmers and other ocean users to spinner dolphins may have negative impacts on their health and behavior. Other potential threats include entanglement in marine debris, anthropogenic noise, and fisheries interactions. Currently, NOAA-NMFS Pacific Islands Resources Office (PIRO) - Protected Resources Division is working on an Environmental Impact Statement (EIS) for potential rulemaking under the MMPA to provide more protection to Hawaiian spinner dolphins (NOAA-NMFS, 2006). Spinner dolphins are known to visit Hāna Bay. NOAA PIRO recommended guidelines for interactions with spinner dolphins include: 1) remain at least 50 yards from dolphin; 2) limit observation time to ½ hour; 3) if approached by a spinner dolphin while on a boat, put the engine in neutral and allow the animal to pass. Boat movement should be from the rear of the animal.



Figure 22. Terrestrial coastline excluded from proposed monk seal critical habitat at Hāna Wharf and boat ramp (after NOAA-NMFS, 2011; photo: WorldView II, 2010).

Humpback Whale - The humpback whale (*Megaptera novaeangliae*) was listed as endangered in 1970 by the Endangered Species Act (USFWS, 1970). Prior to protection, the Pacific humpback whale population was estimated at below 1,000 individuals (Rice, 1978). Today, there are over 7,000 individuals, and of these, 5,000 are estimated to migrate to Hawaiian waters annually (HIHWNMS, 2004). Humpback whales normally occur in Hawaiian waters from November to May with the peak between January and March. Primary threats to the Pacific population are entanglement in marine debris, habitat degradation, collisions with boats, underwater noise (acoustic disturbance), and illegal whaling (HIHWNMS, 2004).

The east end of Maui and Hāna Bay are not within the Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS, 2013). However, humpback whale are seen off the Hāna coast.

Coral - Corals are protected under Hawai'i state law. State law prohibits the breaking or damaging, with any implement, any stony coral from the waters of Hawai'i, including any reef or mushroom coral (HAR §13-95-70, DLNR, 2002). It is also unlawful to take, break or damage, with any implement, any rock or coral to which marine life of any type is visibly attached (HAR §13-95-71, DLNR, 2002). On August 27, 2014, NOAA issued a final rule for listing 20 coral species as threatened under ESA (NOAA-NMFS, 2014). None of these newly listed corals occurs in Hawai'i.

Construction activities, especially concrete pours, should avoid peak coral spawning times. Peak reproduction of Hawaiian corals occurs during summer months, although reproduction continues year round for some brooders. *Montipora capitata* spawns May to September, from 20:45 to 22:30 on the new moon's 1st quarter. *Porites lobata* spawns June to August, two to three days after the full moon. *Pavona varians* spawns in June, from 19:05 to 20:15 during the full moon's 3rd quarter. *Montipora patula* spawns July to September, from 20:05 to 23:10 on the new moon's 1st quarter and 3rd quarter phase. *Pocillopora damicornis* spawns year-round, with all phases of the moon. The majority of larvae are released at night, but some are released throughout the day (Kolinski and Cox, 2003).

Pearl oyster - The pearl oyster (*Pinctada margaritifera*) is protected throughout the state of Hawai'i and it is prohibited to "catch, take, kill, possess, remove, sell or offer for sale" (HAR 13-83-1). No pearl oysters were observed in the Project area or vicinity.

Conclusions

The primary purpose of this report is to document the nature of the marine biological assemblages in the Project vicinity as they existed at the time of 2013 surveys; that is, establish a baseline. Nearly all Project related construction will take place above the water line, and will at most take place within 2-m of the water line. However, there exists potential for debris (especially during deconstruction) and concrete (during construction) to enter marine waters, requiring that effective Best Management Practices (BMPs) be implemented.

This report does not provide a quantification of the amount of habitat or number of coral colonies to be impacted by the project, but can be used to do so. Once construction design and construction methodology are determined a subsequent report will provide an impacts analysis, and suggest mitigation options as needed to offset unavoidable impacts to marine resources.

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APPENDICES

Appendix A	Water Quality Daily Results
Appendix B	Sediment Analytical Results
Appendix C	Algal Species List
Appendix D	Coral Species List
Appendix E	Macroinvertebrate Species List
Appendix F	Fish and Vertebrate Species List

Appendix A

Water Quality Daily Results

May 1, 2013

Water samples were collected between 14:55 and 15:25 with an approximately 0.6 ft tide rising from a lower low tide of 0.12 ft at 13:36 to a higher high tide of 2.1 ft at 22:06.

May 1, 2013 Station	Time	Temp. (°C)	Salinity (PSU)	DO (mg/l)	DO sat. (%)	pH	Turbidity (ntu)
Sta Trestle (S)	14:55	26.9	33.08	6.30	96	8.04	1.30
Sta Trestle (B)	15:00	25.4	34.91	6.67	99	8.13	2.26
Sta. West (S)	15:11	26.5	33.76	6.34	96	8.14	1.19
Sta. West (B)	15:13	26.0	34.91	6.75	101	8.13	1.21
Sta. East (S)	15:20	25.9	33.49	6.27	94	8.14	0.61
Sta East (B)	15:25	25.8	34.80	6.68	100	8.13	0.67

May 1, 2013 Station	TSS (mg/l)	NH ₃ (µg N/l)	NO ₃ + NO ₂ (µg N/l)	Total N (µg N/l)	Total P (µg P/l)	Chlorophyll α (mg/l)
Sta Trestle (S)	6.9	1	11	66	11	0.26
Sta Trestle (B)	7.0	3	2	77	9	0.42
Sta. West (S)	5.1	<1	10	63	10	0.20
Sta. West (B)	4.6	2	2	63	8	0.26
Sta. East (S)	6.2	<1	8	62	8	0.25
Sta East (B)	3.9	<1	5	61	8	0.21

May 2, 2013

Water samples were collected between 14:05 and 14:32 with an approximately 0.30 ft tide rising from a lower low tide of 0.26 ft at 14:15 to a higher high tide of 2.00 ft at 22:15.

May 2, 2013 Station	Time	Temp. (°C)	Salinity (PSU)	DO (mg/l)	DO sat. (%)	pH	Turbidity (ntu)
Sta Trestle (S)	14:05	26.3	32.80	6.77	102	8.07	1.57
Sta Trestle (B)	14:07	26.0	34.92	6.70	100	8.06	4.35
Sta. West (S)	14:15	25.9	33.49	6.60	98	8.14	1.69
Sta. West (B)	14:17	25.5	34.93	6.70	99	8.13	4.01
Sta. East (S)	14:30	25.1	33.60	6.90	102	8.16	0.91
Sta East (B)	14:32	25.1	35.00	6.88	101	8.14	2.34

May 2, 2013, continued

May 2, 2013 Station	TSS (mg/l)	NH₃ (µg N/l)	NO₃ + NO₂ (µg N/l)	Total N (µg N/l)	Total P (µg P/l)	Chlorophyll α (mg/l)
Sta Trestle (S)	6.2	<1	12	60	12	0.23
Sta Trestle (B)	11	3	3	66	10	0.50
Sta. West (S)	9.1	<1	11	62	12	0.24
Sta. West (B)	12	1	3	67	11	0.78
Sta. East (S)	4.5	<1	5	59	11	0.23
Sta East (B)	8.1	<1	6	64	9	0.26

May 3, 2013

Water samples were collected between 08:29 and 08:50 with an approximately 0.80 ft tide rising from a lower low tide of 0.21 ft at 05:16 to a lower high tide of 1.16 ft at 11:28.

May 3, 2013 Station	Time	Temp. (°C)	Salinity (PSU)	DO (mg/l)	DO sat. (%)	pH	Turbidity (ntu)
Sta Trestle (S)	8:29	24.3	33.55	6.37	92	8.11	1.32
Sta Trestle (B)	8:32	24.7	34.49	6.26	91	8.11	2.09
Sta. West (S)	8:40	24.5	33.59	6.36	93	8.16	1.12
Sta. West (B)	8:42	24.8	34.50	6.23	91	8.18	1.55
Sta. East (S)	8:48	24.5	33.89	6.27	91	8.17	0.79
Sta East (B)	8:50	24.9	34.80	6.29	92	8.18	1.12

May 3, 2013 Station	TSS (mg/l)	NH₃ (µg N/l)	NO₃ + NO₂ (µg N/l)	Total N (µg N/l)	Total P (µg P/l)	Chlorophyll α (mg/l)
Sta Trestle (S)	6.1	<1	9	56	12	0.28
Sta Trestle (B)	8.8	<1	7	65	11	0.43
Sta. West (S)	6.2	<1	9	176	12	0.26
Sta. West (B)	5.6	<1	8	57	10	0.27
Sta. East (S)	4.5	<1	8	62	10	0.20
Sta East (B)	11	<1	8	55	8	0.25

Appendix B
Sediment Analytical Results



CALSCIENCE

WORK ORDER NUMBER: 13-05-0431

The difference is service



AIR · SOIL · WATER · MARINE CHEMISTRY

Analytical Report For

Client: AECOS, Inc.

Client Project Name: 29102

Attention: Ann Mello
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Approved for release on 05/21/2013 by:
Ranjit Clarke
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Work Order Number: 13-05-0431

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Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 05/07/2013. They were assigned to Work Order 13-05-0431.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT \leq 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontract Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.





Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 29102

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Tre	13-05-0431-1-A	05/02/13 14:07	Sediment	GC 51	05/07/13	05/09/13 15:57	130507L09

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aldrin	ND	9.0	1		Endosulfan II	ND	9.0	1	
Alpha-BHC	ND	9.0	1		Endosulfan Sulfate	ND	9.0	1	
Beta-BHC	ND	9.0	1		Endrin	ND	9.0	1	
Chlordane	ND	90	1		Endrin Aldehyde	ND	9.0	1	
4,4'-DDD	ND	9.0	1		Endrin Ketone	ND	9.0	1	
4,4'-DDE	ND	9.0	1		Gamma-BHC	ND	9.0	1	
4,4'-DDT	ND	9.0	1		Heptachlor	ND	9.0	1	
Delta-BHC	ND	9.0	1		Heptachlor Epoxide	ND	9.0	1	
Dieldrin	ND	9.0	1		Methoxychlor	ND	9.0	1	
Endosulfan I	ND	9.0	1		Toxaphene	ND	180	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	99	50-135			2,4,5,6-Tetrachloro-m-Xylene	108	50-135		

West	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
	13-05-0431-2-A	05/02/13 14:17	Sediment	GC 51	05/07/13	05/09/13 16:11	130507L09

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aldrin	ND	6.8	1		Endosulfan II	ND	6.8	1	
Alpha-BHC	ND	6.8	1		Endosulfan Sulfate	ND	6.8	1	
Beta-BHC	ND	6.8	1		Endrin	ND	6.8	1	
Chlordane	ND	68	1		Endrin Aldehyde	ND	6.8	1	
4,4'-DDD	ND	6.8	1		Endrin Ketone	ND	6.8	1	
4,4'-DDE	ND	6.8	1		Gamma-BHC	ND	6.8	1	
4,4'-DDT	ND	6.8	1		Heptachlor	ND	6.8	1	
Delta-BHC	ND	6.8	1		Heptachlor Epoxide	ND	6.8	1	
Dieldrin	ND	6.8	1		Methoxychlor	ND	6.8	1	
Endosulfan I	ND	6.8	1		Toxaphene	ND	140	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	99	50-135			2,4,5,6-Tetrachloro-m-Xylene	105	50-135		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 29102

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
East	13-05-0431-3-A	05/02/13 14:32	Sediment	GC 51	05/07/13	05/09/13 16:26	130507L09

Comment(s): -Results are reported on a dry weight basis.

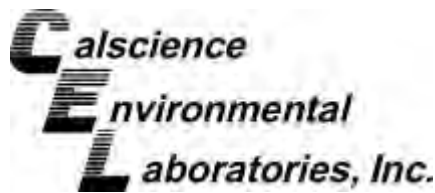
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aldrin	ND	21	1		Endosulfan II	ND	21	1	
Alpha-BHC	ND	21	1		Endosulfan Sulfate	ND	21	1	
Beta-BHC	ND	21	1		Endrin	ND	21	1	
Chlordane	ND	210	1		Endrin Aldehyde	ND	21	1	
4,4'-DDD	ND	21	1		Endrin Ketone	ND	21	1	
4,4'-DDE	ND	21	1		Gamma-BHC	ND	21	1	
4,4'-DDT	ND	21	1		Heptachlor	ND	21	1	
Delta-BHC	ND	21	1		Heptachlor Epoxide	ND	21	1	
Dieldrin	ND	21	1		Methoxychlor	ND	21	1	
Endosulfan I	ND	21	1		Toxaphene	ND	420	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	94	50-135			2,4,5,6-Tetrachloro-m-Xylene	90	50-135		

Method Blank	099-12-537-1,368	N/A	Solid	GC 51	05/07/13	05/08/13 17:49	130507L09
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aldrin	ND	5.0	1		Endosulfan II	ND	5.0	1	
Alpha-BHC	ND	5.0	1		Endosulfan Sulfate	ND	5.0	1	
Beta-BHC	ND	5.0	1		Endrin	ND	5.0	1	
Chlordane	ND	50	1		Endrin Aldehyde	ND	5.0	1	
4,4'-DDD	ND	5.0	1		Endrin Ketone	ND	5.0	1	
4,4'-DDE	ND	5.0	1		Gamma-BHC	ND	5.0	1	
4,4'-DDT	ND	5.0	1		Heptachlor	ND	5.0	1	
Delta-BHC	ND	5.0	1		Heptachlor Epoxide	ND	5.0	1	
Dieldrin	ND	5.0	1		Methoxychlor	ND	5.0	1	
Endosulfan I	ND	5.0	1		Toxaphene	ND	100	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	94	50-135			2,4,5,6-Tetrachloro-m-Xylene	102	50-135		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: 29102

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Tre	13-05-0431-1-A	05/02/13 14:07	Sediment	GC 31	05/07/13	05/10/13 22:53	130507L04

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	90	1		Aroclor-1248	ND	90	1	
Aroclor-1221	ND	90	1		Aroclor-1254	ND	90	1	
Aroclor-1232	ND	90	1		Aroclor-1260	ND	90	1	
Aroclor-1242	ND	90	1		Aroclor-1262	ND	90	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	95	50-130			2,4,5,6-Tetrachloro-m-Xylene	115	50-130		

West	13-05-0431-2-A	05/02/13 14:17	Sediment	GC 31	05/07/13	05/10/13 23:13	130507L04
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Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	68	1		Aroclor-1248	ND	68	1	
Aroclor-1221	ND	68	1		Aroclor-1254	ND	68	1	
Aroclor-1232	ND	68	1		Aroclor-1260	ND	68	1	
Aroclor-1242	ND	68	1		Aroclor-1262	ND	68	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	98	50-130			2,4,5,6-Tetrachloro-m-Xylene	100	50-130		

East	13-05-0431-3-A	05/02/13 14:32	Sediment	GC 31	05/07/13	05/10/13 23:32	130507L04
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Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	210	1		Aroclor-1248	ND	210	1	
Aroclor-1221	ND	210	1		Aroclor-1254	ND	210	1	
Aroclor-1232	ND	210	1		Aroclor-1260	ND	210	1	
Aroclor-1242	ND	210	1		Aroclor-1262	ND	210	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	94	50-130			2,4,5,6-Tetrachloro-m-Xylene	91	50-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: 29102

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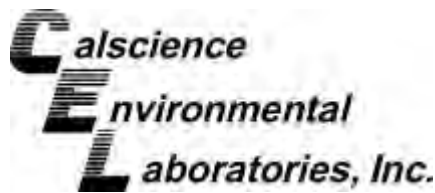
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-535-2,080	N/A	Solid	GC 31	05/07/13	05/07/13 23:04	130507L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248	ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254	ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260	ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	111	50-130			2,4,5,6-Tetrachloro-m-Xylene	98	50-130		

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RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 8151A
Method: EPA 8151A
Units: ug/kg

Project: 29102

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Tre	13-05-0431-1-A	05/02/13 14:07	Sediment	GC 40	05/09/13	05/16/13 01:24	130509L08

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Dalapon	ND	450	1		2,4-D	ND	180	1	
Dicamba	ND	18	1		2,4,5-TP (Silvex)	ND	18	1	
MCPPP	ND	18000	1		2,4,5-T	ND	18	1	
MCPA	ND	18000	1		2,4-DB	ND	180	1	
Dichlorprop	ND	180	1		Dinoseb	ND	90	1	
Surrogates:	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>					
2,4-Dichlorophenylacetic acid	108	30-130							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
West	13-05-0431-2-A	05/02/13 14:17	Sediment	GC 40	05/09/13	05/16/13 01:50	130509L08

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Dalapon	ND	340	1		2,4-D	ND	140	1	
Dicamba	ND	14	1		2,4,5-TP (Silvex)	ND	14	1	
MCPPP	ND	14000	1		2,4,5-T	ND	14	1	
MCPA	ND	14000	1		2,4-DB	ND	140	1	
Dichlorprop	ND	140	1		Dinoseb	ND	68	1	
Surrogates:	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>					
2,4-Dichlorophenylacetic acid	107	30-130							

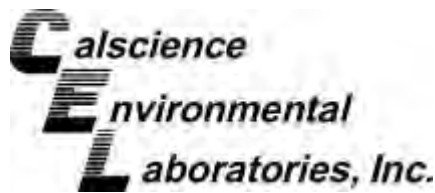
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
East	13-05-0431-3-A	05/02/13 14:32	Sediment	GC 40	05/09/13	05/16/13 02:15	130509L08

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Dalapon	ND	1100	1		2,4-D	ND	420	1	
Dicamba	ND	42	1		2,4,5-TP (Silvex)	ND	42	1	
MCPPP	ND	42000	1		2,4,5-T	ND	42	1	
MCPA	ND	42000	1		2,4-DB	ND	420	1	
Dichlorprop	ND	420	1		Dinoseb	ND	210	1	
Surrogates:	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>					
2,4-Dichlorophenylacetic acid	121	30-130							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 8151A
Method: EPA 8151A
Units: ug/kg

Project: 29102

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	095-01-033-1,091	N/A	Solid	GC 40	05/09/13	05/10/13 21:55	130509L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Dalapon	ND	250	1		2,4-D	ND	100	1	
Dicamba	ND	10	1		2,4,5-TP (Silvex)	ND	10	1	
MCPD	ND	10000	1		2,4,5-T	ND	10	1	
MCPA	ND	10000	1		2,4-DB	ND	100	1	
Dichlorprop	ND	100	1		Dinoseb	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>						
2,4-Dichlorophenylacetic acid	115	30-130							

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RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3550B (M)
Method: Organotins by Krone et al.

Project: 29102

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Tre	13-05-0431-1-A	05/02/13 14:07	Sediment	GC/MS JJJ	05/08/13	05/10/13 14:51	130508L09

-Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	5.4	1		ug/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Tripentyltin	78	48-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
West	13-05-0431-2-A	05/02/13 14:17	Sediment	GC/MS JJJ	05/08/13	05/10/13 15:50	130508L09

-Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	4.1	1		ug/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Tripentyltin	77	48-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
East	13-05-0431-3-A	05/02/13 14:32	Sediment	GC/MS JJJ	05/08/13	05/10/13 16:20	130508L09

-Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	13	1		ug/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Tripentyltin	78	48-126			

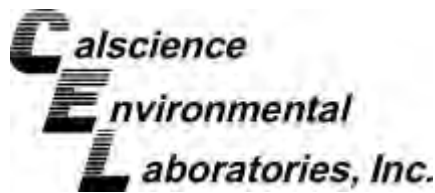
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-07-016-1,024	N/A	Solid	GC/MS JJJ	05/08/13	05/10/13 12:52	130508L09

Parameter	Result	RL	DF	Qual	Units
Tributyltin	ND	3.0	1		ug/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Tripentyltin	66	48-126			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: 29102

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Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Tre	13-05-0431-1-A	05/02/13 14:07	Sediment	ICP 7300	05/07/13	05/07/13 22:05	130507L06

Comment(s): -Results are reported on a dry weight basis.
-Mercury analysis was performed on 05/07/13 20:05 with batch 130507L05.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	22.0	1.35	1		Mercury	ND	0.150	1	
Cadmium	1.67	0.899	1		Nickel	23.1	0.450	1	
Chromium	15.0	0.450	1		Selenium	ND	1.35	1	
Copper	8.45	0.899	1		Silver	ND	0.450	1	
Lead	7.24	0.899	1		Zinc	48.3	1.80	1	

West	13-05-0431-2-A	05/02/13 14:17	Sediment	ICP 7300	05/07/13	05/07/13 22:11	130507L06
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Comment(s): -Results are reported on a dry weight basis.
-Mercury analysis was performed on 05/07/13 20:11 with batch 130507L05.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	19.2	1.02	1		Mercury	ND	0.113	1	
Cadmium	1.31	0.678	1		Nickel	32.8	0.339	1	
Chromium	12.5	0.339	1		Selenium	ND	1.02	1	
Copper	6.53	0.678	1		Silver	ND	0.339	1	
Lead	6.25	0.678	1		Zinc	40.6	1.36	1	

East	13-05-0431-3-A	05/02/13 14:32	Sediment	ICP 7300	05/07/13	05/07/13 22:12	130507L06
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Comment(s): -Results are reported on a dry weight basis.
-Mercury analysis was performed on 05/07/13 20:13 with batch 130507L05.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	30.5	3.15	1		Mercury	ND	0.351	1	
Cadmium	ND	2.10	1		Nickel	35.8	1.05	1	
Chromium	52.9	1.05	1		Selenium	ND	3.15	1	
Copper	20.5	2.10	1		Silver	ND	1.05	1	
Lead	20.6	2.10	1		Zinc	55.1	4.20	1	

Method Blank	099-04-007-9,280	N/A	Solid	Mercury	05/07/13	05/07/13 19:56	130507L05
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Comment(s): -Preparation/analysis for Mercury was performed by EPA 7471A.

Parameter	Result	RL	DF	Qual
Mercury	ND	0.0835	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: 29102

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Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-002-16,800	N/A	Solid	ICP 7300	05/07/13	05/07/13 22:02	130507L06

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.750	1		Nickel	ND	0.250	1	
Cadmium	ND	0.500	1		Selenium	ND	0.750	1	
Chromium	ND	0.250	1		Silver	ND	0.250	1	
Copper	ND	0.500	1		Zinc	ND	1.00	1	
Lead	ND	0.500	1						

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RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431

Project: 29102

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Client Sample Number	Lab Sample Number	Date Collected	Matrix
Tre	13-05-0431-1	05/02/13	Sediment

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Solids, Total	55.6	0.100	1		%	05/08/13	05/08/13	SM 2540 B (M)
West						05/02/13		Sediment

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Solids, Total	73.7	0.100	1		%	05/08/13	05/08/13	SM 2540 B (M)
East						05/02/13		Sediment

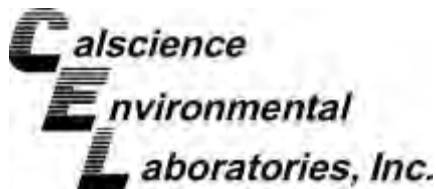
Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Solids, Total	23.8	0.100	1		%	05/08/13	05/08/13	SM 2540 B (M)
Method Blank					N/A			Solid

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Solids, Total	ND	0.100	1		%	05/08/13	05/08/13	SM 2540 B (M)

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

7440 Lincoln Way, Garden Grove, CA 92841-1427 · TEL:(714) 895-5494 · FAX: (714) 894-7501



Quality Control - Spike/Spike Duplicate



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: 05/07/13
 Work Order No: 13-05-0431
 Preparation: EPA 3050B
 Method: EPA 6010B

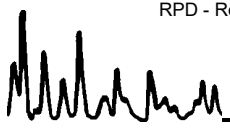
Project 29102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
Tre	Sediment	ICP 7300	05/07/13	05/07/13	130507S06

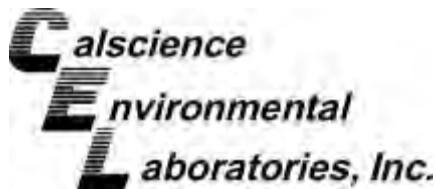
Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	12.23	25.00	36.57	97	35.00	91	75-125	4	0-20	
Cadmium	0.9264	25.00	23.28	89	23.01	88	75-125	1	0-20	
Chromium	8.328	25.00	32.26	96	31.31	92	75-125	3	0-20	
Copper	4.698	25.00	31.34	107	30.79	104	75-125	2	0-20	
Lead	4.024	25.00	26.22	89	25.37	85	75-125	3	0-20	
Nickel	12.85	25.00	36.31	94	36.11	93	75-125	1	0-20	
Selenium	ND	25.00	20.55	82	20.62	82	75-125	0	0-20	
Silver	ND	12.50	13.61	109	13.51	108	75-125	1	0-20	
Zinc	26.84	25.00	48.15	85	47.98	85	75-125	0	0-20	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Spike/Spike Duplicate



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 7471A Total
Method: EPA 7471A

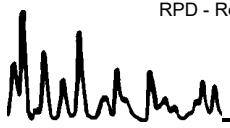
Project 29102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
Tre	Sediment	Mercury	05/07/13	05/07/13	130507S05

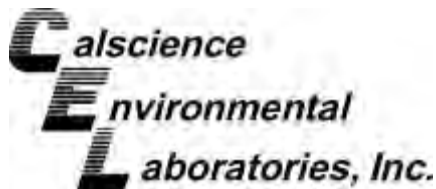
Parameter	<u>SAMPLE CONC</u>	<u>SPIKE ADDED</u>	<u>MS CONC</u>	<u>MS %REC</u>	<u>MSD CONC</u>	<u>MSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Mercury	ND	0.8350	0.6594	79	0.7009	84	71-137	6	0-14	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Spike/Spike Duplicate



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 8151A
Method: EPA 8151A

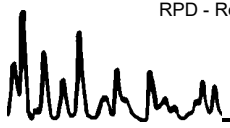
Project 29102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-05-0600-3	Sediment	GC 40	05/09/13	05/10/13	130509S08

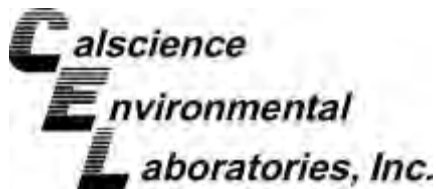
Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4-D	ND	400.0	468.8	117	464.2	116	30-130	1	0-30	
2,4,5-T	ND	40.00	43.40	108	42.70	107	30-130	2	0-30	
2,4-DB	ND	400.0	420.5	105	436.3	109	30-130	4	0-30	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Spike/Spike Duplicate



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: 05/07/13
 Work Order No: 13-05-0431
 Preparation: EPA 3550B (M)
 Method: Organotins by Krone et al.

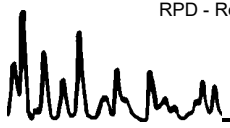
Project 29102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
West	Sediment	GC/MS JJJ	05/08/13	05/10/13	130508S09

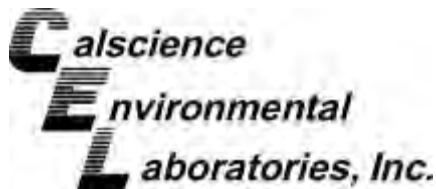
Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	ND	100.0	79.21	79	81.74	82	79-175	3	0-31	
Tributyltin	ND	100.0	77.28	77	80.55	81	69-135	4	0-29	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Spike/Spike Duplicate



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: 05/07/13
Work Order No: 13-05-0431
Preparation: EPA 3545
Method: EPA 8081A

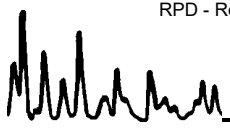
Project 29102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-05-0406-4	Solid	GC 51	05/07/13	05/09/13	130507S09

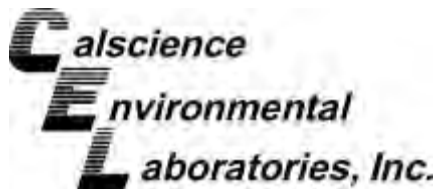
Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aldrin	ND	25.00	25.74	103	25.85	103	50-135	0	0-25	
Alpha-BHC	ND	25.00	23.87	95	26.70	107	50-135	11	0-25	
Beta-BHC	ND	25.00	23.41	94	25.51	102	50-135	9	0-25	
4,4'-DDD	ND	25.00	27.83	111	26.97	108	50-135	3	0-25	
4,4'-DDE	ND	25.00	28.36	113	27.53	110	50-135	3	0-25	
4,4'-DDT	ND	25.00	25.33	101	26.25	105	50-135	4	0-25	
Delta-BHC	ND	25.00	26.37	105	27.29	109	50-135	3	0-25	
Dieldrin	ND	25.00	25.71	103	25.68	103	50-135	0	0-25	
Endosulfan I	ND	25.00	25.11	100	24.94	100	50-135	1	0-25	
Endosulfan II	ND	25.00	26.19	105	25.38	102	50-135	3	0-25	
Endosulfan Sulfate	ND	25.00	26.78	107	26.33	105	50-135	2	0-25	
Endrin	ND	25.00	28.35	113	29.23	117	50-135	3	0-25	
Endrin Aldehyde	ND	25.00	12.83	51	13.58	54	50-135	6	0-25	
Gamma-BHC	ND	25.00	25.27	101	27.02	108	50-135	7	0-25	
Heptachlor	ND	25.00	25.81	103	26.59	106	50-135	3	0-25	
Heptachlor Epoxide	ND	25.00	25.84	103	25.32	101	50-135	2	0-25	
Methoxychlor	ND	25.00	26.96	108	27.21	109	50-135	1	0-25	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Spike/Spike Duplicate



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: 05/07/13
 Work Order No: 13-05-0431
 Preparation: EPA 3545
 Method: EPA 8082

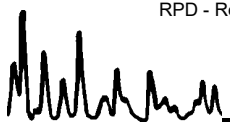
Project 29102

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-05-0413-21	Solid	GC 31	05/07/13	05/08/13	130507S04

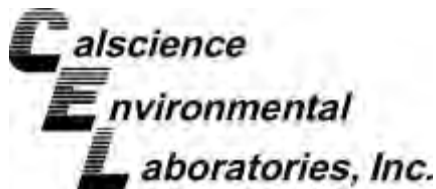
Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	99.38	99	94.66	95	50-135	5	0-20	
Aroclor-1260	ND	100.0	98.34	98	96.78	97	50-135	2	0-25	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Duplicate



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: N/A
Work Order No: 13-05-0431

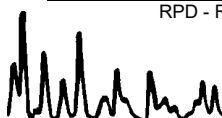
Project: 29102

Matrix: Aqueous or Solid

<u>Parameter</u>	<u>Method</u>	<u>QC Sample ID</u>	<u>Date Analyzed</u>	<u>Sample Conc</u>	<u>DUP Conc</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Solids, Total	SM 2540 B (M)	Tre	05/08/13	55.6	56.3	1	0-10	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Laboratory Control Sample



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: N/A
 Work Order No: 13-05-0431
 Preparation: EPA 3050B
 Method: EPA 6010B

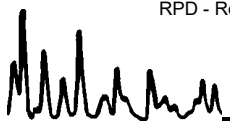
Project: 29102

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-16,800	Solid	ICP 7300	05/07/13	130507-I-06_332.icp	130507L06

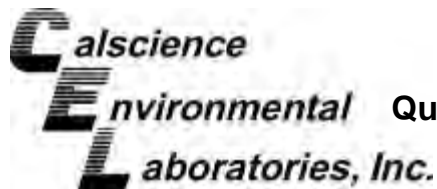
Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Arsenic	25.00	23.85	95	80-120	
Cadmium	25.00	25.16	101	80-120	
Chromium	25.00	25.37	101	80-120	
Copper	25.00	24.54	98	80-120	
Lead	25.00	25.07	100	80-120	
Nickel	25.00	27.05	108	80-120	
Selenium	25.00	23.29	93	80-120	
Silver	12.50	11.91	95	80-120	
Zinc	25.00	26.35	105	80-120	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Laboratory Control Sample



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: N/A
 Work Order No: 13-05-0431
 Preparation: EPA 7471A Total
 Method: EPA 7471A

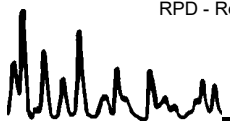
Project: 29102

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-007-9,280	Solid	Mercury	05/07/13	130507-L-05.icp	130507L05

<u>Parameter</u>	<u>Conc Added</u>	<u>Conc Recovered</u>	<u>LCS %Rec</u>	<u>%Rec CL</u>	<u>Qualifiers</u>
Mercury	0.8350	0.8107	97	85-121	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Laboratory Control Sample



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: N/A
 Work Order No: 13-05-0431
 Preparation: EPA 8151A
 Method: EPA 8151A

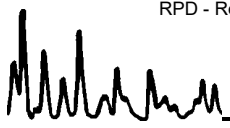
Project: 29102

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
095-01-033-1,091	Solid	GC 40	05/13/13	13051393	130509L08

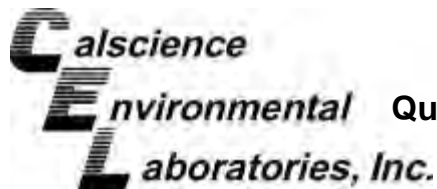
Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
2,4-D	400.0	508.1	127	30-130	
2,4,5-T	40.00	43.50	109	30-130	
2,4-DB	400.0	496.6	124	30-130	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Laboratory Control Sample



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: N/A
 Work Order No: 13-05-0431
 Preparation: EPA 3550B (M)
 Method: Organotins by Krone et al.

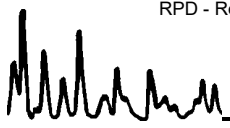
Project: 29102

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-07-016-1,024	Solid	GC/MS JJJ	05/10/13	10MAY008.rr	130508L09

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Tetrabutyltin	100.0	101.7	102	79-151	
Tributyltin	100.0	100.5	100	51-129	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Laboratory Control Sample



AECOS, Inc.
45-939 Kamehameha Hwy #104
Kaneohe, HI 96744-3221

Date Received: N/A
Work Order No: 13-05-0431
Preparation: EPA 3545
Method: EPA 8081A

Project: 29102

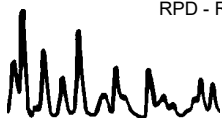
Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-12-537-1,368	Solid	GC 51	05/08/13	13050835	130507L09

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	ME CL	Qualifiers
Aldrin	25.00	20.60	82	50-135	36-149	
Alpha-BHC	25.00	23.03	92	50-135	36-149	
Beta-BHC	25.00	22.28	89	50-135	36-149	
4,4'-DDD	25.00	22.47	90	50-135	36-149	
4,4'-DDE	25.00	22.62	90	50-135	36-149	
4,4'-DDT	25.00	21.90	88	50-135	36-149	
Delta-BHC	25.00	23.11	92	50-135	36-149	
Dieldrin	25.00	22.30	89	50-135	36-149	
Endosulfan I	25.00	22.30	89	50-135	36-149	
Endosulfan II	25.00	22.42	90	50-135	36-149	
Endosulfan Sulfate	25.00	22.02	88	50-135	36-149	
Endrin	25.00	22.90	92	50-135	36-149	
Endrin Aldehyde	25.00	22.69	91	50-135	36-149	
Gamma-BHC	25.00	22.39	90	50-135	36-149	
Heptachlor	25.00	23.16	93	50-135	36-149	
Heptachlor Epoxide	25.00	21.36	85	50-135	36-149	
Methoxychlor	25.00	22.33	89	50-135	36-149	

Total number of LCS compounds : 17
 Total number of ME compounds: 0
 Total number of ME compounds allowed : 1
 LCS ME CL validation result : Pass

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501



Quality Control - Laboratory Control Sample



AECOS, Inc.
 45-939 Kamehameha Hwy #104
 Kaneohe, HI 96744-3221

Date Received: N/A
 Work Order No: 13-05-0431
 Preparation: EPA 3545
 Method: EPA 8082

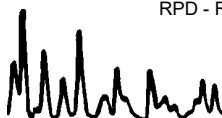
Project: 29102

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-12-535-2,080	Solid	GC 31	05/07/13	13050727	130507L04

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Aroclor-1016	100.0	99.25	99	50-135	
Aroclor-1260	100.0	122.9	123	50-135	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 . FAX: (714) 894-7501

WORK ORDER #: 13-05-0431

Lab Sample Number	Client Sample ID	Method	Extraction	Date/Time Analyzed	Chemist ID	Instrument	Analytical Location
1-A	Tre	EPA 8151A	EPA 8151A	05/16/2013 1:24	669	GC 40	1
1-A	Tre	SM 2540 B (M)	N/A	05/8/2013 19:00	689	N/A	1
1-A	Tre	EPA 6010B	EPA 3050B	05/7/2013 22:05	469	ICP 7300	1
1-A	Tre	EPA 7471A	EPA 7471A T	05/7/2013 20:05	769	Mercury	1
1-A	Tre	Organotins by Kron	EPA 3550B (	05/10/2013 14:51	513	GC/MS JJJ	1
1-A	Tre	EPA 8081A	EPA 3545	05/9/2013 15:57	500	GC 51	1
1-A	Tre	EPA 8082	EPA 3545	05/10/2013 22:53	669	GC 31	1
2-A	West	EPA 8151A	EPA 8151A	05/16/2013 1:50	669	GC 40	1
2-A	West	SM 2540 B (M)	N/A	05/8/2013 19:00	689	N/A	1
2-A	West	EPA 6010B	EPA 3050B	05/7/2013 22:11	469	ICP 7300	1
2-A	West	EPA 7471A	EPA 7471A T	05/7/2013 20:11	769	Mercury	1
2-A	West	Organotins by Kron	EPA 3550B (	05/10/2013 15:50	513	GC/MS JJJ	1
2-A	West	EPA 8081A	EPA 3545	05/9/2013 16:11	500	GC 51	1
2-A	West	EPA 8082	EPA 3545	05/10/2013 23:13	669	GC 31	1
3-A	East	EPA 8151A	EPA 8151A	05/16/2013 2:15	669	GC 40	1
3-A	East	SM 2540 B (M)	N/A	05/8/2013 19:00	689	N/A	1
3-A	East	EPA 6010B	EPA 3050B	05/7/2013 22:12	469	ICP 7300	1
3-A	East	EPA 7471A	EPA 7471A T	05/7/2013 20:13	769	Mercury	1
3-A	East	Organotins by Kron	EPA 3550B (	05/10/2013 16:20	513	GC/MS JJJ	1
3-A	East	EPA 8081A	EPA 3545	05/9/2013 16:26	500	GC 51	1
3-A	East	EPA 8082	EPA 3545	05/10/2013 23:32	669	GC 31	1

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Location	Description
1	7440 Lincoln Way, Garden Grove, CA 92841

Work Order Number: 13-05-0431

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, CalScience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet CalScience's internal HT, results will be appropriately qualified.





AECOS, Inc.

45-939 Kamehameha Highway Suite 104
Kaneohe, Oahu, HI 96744
Tel: (808) 234-7770 Fax: 234-7775

SUB-- CHAIN OF CUSTODY FORM

PROJECT 13-05-0431
FILE No. 1344
LOG NUMBER [29102]

RUSH
 SEE REVERSE

SPECIAL INSTRUCTIONS

CLIENT: AECOS INC.
ADDRESS:
CONTACT: SNOOKIE MELLO
PHONE No.: (808) 234-7770
Purchase Order No.:

SAMPLE ID	DATE	TIME	SAMPLE TYPE	CONTAINER(S)	REQUESTED ANALYSES	PRESERVATION
1	5/2/13	1407	Sediment	2 8oz jars	metals: (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn) Tributyltin, Pesticides (8081A), PCBs (8083), Herbicides (8151)	
3	5/2/13	1417	Sediment	2 8oz jars	metals: (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn) Pesticides (8081A), PCBs (8083), Herbicides (8151)	
5	5/2/13	1432	Sediment	2 8oz jars	metals: (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn) Pesticides (8081A), PCBs (8083), Herbicides (8151)	
7					(*) Dry weight analysis on all 3 samples please.	
8						
9						
10						

CLIENTS PROVIDING SAMPLES TO THE LABORATORY SHOULD COMPLETE AS MUCH OF THE ABOVE FORM AS POSSIBLE. NOTE: NAME AND DATED SIGNATURE OF PERSON COLLECTING THE SAMPLE MUST BE ENTERED BELOW. INFORMATION REQUESTED IN SHADED BOXES ABOVE TO BE FILLED IN BY THE LABORATORY.

SAMPLED BY: Chad DATE 5/2 2013
SIGNATURE: Stacey Kilarski, Linebaugh
RELINQUISHED: DATE 5/3 2013
SIGNATURE: [Signature] TIME 1910

RECEIVED BY: DATE 5/3 2013
SIGNATURE: [Signature] TIME 1910
RELINQUISHED: DATE 5/4 2013
SIGNATURE: [Signature] TIME NDNN

RECEIVED FOR LABORATORY: DATE 5/7/ 2013
SIGNATURE: [Signature] TIME 1010
RELINQUISHED: DATE 20
SIGNATURE OR INITIALS: TIME

PRECAUTIONS:

DISPOSAL:

USE (BLACK) INK

RETURN SAMPLE TO CLIENT



AECOS, Inc.
 45-939 Kamehameha Highway Suite 104
 Kaneohe, Oahu, HI 96744
 Tel: (808) 234-7770 Fax: 234-7775

0431

Subcontractor:
Calscience Environmental
Laboratories

Requested By: Jessica Withrow
 Date Requested: 5/6/13
 Send results to: amello@aecos.com

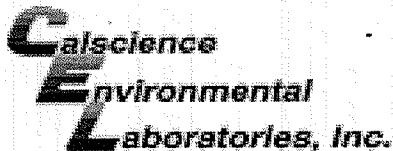
Turnaround Time Requested: Normal Turn Around Time

Log No.	# of samples	# of bottles	Sample Type	Analysis requested	Date collected	Sample Prep / preservation
[29102]	3	6	Sediment	metals: As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn) Tributyltin, Pesticides (8081A), PCBs (8082), Herbicides (8151)	5/2/13 1407-1433	CHILL
				(*) Dry weight analysis		

PLEASE RETURN AECOS COOLERS with replacement bottles: YES NO

OTHER SPECIAL NOTES/INSTRUCTIONS: Note the short hold times.
- please - Dry weight analysis





WORK ORDER #: 13-05-0431

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: AECOS

DATE: 05/07/13

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 4.1 °C - 0.2 °C (CF) = 3.9 °C Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: Air Filter Initial: JP

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Initial: JP

Sample _____ No (Not Intact) Not Present Initial: JP

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (____) EnCores® TerraCores® _____

Water: VOA VOA_h VOA_{na2} 125AGB 125AGB_h 125AGB_p 1AGB 1AGB_{na2} 1AGB_s

500AGB 500AGJ 500AGJ_s 250AGB 250CGB 250CGB_s 1PB 1PB_{na} 500PB

250PB 250PB_n 125PB 125PB_{z_{na}} 100PJ 100PJ_{na2} _____ _____ _____

Air: Tedlar® Canister **Other:** _____ **Trip Blank Lot#:** _____ **Labeled/Checked by:** DL

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** MSC

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z_{na}: ZnAc₂+NaOH f: Filtered **Scanned by:** WJ

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Appendix C

Algal Species List

List of algal taxa observed in the Hāna Pier Project area and vicinity, in Hāna Bay, Maui, May 2013.

DIVISION <i>Genus species</i>	Common name	Project Area		Project Vicinity		
		Pier & Trestle	Seaward Reef	West Reef	East Reef	Boat Ramp
RHODOPHYTA	RED ALGAE					
<i>Acanthophora pacifica</i>			R			C
<i>Amansia glomerata</i>		O				A
<i>Asparagopsis taxiformis</i>	<i>limu kohu</i>	U				R
<i>Hydrolithon</i> sp.		C				
<i>Lithophyllum kotschy anum</i> bumpy or branching		U				
<i>Hydrolithon reinboldii</i>		C				
<i>Porolithon onkodes</i>		C				
<i>Dasya iridescens</i>		O				
<i>Dichotomaria marginata</i>		U				
<i>Galaxaura rugosa</i>		U				
<i>Halymenia stipitata</i>						R
<i>Jania</i> sp.		U				C
<i>Martensia fragilis</i>		O				C
<i>Amansia glomerata</i>		O				A
<i>Portieria hornemannii</i>		R				
<i>Pterocladia caerulea</i>						R
<i>Tolypocladia glomerulata</i>						O
CHLOROPHYTA	GREEN ALGAE					
<i>Dictyosphaeria cavernosa</i>		U				
<i>Halimeda opuntia</i>			O			
PHAEOPHYTA (OCHROPHYTA)	BROWN ALGAE					
<i>Dictyota ceylanica</i>	<i>alani</i>					R
<i>Dictyota</i> sp.	<i>alani</i>	C	U			
CYANOBACTERIA	BLUEGREEN ALGAE					
Unidentified cyanobacteria	wispy red	O	O			
<i>Lyngbya majuscula</i>		O				

NOTES:

I = Introduced or non-indigenous species

E = Endemic species found in Hawai'i and nowhere else

Appendix D

Coral Species List

List of coral taxa observed in the Hāna Pier Project area and vicinity, in Hāna Bay, Maui, May 2013.

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area				Project Vicinity	
		Pier & Trestle	Seaward Reef	West Reef	East Reef	West Reef	East Reef
CNIDARIA, ANTHOZOA, SCLERACTINIA, POCILLOPORIDAE	STONY CORALS						
<i>Pocillopora damicornis</i>	Lace coral	C	R	U		R	
<i>Pocillopora eydouxi</i>		O					
<i>Pocillopora meandrina</i>	Cauliflower coral	O		U		O	
ACROPORIDAE							
<i>Montipora capitata</i>	Rice coral	A	C	U		O	
<i>Montipora flabellata</i>	Blue rice coral	C	R	A		C	
<i>Montipora patula</i> (E)	Sand paper rice coral	O	C	R		O	
PORITIDAE							
<i>Porites compressa</i>	finger coral,	U		R		O	
<i>Porites rus</i>	<i>pōhaku puna</i> plate & pillar coral						
<i>Porites</i> spp.	<i>pōhaku puna</i>	O	R	C		A	
SIDERASTREDAE							
<i>Psammocora stellata</i>	Stellar coral	R					
AGARICIIDAE							
<i>Leptoseris incrustans</i>	encrusting coral	U					
<i>Pavona duerdeni</i>	Duerden's coral	O	C	R		O	
<i>Pavona varians</i>	Corrugated coral	C	U	R		R	
FUNGIIDAE							
<i>Fungia scutaria</i>	Oval mushroom coral, <i>'āko 'ako'a kohe</i>					R	
FAVIIDAE							
<i>Cyphastrea ocellina</i>	Ocellated coral	A	R			R	
<i>Leptastrea bewickensis</i>	Bewick's coral	U					

NOTES:

E = Endemic species found in Hawai'i and nowhere else.

Porites spp.: Includes *P. lobata* and *P. evermanni*.

Appendix E

Macroinvertebrate Species List

List of macro-invertebrate taxa observed in the Hāna Pier Project area and vicinity, in Hāna Bay, Maui, May 2013.

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area			
		Pier & Trestle	Seaward Reef	West Reef	East Reef
PORIFERA, POECILOSCLERIDA MYCALIDAE	SPONGES				
<i>Stylinos</i> sp.	Orange stylinos	R			
HADROMERIDA, SUBERITIDAE					
<i>Terpios zeteki</i> cf (I)	Variable terpios	R			
CNIDARIA, HYDROZOA, HYDROIDA HALOCORDYLIDAE	HYDROIDS				
<i>Pennaria disticha</i> (I)	Christmas tree hydroid	U			
CNIDARIA, ANTHOZOA ZOANTHINARIA	SOFT CORAL ZOANTHIDS				
<i>Palythoa caesia</i>	Blue-gray zoanthid	U			
ANNELIDA, POLYCHAETA, SABELLIDA SERPULIDAE	BRISTLE WORMS				
<i>Salmacina dysteri</i>	sea frost	C			
TEREBELLIDAE					
<i>Loimia medusa</i>	Medusa spaghetti worm, <i>kauna'oa</i>	U			
MOLLUSCA, GASTROPODA	SNAILS AND SLUGS				
CONIDAE	CONE SNAILS				
<i>Conus ebraeus</i>	Hebrew cone	R			
<i>Conus flavidus</i>	Yellow cone	R			
LITTORINIDAE					
<i>Littoraria pintado</i>	dotted periwinkle	C			
THAIDIDAE	DRUPES				
<i>Morula granulata</i>	Granular drupe	R			
NERITIDAE	NERITES				
<i>Nerita picea</i>	black nerite, <i>pipipi</i>	O			
<i>Neripteron neglectum</i> (E) †	Speckled nerite	O			
PATELLIDAE					
<i>Cellana talcosa</i>	Giant <i>'opihi</i>	C			

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area			
		Pier & Trestle	Seaward Reef	West Reef	East Reef
TURBINIDAE <i>Turbo sandwicensis</i> (E) †	TURBANS Hawaiian turban, <i>'alilea</i>	U			
NASSARIIDAE <i>Nassarius papillosus</i>	Pimpled basket	R			
MOLLUSCA, GASTROPODA, NUDIBRANCHIA PHYLLIDIIDAE <i>Phyllidia varicosa</i> <i>Phyllidiopsis sphingis</i>	NUDIBRANCHS Varicose phyllidia Sphinx phyllidia		R R		
MOLLUSCA, BIVALVIA SPONDYLIDAE <i>Spondylus violacescens</i>	THORNY OYSTERS thorny oyster, <i>'okupe</i>	O			
BRYOZOA, GYMNOLAEMATA, CTENOSTOMATIDA, VESICULARIIDAE <i>Zoobotryon verticillatum</i>	BRYOZOANS	R			
ARTHROPODA, CRUSTACEA, MAXILLOPODA CIRRIPEDIA <i>Chthamalus proteus</i>	<i>Caribbean barnacle</i>	C			
ARTHROPODA, MALACOSTRACA, DECAPODA ALPHEIDAE <i>Alpheus deuteropus</i>	SHRIMPS, LOBSTERS, CRABS SNAPPING SHRIMPS Petroglyph shrimp			U	
PALINURIDAE <i>Panularis marginatus</i> (E) † <i>Panularis penicillatus</i>	Tufted spiny lobster, <i>ula</i> Tufted spiny lobster, <i>ula</i>		R R		
GRAPSIDAE <i>Grapsus tenuicrustatus</i>	ROCK CRABS thin-shelled rock crab, <i>a'ama</i>	U			
ECHINODERMATA, ECHINOIDEA DIAMDEMATIDAE <i>Echinothrix calamaris</i> <i>Diadema paucispinum</i>	SEA URCHINS Banded urchin, <i>wana</i> long-spined urchin, <i>'wana hālula</i>	U O		R	R

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area Project Vicinity			
		Pier & Trestle	Seaward Reef	West Reef	East Reef
ECHINOMETRIDAE					
<i>Echinometra mathaei</i>	Rock-boring urchin, <i>'ina kea</i>			R	R
<i>Heterocentrotus mammillatus</i>	slate pencil urchin	U			
TOXOPNEUSTIDAE					
<i>Tripneustes gratilla</i>	Collector urchin, <i>hāwa'e maoli</i>	O		R	
HOLOTHURIDAE					
<i>Actinopyga mauritiana</i>	White-spotted sea cucumber, <i>loli</i>	R		R	R
<i>Holothuria atra</i>	Black sea cucumber, <i>loli okuhi kuhi</i>				R
TUNICATA, ASCIDIACEA, STOLIDOBRANCHIA, STYELIDAE	TUNICATES				
<i>Botryllus sp.</i>	ladder tunicates	O			
APLOUSOBRANCHIA, DIDEMNIDAE					
<i>Didemnum sp.</i>	white didemnum	R			
PYURIDAE					
<i>Herdmania momus</i>	Herdman's sea squirt	C			
PHLEBOBRANCHIA, ASCIDIIDAE					
<i>Ascidia sydneiensis</i>	yellow sea squirt	O			
<i>Phallusia nigra</i>	black sea squirt	C			

NOTES:

I = Introduced or non-indigenous species

E = Endemic species found in Hawai'i and nowhere else

† Shell or carapace, recently dead.

Appendix F

Fish and Vertebrate Species List

List of fish taxa observed in the Hāna Pier Project area and vicinity, in Hāna Bay, Maui, May 2013.

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area Project Vicinity			
		Pier & Trestle	Seaward Reef	West Reef	East Reef
CHORDATA, OSTEICHTHYES, PERCIFORMES KHULIDAE	BONEY FISHES				
<i>Kuhlia xenura</i> (E)	FLAGTAILS Hawaiian flatail, <i>aholehole</i>	O			
CARANGIDAE <i>Scomberoides lysan</i>	JACKS Leatherback, <i>lai</i>		R		R
KYPHOSIDAE <i>Kyphosus</i> sp.	CHUBS			U	
AULOSTOMIDAE <i>Aulostomus chinensis</i>	TRUMPETFISHES Pacific trumpetfish, <i>nūnū</i>	R			
FISTULARIIDAE <i>Fistularia commersonii</i>	CORNETFISHES Bluespotted cornetfish, <i>nūnū</i>	R	R		
LUTJANIDAE <i>Lutjanus kasmira</i> (I)	SNAPPERS Blacktail snapper, <i>to'au</i>		O		
CHAETODONTIDAE <i>Chaetodon auriga</i>	BUTTERFLYFISHES Threadfin, <i>kikākapu</i>			R	
<i>Chaetodon lunula</i>	Raccoon, <i>kikākapu</i>	O			R
<i>Chaetodon fremblii</i> (E)	Bluestripe, <i>kikākapu</i>				R
<i>Chaetodon multicinctus</i> (E)	Multiband, <i>kikākapu</i>		R		R
<i>Chaetodon ornatissimus</i>	Ornate, <i>kikākapu</i>	O		O	O
<i>Chaetodon quadrimaculatus</i>	Fourspot, <i>lauhau</i>	R	R	U	O
<i>Chaetodon unimaculatus</i>	Teardrop, <i>lauhau</i>	R		O	U
<i>Forcipiger flavissimus</i>	Long nose butterflyfish, <i>lauwiliwili</i> <i>nukunuku 'oi'oi</i>	R			R

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area Project Vicinity			
		Pier & Trestle	Seaward Reef	West Reef	East Reef
POMACENTRIDAE	DAMSELFISHES				
<i>Abudefduf abdominalis</i> (E)	Hawaiian sergeant, <i>mamo</i>	O		U	R
<i>Abudefduf vaigiensis</i>	Indo-Pacific sergeant				R
<i>Abudefduf sordidus</i>	Blackspot sergeant, <i>kūpīpī</i>	R			
<i>Chromis ovalis</i>	Oval chromis	R			R
<i>Chromis vanderbilti</i>	Blackfin chromis	C			O
<i>Dascyllus albisella</i> (E)	Hawaiian dascyllus, <i>‘ālo‘ilo‘i</i>	O			
<i>Plectroglyphidodon imparipennis</i>	Brighteye damselfish	R		R	R
<i>Stegastes fasciolatus</i>	Pacific gregory	R			R
<i>Stegastes marginatus</i> (E)	Hawaiian gregory	O			
MULLDAE	GOATFISHES				
<i>Mulloidichthys flavolineolatus</i>	Yellow line or spot-goatfish, <i>weke‘ā</i>				O
<i>Mulloidichthys vanicolensis</i>	Yellow fin goatfish, <i>weke‘ula</i>	O			
<i>Parupeneus cyclostomus</i>	Blue goatfish, <i>moano ukali ulua</i>				
<i>Parupeneus insularis</i>	Double bar goatfish, <i>munu</i>			R	
<i>Parupeneus multifasciatus</i>	Manybar goatfish, <i>moano</i>		R	U	U
<i>Parupeneus porphyreus</i>	Whitesaddle goatfish, <i>kumu</i>	O		R	
ACANTHURIDAE	SURGEONFISHES				
<i>Acanthurus achilles</i>	Achilles tang	O			
<i>Acanthurus blochii</i>	Ringtail surgeonfish, <i>pualu</i>			R	
<i>Acanthurus dussumieri</i>	Eyestripe surgeonfish, <i>palani</i>			O	R
<i>Acanthurus leucopareius</i>	Whitebar surgeonfish, <i>māikoiko</i>	U		O	C
<i>Acanthurus lituratus</i>	Orangespine unicornfish, <i>umaumalei</i>			R	
<i>Acanthurus nigrofuscus</i>	Lavender tang, <i>mā‘i‘i</i>	R	O	C	C

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area			
		Project Area		Project Vicinity	
		Pier & Trestle	Seaward Reef	West Reef	East Reef
ACANTHURIDAE (cont.)	SURGEONFISHES				
<i>Acanthurus olivaceus</i>	Orangebar surgeonfish, <i>na'ena'e</i>		R	U	U
<i>Acanthurus triostegus</i>	Convict tang, <i>manini</i>	O		R	U
<i>Acanthurus xanthopterus</i>	Yellowfin surgeonfish, <i>pualu</i>				R
<i>Ctenochaetus strigosus</i> (E)	Goldring surgeonfish, <i>kole</i>	C		R	U
<i>Zebrasoma flavescens</i>	yellow tang			R	R
<i>Zebrasoma veliferum</i>	Sailfin tang, <i>māne'one'o</i>			R	R
<i>Naso unicornis</i>	Bluespine unicornfish, <i>kala</i>	O			
LABRIDAE	WRASSES				
<i>Anampses cuvier</i>	Pearl wrasse, <i>'ōpule</i>				R
<i>Coris gaimard</i>	yellowtail wrasse				R
<i>Gomphosus varius</i>	Bird wrasse, <i>hīnālea 'i'iwi</i>			R	R
<i>Labroides phthirophagus</i> (E)	Hawaiian cleaner wrasse	R	R	R	R
<i>Thalassoma duperrey</i> (E)	Saddle wrasse, <i>hīnālea lau-wili</i>	O	R	O	O
<i>Thalassoma trilobatum</i>	Christmas wrasse, <i>'awela</i>			R	
SCARIDAE	PARROTFISHES				
<i>Chlorurus spilurus</i>	Bullethead parrotfish, <i>uhu</i>				R
<i>Scarus psittacus</i>	Palenose parrotfish, <i>uhu</i>			R	U
<i>Scarus sp.</i>				R	
<i>Scarus rubroviolaceus</i>	Redlipped parrotfish, <i>uhu 'ele'ele</i>				R
BLENNIIDAE	BLENNIES				
<i>Cirripectes vanderbilti</i> (E)	Scarface blenny, <i>pao'o</i>	R		R	R
TETRAODONTIDAE	PUFFERFISHES				
<i>Canthigastor amboinensis</i>	Ambon toby	R		R	R
<i>Canthigastor jactator</i> (E)	White spotted toby	C	O	U	U

PHYLUM, CLASS, ORDER, FAMILY <i>Genus species</i>	Common name, <i>Hawaiian name</i>	Project Area				Project Vicinity	
		Pier & Trestle	Seaward Reef	West Reef	East Reef	West Reef	East Reef
BALISTIDAE <i>Sufflamen bursa</i>	TRIGGERFISHES Lei triggerfish, <i>humuhumu lei</i>		R			R	
CIRRHITIDAE <i>Cirrhitops fasciatus</i> (E)	HAWKFISHES Redbarred hawkfish, <i>piliko'a</i>	R			R		
<i>Cirrhitus pinnulatus</i>	Stocky hawkfish, <i>po'o'pa'a</i>				O		
<i>Melichthys niger</i>	black durgon					U	
VERTEBRATA, REPTILIA CHELONIIDAE <i>Chelonia mydas</i>	REPTILES Green sea turtle, <i>honu</i>	R					

NOTES:

I = Introduced or non-indigenous species

E = Endemic species found in Hawai'i and nowhere else

B

Environmental Noise Assessment Report
D.L. Adams Associates, Ltd.

**Environmental Noise Assessment Report
Hana Pier Deck Removal
Hana, Island of Maui, Hawaii**

**Hawaii Department of Transportation (HDOT)
Harbors Division
December 2016**

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1.0 EXECUTIVE SUMMARY

1.1 Hana Pier is located on the island of Maui on the southern end of Hana Bay. The proposed action consists of the demolition and removal of the existing pier superstructure. Construction of a new pier is not part of the proposed action. This assessment focuses on evaluating noise impacts due to the demolition activities of the existing pier. The pier is located near Hana Beach Park as well as Helene Hall, a local meeting hall, and Tutu's Snack shop on Keawa Place. Private residences are located to the west of the project site at the corner of Uakea Road and Keawa Place adjacent to the beach park. The project is also in the general vicinity of the Travaasa Hana Hotel and The Spa at Travaasa Hana which are both located to the southwest of the existing pier.

The demolition of the approximately 340 ft. long pier is anticipated to take 4 to 6 months to complete. Land based vehicles such as light and medium trucks are anticipated to be used, as well as water side vessels including a crane barge with a 200 ton crane, service barges, a storage barge, tug boat, and a small boat. Potential equipment that will be utilized during the construction is anticipated to include a gas powered concrete saw, portable generator, welding machine, cutting torch, heavy duty drills, an air compressor, an air hammer, and various hand tools

1.2 Ambient noise level measurements were conducted at two locations on Keawa Place in the vicinity of the proposed project site. The ambient sound levels near the existing pier are typical of an ocean side park environment and vary with the time of day based on environment noise sources, such as surf and wind noise, and to a lesser extent, vehicle traffic volumes and noise from the park users at the beach and in the parking lot. Daytime noise levels measured at the project site ranged from 54 A-weighted decibels (dBA) to 76 dBA and nighttime levels range from 53 dBA to 64 dBA. The average day-night level, L_{dn} , on the project site was found to be 62 dBA near Helene Hall and 67 dBA near the beach park entrance and parking lot .

1.3 Construction noises from the demolition of the pier must comply with the Hawai'i Department of Health (DOH) Community Noise Control Rule, which stipulates maximum permissible noise limits at the property line. However, noise levels during construction are expected to exceed these maximum permissible noise limits and a permit must be obtained from the State of Hawaii Department of Health (HDOH) to allow the operation of construction equipment.

1.4 The demolition of the pier will utilize various types of construction equipment and activities. It will rely heavily on the use of water based barge mounted equipment and demolition activities. Pneumatic hammers are anticipated during the pier demolition as well as the use of concrete saws and heavy equipment such as crane and barges/tug boats. The actual sound levels that will be experienced in the vicinity of the project site will vary greatly during the project and are a function of the distance from the noise source, the duration of the construction activities, and the number of pieces of equipment used. Construction noise levels were predicted using a noise modeling software at noise receptor locations located adjacent to the project site including Helene Hall, Hana Beach Park, Akule Hale, The Spa at Travaasa Hana, Travaasa Hana Hotel, and residences along the makai side of Uakea Road.

1.5 It is anticipated that construction noise levels will exceed the existing ambient noise level at the receptor locations closest to the site. Intermittent construction noises will be clearly audible, especially during demolition activities that use concrete sawing and impact hammers. People in these areas may need to raise their voice or reduce the talker-to-listener distance in order to communicate effectively. The severity of the speech interference will depend on how close the residents or park users are to the project site as well as the location of the construction activities. Although this noise disruption would likely

occur over the duration of the project's construction, the impact of these disruptions are minor and of a short term duration.

- 1.6** Noise mitigation for construction activities should be addressed using good management practices to control the noise source. Source control methods include scheduling, equipment selection, retrofitting equipment with mufflers or enclosures, and regular maintenance of equipment. Path control measures include temporary noise barriers during activities located close to the property line.

2.0 PROJECT DESCRIPTION

Hana Pier is located on the island of Maui on the southern end of Hana Bay. The proposed action consists of the demolition and removal of the existing pier superstructure and pile caps, including the guardrail, deck, beams, and a small boat landing that is located on the western end of the pier. Construction of a new pier is not part of the proposed action. This assessment focuses on evaluating noise impacts due to the demolition activities of the existing pier. The pier is located near Hana Beach Park as well as Helene Hall, a local meeting hall, and Tutu's Snack shop on Keawa Place. Private residences are located to the west of the project site at the corner of Uakea Road and Keawa Place adjacent to the beach park. The project is also in the general vicinity of the Travaasa Hana Hotel and The Spa at Travaasa Hana which are both located to the southwest of the existing pier.

The demolition of the approximately 340 ft. long pier is anticipated to take 4 to 6 months to complete. Land based vehicles such as light and medium trucks are anticipated to be used, as well as water side vessels including a crane barge with a 200 ton crane, service barges, a storage barge, tug boat, and a small boat. Potential equipment that will be utilized during the construction is anticipated to include a gas powered concrete saw, portable generator, welding machine, cutting torch, heavy duty drills, an air compressor, an air hammer, and various hand tools.

3.0 NOISE RULES AND REGULATIONS

Various local and federal agencies have established guidelines and standards for assessing environmental noise impacts and have set noise limits as a function of land use. A brief description of common acoustic terminology used in these guidelines and standards is presented in Appendix A.

3.1 State of Hawaii Department of Health, Community Noise Control

The State of Hawaii Community Noise Control Rule [Reference 1] defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to *stationary* noise sources such as air-conditioning units, exhaust systems, generators, compressors, pumps, etc. The Community Noise Control Rule does not address most *moving* sources, such as vehicular traffic noise, aircraft noise, or rail transit noise. However, the Community Noise Control Rule does regulate noise related to agricultural, construction, and industrial activities, which may not be stationary.

The maximum permissible noise levels for stationary mechanical equipment are enforced by the State of Hawaii Department of Health (HDOH) for any location at or beyond the property line and shall not be exceeded for more than 10 percent (%) of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in Figure 1. With respect to mixed zoning districts, the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. In determining the maximum permissible sound level, the background noise level is taken into account by HDOH.

The criteria for *impulse* or impact noise is separate from stationary noise due to the nature of the sound. HDOH defines impulse noise as "any sound with a rapid rise and decay of sound pressure level, lasting less than one second, caused by sudden contact between two or more surfaces...". Noise from pile driving is considered impulse noise and the maximum permissible noise level is 10 dB above the specified noise limits for stationary sources, as stated in Figure 1.

3.2 Federal Transit Administration (FTA)

Although the Hana Pier construction and demolition activities are not associated with mass transit, the criteria developed by the FTA is presented here as a relevant guideline for

assessing construction noise. In general, the HDOH Community Noise Rule only assesses the impact of a construction project as it relates to nuisance and hours of allowed activity. Project construction noise criteria should take into account the existing noise environment, the equivalent sound levels, L_{eq} , during the construction activities, the duration of the construction activities, and the adjacent land use. While it is not the intention of the FTA to specify standardized criteria for construction noise impact, it has defined guidelines for assessment [Reference 2]. According to the FTA, if the criteria shown in Table 1 are exceeded, there may be adverse community reaction.

Table 1. Federal Transit Administration Construction Noise Impact Threshold

Land Use	8- Hour L_{eq} (dBA)	
	Day (7 AM – 10 PM)	Night (10 PM – 7 AM)
Residential	80	70
Commercial	85	85
Industrial	90	90

3.3 Expected Community Response to Change in Noise Level

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, the average ability of an individual to perceive changes in noise levels is well documented and has been summarized in Table 2 [Reference 3, 4]. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 2. Average Ability to Perceive Changes in Noise Level

Sound Level Change (dB)	Human Perception of Sound
0	Imperceptible
3	Just barely perceptible
6	Clearly noticeable
10	Two times (or 1/2) as loud
20	Four times (or 1/4) as loud

A commonly applied criterion for estimating a community's response to changes in noise level is the 'community response scale' proposed by the International Standards Organization (ISO) of the United Nations [Reference 5]. The scale shown in Table 3 relates changes in noise level to the degree of community response and allows for direct estimation of the probable response of a community to a predicted change in noise level.

Table 3. Community Response to Increases in Noise Levels

Sound Level Change (dB)	Category	Response Description
0	None	No observed reaction
5	Little	Sporadic Complaints
10	Medium	Widespread Complaints
15	Strong	Threats of Community Action
20	Very Strong	Vigorous Community Action

The values stated in Tables 2 and 3 should not be considered regulatory requirements because they are not associated with a specific governing document for this project. However, these tables are very useful in assessing the human perception to changes in sound levels and they are considered to be supplemental information to the governing State of Hawaii Community Noise Control Rule, which does not discuss community response to changes in noise levels.

4.0 EXISTING ACOUSTICAL ENVIRONMENT

Continuous long-term ambient noise level measurements were conducted to assess the existing acoustical environment in the vicinity of the project site. Long-term measurements (taken continuously over the course of multiple days) offer a baseline for establishing existing ambient noise levels in the area and are used for estimating future noise levels by adding the ambient levels to other noise levels generated from the proposed demolition project.

The methodology, location, and results for each of the measurements are described below and the measurement locations are illustrated in Figure 2. Photographs of the measurement locations can be viewed in Appendix B.

4.1 Long Term Noise Measurements

4.1.1 Long-Term Noise Measurement Procedure

Ambient noise level measurements were conducted in two different locations to assess the existing acoustical environment in the vicinity of Hana Pier. Continuous, hourly equivalent sound levels, L_{eq} , were recorded for approximately 8 days at each location from April 7, 2015 to April 15, 2015. The measurements were taken using a Larson-Davis, Model 831, Type 1 Sound Level Meter together with a Larson-Davis, Model 377B20 Type 1 Microphone. Calibration was checked before and after the measurements with a Larson-Davis Model CAL200 calibrator. Both the sound level meter and the calibrator have been certified by the manufacturer within the recommended 2-year calibration period. A windscreen covered the microphone during the entire measurement period. Each microphone was mounted approximately 7-8 feet off the ground. The sound level meter was secured in a weather-resistant case.

4.1.2 Long-Term Noise Measurement Locations

Location L1: The sound level meter was located under a roofed storage shed located adjacent to Helene Hall. The dominant noise sources at this location were surf, park users, and vehicular noise from Keawa Place and the parking lot. Secondary noise sources included wind and birds.

Location L2: The sound level meter was located near the picnic area at the western edge of Hana Beach Park (near the northeast corner of Keawa Place and Uakea Road), approximately 15 feet from the roadway. Dominant noise sources included vehicular traffic from Keawa Place. Secondary noise sources included surf, wind, and birds.

4.1.3 Long-Term Noise Measurement Results

The measured L_{eq} , and the 90 percent exceedance level, L_{90} , in dBA are graphically presented in Figures 3 and 4 for each location. The ambient sound levels at both locations are typical of a rural environment and vary with the time of day based on environmental noise sources (such as birds) and to a lesser extent, vehicular traffic volumes. The ambient sound levels at L2 also fluctuate based on noises from the park users at the beach and in the parking lot. It is important to note that both measurement locations were influenced by ocean surf; nighttime noise levels did not drop below the noise "floor" created by the surf noise. The range of hourly L_{eq} measurements during the day (7:00 AM to 10:00 PM) and during the night (10:00 PM to 7:00 AM) as well as the average daytime L_{eq} levels and average calculated day-night level, L_{dn} , are summarized for each location below.

Table 4. Summary of Noise Measurement Results (dBA)

Location	7 AM-10 PM L_{eq} Range	10 PM-7 AM L_{eq} Range	7 AM-10 PM L_{eq} Average	Average L_{dn}
L1 – Helene Hall	54 - 76	53 - 61	60	62
L2 – Hana Beach Park	58 - 67	58 - 64	61	67

5.0 POTENTIAL NOISE IMPACTS

5.1 Construction Noise

The demolition of the existing Hana Pier will utilize various types of construction equipment. The actual sound levels that will be experienced in the vicinity of the project site will vary greatly during the project and are a function of the distance from the noise source, the duration of the construction activities, and the number of pieces of equipment used. The CadnaA noise prediction software by Datakustik GMBH [Reference 6] was used to predict the likely construction noise effects to receptor locations surrounding the project site. The software is based on the international standard ISO 9613, Part 2, which is a standard for calculating outdoor noise propagation. The input parameters for the sound propagation model are summarized in Table 5 below.

Table 5. Sound Propagation Model Calculation Parameters

Input Parameter	Source
Calculation Standard	ISO-9613
Site Topography	State Office of Planning GIS Program USGS National Map Viewer
Ground Absorption	0.0
Meteorological Conditions	Assumes downwind
Receiver Height	5 feet
Bitmap	Google Earth
Sound Sources	Summary of construction methodology provided by Moffit and Nichols, refer to Table 6

The various pieces of equipment that are expected to be utilized for the project are described in Table 6 below. The noise levels represent the maximum A-weighted sound pressure levels (L_{max}) measured at a reference distance from the construction equipment and were obtained from the Federal Highway Administration Roadway Construction Noise Model (RCNM) database [Reference 1] and other sources. The actual noise levels produced during construction of the proposed project will be a function of the methods employed during each stage of the construction process. Although the specific equipment and quantity that will be used for this project and quantity has not been finalized, the equipment described below represents a reasonable approximation of what will be used.

The use of barges and tug boats is expected for the project. Barges are expected to be anchored or spudded into place for a majority of the activities. The tugs and barge operations are not expected to have a significant contribution to the overall noise levels based on the limited amount of active time they will be operating compared to the majority of the demolition equipment. Therefore, only the typical construction equipment that is expected to operate frequently during times of active demolition are considered in the noise model.

Table 6. Anticipated Demolition Equipment

Anticipated Equipment^{N1}	AUF (%)^{N2}	Ref. Dist. (ft)^{N3}	L_{max} (dBA)	Impact Device^{N4}
Crane	16	50	85	No
Concrete Saw	20	50	90	No
Welder/Cutting Torch	40	50	73	No
Generator	50	50	82	No
Air Compressor	40	50	82	No
Air Hammer	20	50	85	Yes
Drill/Motors > 5 HP	50	50	85	No

Notes:

- N1. Anticipated equipment types are based on the project description provided by Moffat and Nichol and represent typical equipment for the project type. Actual equipment and methods used by the contractor may vary.
- N2. The AUF (acoustical usage factor) is an estimate of the fraction of time each piece of construction equipment is operating at full power (i.e., the equipment will be operating in its loudest condition). The values are based on the RCNM database and are used to calculate the hourly L_{eq} level for the operation of the equipment.
- N3. The reference distance was the distance between the operating equipment and the location of the noise measurement during data collection. This value in combination with the measured noise level at that distance is used to calculate the Sound Power Level of the equipment for use in the noise model.
- N4. Impact equipment is equipment that generates an impulsive noise produced by the periodic impact of a mass on a surface which is of short duration and high intensity, characterized by abrupt onset and rapid decay, and often rapidly changing spectral composition.

Daytime and maximum construction noise levels for demolition activities were calculated at various noise receptor locations in the vicinity of the project site: Helene Hall, Hana Beach Park, Akule Hale, The Spa at Travaasa Hana, Travaasa Hana Hotel, and residences along the makai side of Uakea Road. Modeled receiver locations can also be seen in Figure 2. Hourly daytime equivalent construction noise sound levels (L_{eq}) were calculated and take into account the variations in the power expended by the equipment per the usage factor. Worst-case conditions were assumed for the hourly L_{eq} predictions, i.e., all equipment operating in close proximity and simultaneously. In reality, construction equipment will most likely not operate simultaneously for extended periods of time and noise from the equipment will be more dispersed. Maximum sound levels (L_{max}) were also calculated based on the expected noise levels during operations of the concrete saw, which is the loudest expected piece of equipment.

The analysis also assumed that all receptors have a line-of-sight to the project site, i.e., shielding from buildings or mitigation measures were not considered except for shielding provided from the elevation changes of existing natural terrain.

Table 7 below summarizes the results of the construction noise analysis. Figures 5 and 6 respectively illustrate the projected worst case L_{eq} level contours in the vicinity of the project site due to the proposed demolition activities at both the northeast and southwest extremes of the pier. These locations represent the closest (generally loudest) and farthest (generally quietest) demolition activity points to the receiver locations.

Table 7. Construction Noise Analysis Results

ID	Noise Receptor	Approx. Distance ^{N1} (ft)	Existing Ambient Noise ^{N2} (dBA)	Maximum Predicted Construction Noise per Stage ^{N3} (L _{max} dBA)		Worst Case Hourly Equivalent Predicted Construction Noise per Stage ^{N4} (L _{eq} dBA)	
				Northeast End	Southwest End	Northeast End	Southwest End
R1	Helene Hall	580	60	63	67	61	65
R2	Hana Beach Park (Far End To Construction)	720	61	62	65	60	63
R3	Hana Beach Park (Near End To Construction)	383	N/A	65	70	63	68
R4	Akule Hale	775	N/A	61	64	59	62
R5	The Spa at Travaasa Hana	875	N/A	60	63	58	61
R6	Travaasa Hana Hotel	1050	N/A	59	62	57	60
R7	4991 Uakea Road	850	N/A	61	64	59	62

Notes:

- N1. All distances are taken from the closest point on the pier to the receiver location.
- N2. Existing ambient noise is the average L_{eq} measured at the project site for receptors R1 and R2 based on data collected from the measurements described in section 4 above. Ambient noise measurements were not conducted at or near noise receptors R3-R7. It is assumed that ambient noise levels at these locations will be similar or slightly less than R1 and R2 based on proximity to roadways and the shoreline.
- N3. The maximum construction noise levels are represented as L_{max}. The predicted L_{max} is the worst-case noise level that a receptor is expected to be exposed when the loudest construction operations take place, which is expected to be from the operation of the concrete saw.
- N4. The predicted hourly construction noise levels are represented as L_{eq} and take into account the usage factor of each piece of equipment. These levels can be compared to the FTA Construction Noise Impact Threshold (refer to Section 3.2) to determine an impact.

The results of the construction noise analysis show that construction noise levels at all noise receptor locations are expected to be well below the Federal Transit Authority's noise impact threshold of 80 dBA for residential land uses and 85 dBA for commercial land uses. Nevertheless, it is anticipated that construction noise levels will exceed the existing ambient noise level at the receptor locations closest to the site by up to 7 dBA at sites near Helene Hall and potentially higher at the areas of the beach park shore in the immediate vicinity of the pier.

Intermittent construction noises are expected to be audible especially during the use of the concrete saws and pneumatic hammers. The maximum noise levels (L_{max}) expected during any single demolition operation, are expected to be approximately 2 dB higher than the worst case hourly L_{eq} levels. Some people may need to raise their voice or reduce the talker-to-listener distance in order to communicate effectively in the beach park at the locations that are closest to the pier during times of the loudest demolition activities. The severity of the speech interference will depend on how close the residents or park users

are to the project site as well as the location of the construction activities. Although this noise disruption would likely occur over the duration of the project, the impact of these types of disruptions are minor and of a short term duration. Construction noise level averages are expected to be similar in level to the existing average ambient noise level at the closest residences on Uakea Road for the demolition of the pier sections that are the furthest away, and increase 2-3 dB during the demolition of the closest sections of the pier.

Construction noise is expected to be in excess of the maximum permissible noise limits as set forth in the State of Hawaii Community Noise Control Rule shown in Figure 1. Since construction noise levels will exceed maximum permissible noise limits specified in the Community Noise Rule, a permit must be obtained from the HDOH. The permit allows the operation of construction equipment, but it is limited to daylight hours, as described in Section 6.1 below.

The demolition activities may cause insignificant, short-term impacts at the closest receiver locations. The extent of these impacts at any of the receptor locations will vary depending on the specific equipment being used, the distance or range of distances to the receptor, and the duration of each activity. Therefore, the ability to control construction noise levels relates primarily to the duration and time of construction activity in any one day.

5.2 Transportation of Waste

A vehicular traffic noise analysis was not completed for this project. However, the vehicles and vessels used for transporting waste material off site are a further potential source of noise. It is anticipated that transportation noise could potentially increase for residents adjacent to the route due to individual pass-bys. However, the traffic volume is expected to be low on an hourly and daily basis so an overall traffic noise impact is not expected.

5.3 Construction Noise vs. Vibration

Construction activities generate not only audible airborne sounds, but can also result in varying degrees of ground vibration depending on the equipment and methods employed. While the previous section of this report evaluates the airborne sound of construction activities at the project site, it does not assess human or structural responses to potential ground borne vibration due to these activities.

Vibration induced by the specific construction equipment utilized for this project would not usually result in adverse effects on people or structures. Air hammering is the greatest source of vibration associated with the demolition of the pier structure, however, these impact activities will be located a significant distance away from the nearest receiver. During the site demolition, noise from the construction equipment will likely be more noticeable than any perceived vibration. Furthermore, any ground vibration from construction activities would be temporary.

5.4 Long-Term Noise Impacts

No long-term noise impacts are anticipated. Noise from the proposed action will only be present during active demolition activities. Demolition activities are expected to be short-term in duration and, once begun, last approximately 4 to 6 months.

6.0 NOISE IMPACT MITIGATION

6.1 DOH Noise Permit

In cases where construction noise exceeds, or is expected to exceed the State's "maximum permissible" property line noise levels [Reference 1], a permit must be obtained from HDOH to allow the operation of vehicles, cranes, construction equipment, power tools, etc., which emit noise levels in excess of the "maximum permissible" levels.

In order for HDOH to issue a construction noise permit, the contractor must submit a noise permit application to HDOH, which describes the construction activities for the project. Prior to issuing the noise permit, HDOH may require action by the contractor to incorporate noise mitigation into the construction plan. HDOH may also require the contractor to conduct noise monitoring or community meetings inviting the neighboring residents and business owners to discuss construction noise. The contractor should use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. However, HDOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities.

Specific permit restrictions for construction activities [Reference 1] are:

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels ... before 7:00 AM and after 6:00 PM of the same day, Monday through Friday."

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels... before 9:00 AM and after 6:00 PM on Saturday."

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays."

The use of pile drivers, hoe rams and jack hammers 25 pounds (lbs.) or larger, high pressure sprayers, and chain saws are restricted to 9:00 AM to 5:30 PM, Monday through Friday. In addition, construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds (lbs.), must be equipped with mufflers [Reference 1].

The HDOH noise permit does not limit the noise level generated at the construction site, but rather the times at which noisy construction can take place. However, when considering a noise permit application, consideration is also given to any proposed noise mitigation for the project. Therefore, noise mitigation for construction activities should be addressed using project management and the source and path noise control measures discussed in Section 6.3 below.

6.2 DOH Noise Variance

In cases where nighttime construction is expected, a variance must be obtained from the HDOH to allow the operation of a noise source which emits noise levels in excess of the maximum permissible levels and which operation does not conform to the requirements of the noise permit (i.e., nighttime construction activities which occur between 6:00 p.m. and 7:00 a.m., Monday through Friday). However, nighttime construction is not anticipated for this project so a variance will not be required.

6.3 Mitigation of Construction Noise

6.3.1 Mitigation of Noise Source

Mitigating construction noise at the source is the most effective form of noise control. The source control methods listed in Table 8 below can be applied to most construction equipment.

Table 8. Construction Noise Source Control Methods

Scheduling	Limit activities that generate the most noise to less sensitive time periods (e.g. daytime hours).
Substitution	Use quieter methods/equipment when possible (e.g. low noise generators, smaller excavators, etc.).
Exhaust Mufflers	Install quality mufflers on equipment.
Reduced Power Options	Use smallest size and/or lowest power as required.
Quieter Backup Alarms	Install manual adjustable or ambient sensitive alarms. Do not use backup alarms during night work.
Motors	Insulate or enclose motors
Equipment Selection	Electric equipment is quieter than pneumatic equipment
Equipment Retrofit	Rubber chucks in jackhammers
Equipment Maintenance	Sharpen and balance tools, repair silencing equipment, replace worn parts and open airways
Staging Area	Maximize the distance between the construction staging areas and nearby receptors to the greatest extent possible

In general, a majority of the construction noise mitigation is in the form of scheduling, specifically, limiting the construction hours to the time frame specified by the HDOH. The air hammer and concrete saw are expected to be the most disruptive piece of equipment used during the construction process so the allowable hours of operation are even more restrictive, as described in Section 6.1.

6.3.2 Mitigation of Noise Path

When source control measures are not sufficient to avoid a noise impact, path control measures must be considered. Temporary noise barriers or curtains and equipment enclosures could be installed at the construction site to reduce construction noise in noise sensitive locations.

6.3.3 Mitigation of Transportation Noise

Ensure all vehicles and vessels travelling to and from the project site are in good repair and fitted with functioning mufflers. Haul routes could be managed to avoid residential areas and travel limited to the daytime hours only.

REFERENCES

1. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.
2. U.S. Department of Transportation - Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.
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4. M. David Egan, *Architectural Acoustics*, McGraw-Hill Book Company, 1998
5. International Standards Organization ISO/TC 43, *Noise Assessment with Respect to Community Responses*, New York: United Nations, November 1969.
6. *DataKustik CadnaA software program*, Version 4.5.151; DataKustik GmbH, 2015.
7. *Federal Highway Administration's Roadway Construction Noise Model*, FHWA-HEP-05-054, U.S. Department of Transportation, February 2006.

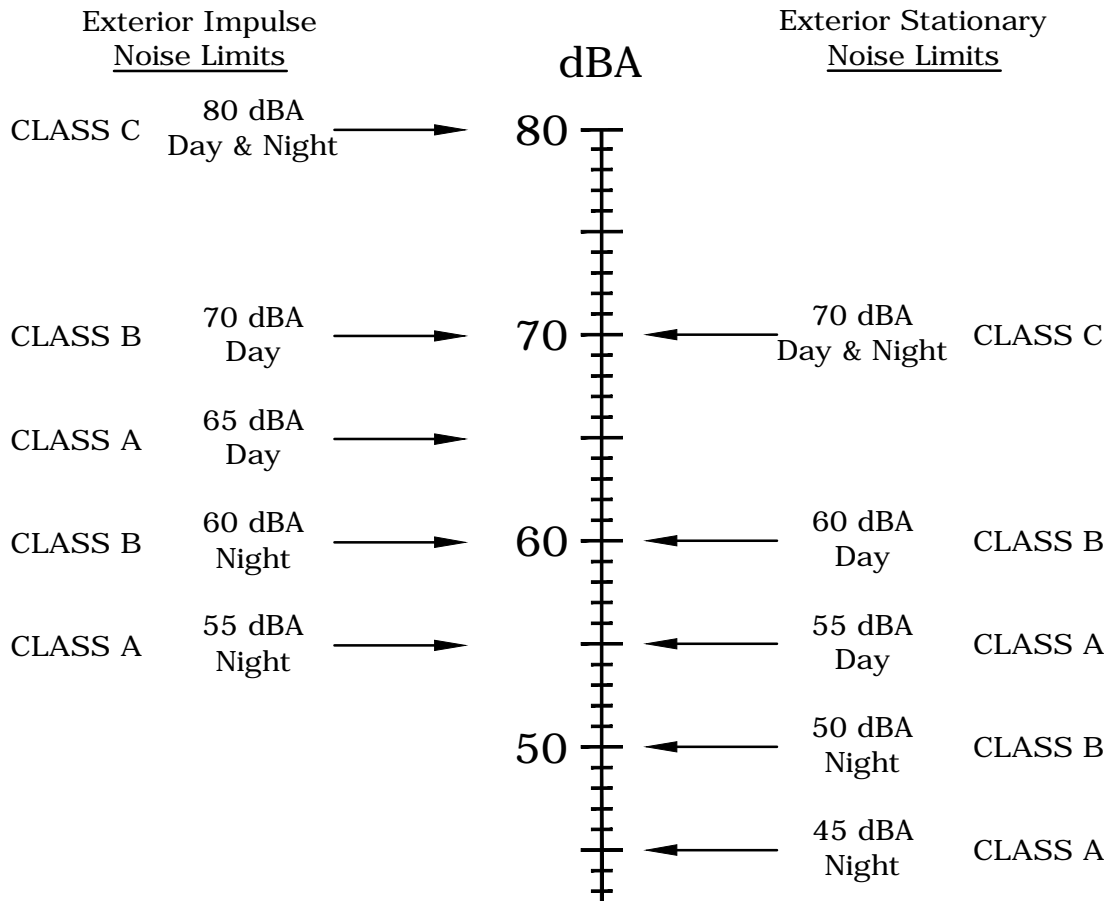
FIGURES

HAWAII DEPARTMENT OF HEALTH MAXIMUM PERMISSIBLE SOUND LEVELS FOR VARIOUS ZONING DISTRICTS

Zoning District	Day Hours (7 AM to 10 PM)	Night Hours (10 PM to 7 AM)
CLASS A Residential, Conservation, Preservation, Public Space, Open Space	55 dBA (Exterior)	45 dBA (Exterior)
CLASS B Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort	60 dBA (Exterior)	50 dBA (Exterior)
CLASS C Agriculture, Country, Industrial	70 dBA (Exterior)	70 dBA (Exterior)

IMPULSE NOISE:

The maximum permissible noise limit for impulse noise is 10 dBA above the stationary noise limits.




PROJECT SITE PLAN, NOISE MEASUREMENT, AND RECEIVER LOCATIONS

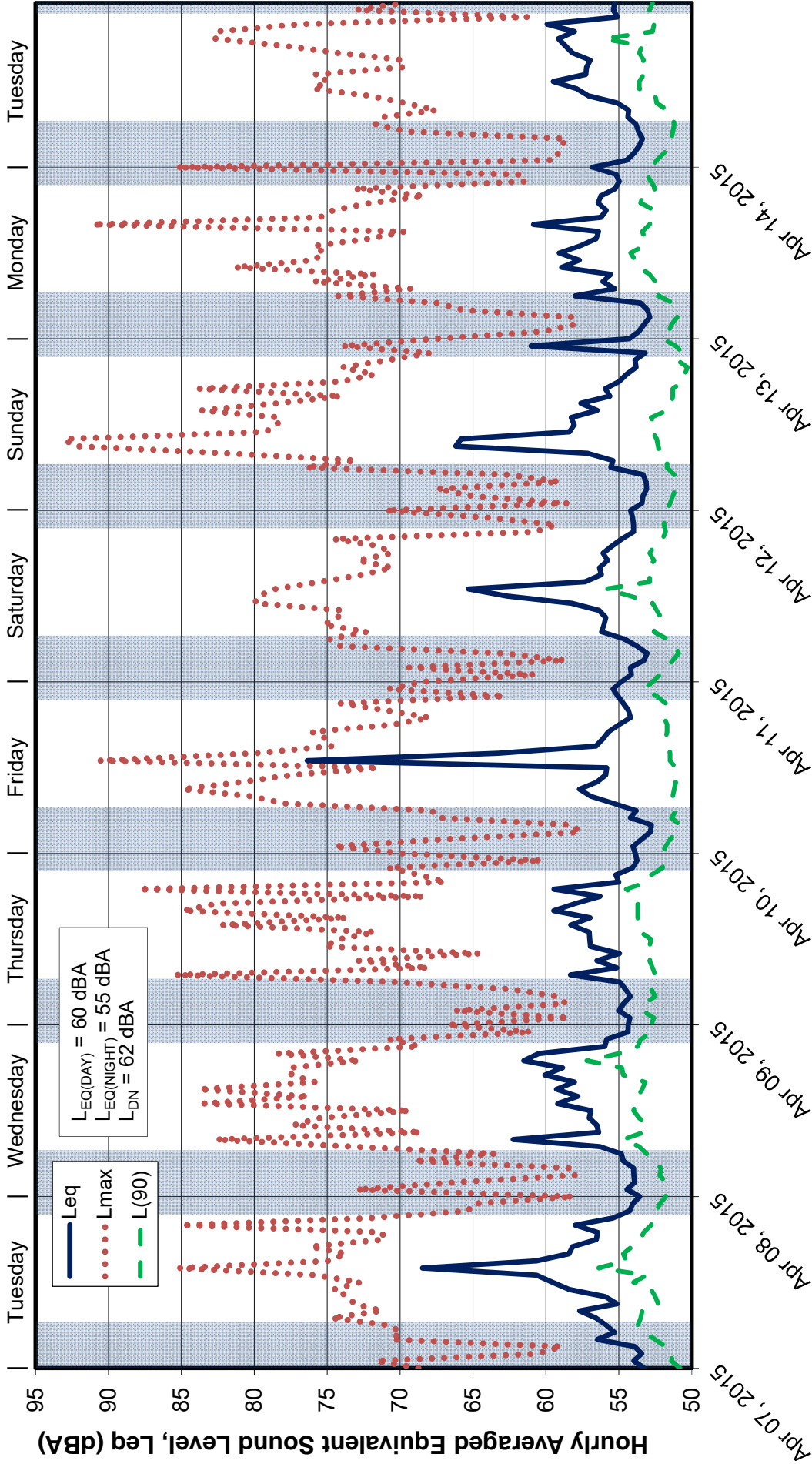


Legend

- L1 - Meter L1/Receiver R1 Location
- L2 - Meter L2/Receiver R2 Location
- R3 - Receiver R3 Location
- R4 - Receiver R4 Location
- R5 - Receiver R5 Location
- R6 - Receiver R6 Location
- R7 - Receiver R7 Location
- Pier Demolition Activities Boundary


 <p>D. L. ADAMS ASSOCIATES acoustics | performing arts | technology</p>	<p>PROJECT: Hana Pier Deck Removal</p>
<p>PROJECT NO: 15-05</p>	<p>DATE: December 2016</p>
<p>FIGURE: 2</p>	

Long Term Noise Measurements - Location L1

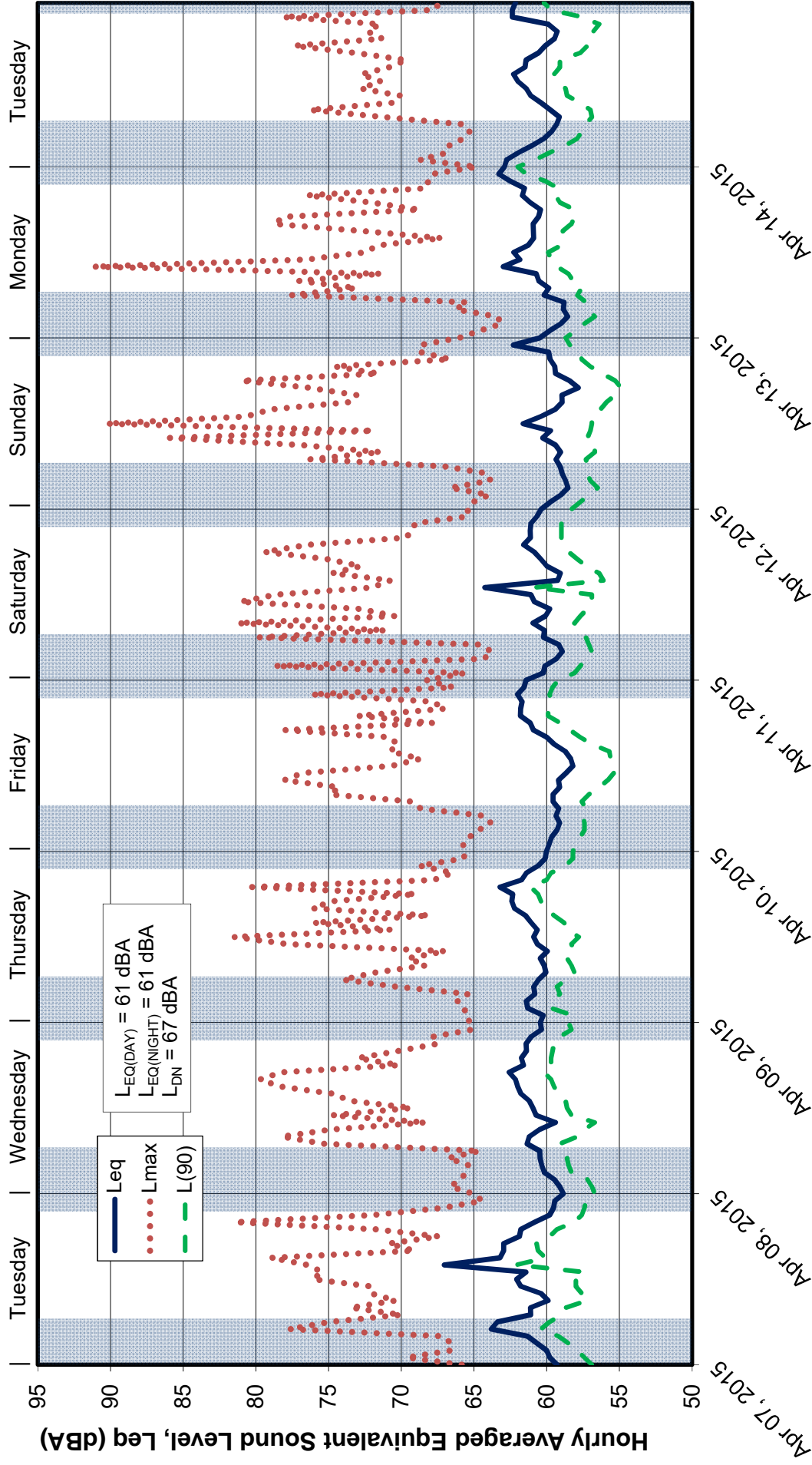


L_{eq}: Equivalent Sound Level - Logrithmic average of sound levels of time.
L_{max}: Maximum Noise Level - Highest noise level reached during each hourly measurement.
L₉₀: Ambient Noise Level: Highest noise level exceeded 90% of each hourly recording.

Date & Time of Measurement


 <p>acoustics | performing arts | technology</p>	PROJECT: Hana Pier Deck Removal	
	PROJECT NO: 15-05	DATE: December 2016
		FIGURE: 3

Long Term Noise Measurements - Location L2

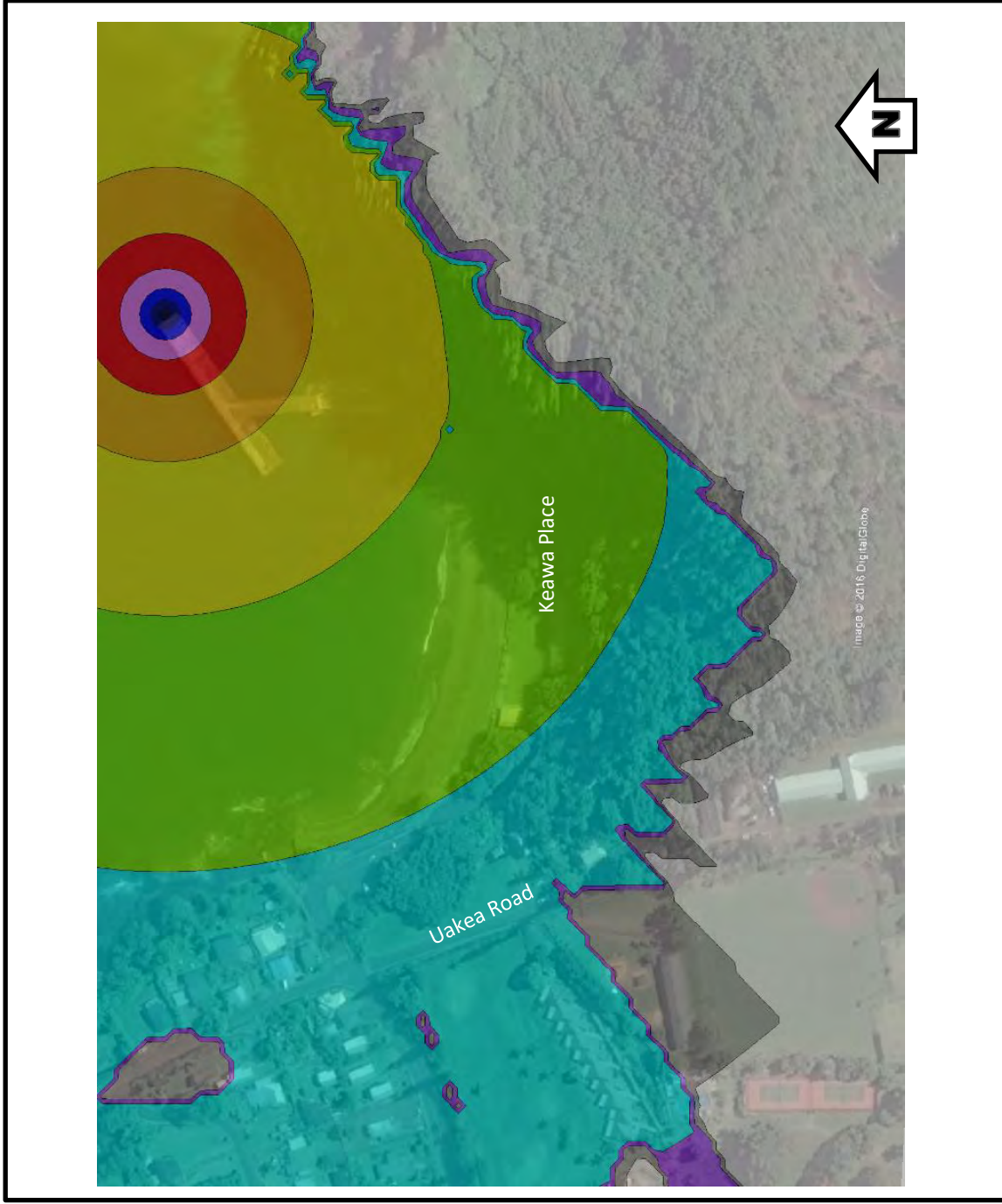


L_{eq}: Equivalent Sound Level - Logarithmic average of sound levels of time.
L_{max}: Maximum Noise Level - Highest noise level reached during each hourly measurement.
L₉₀: Ambient Noise Level: Highest noise level exceeded 90% of each hourly recording.

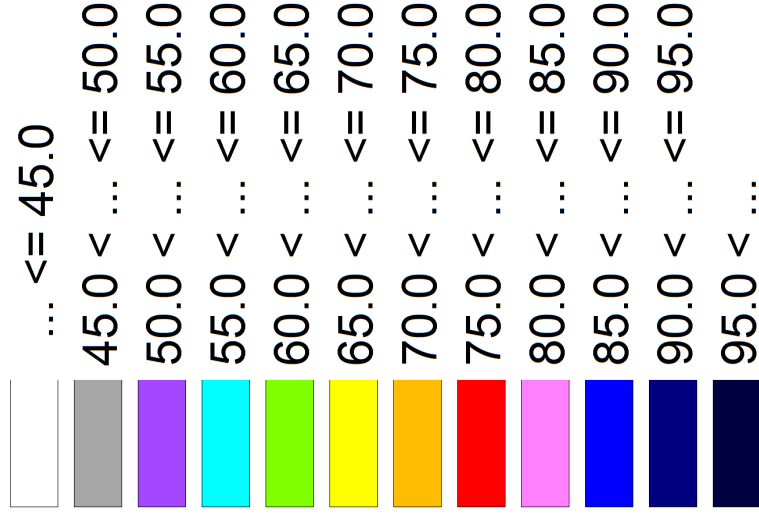
Date & Time of Measurement

 <p>acoustics | performing arts | technology</p>	PROJECT: Hana Pier Deck Removal	
	PROJECT NO: 15-05	DATE: December 2015
	FIGURE: 4	

NOISE MAP OF PROJECTED L_{eq} CONTOURS DUE TO DEMOLITION ACTIVITIES AT NORTHEAST END OF PIER



Noise Level Contour
Key (dBA)



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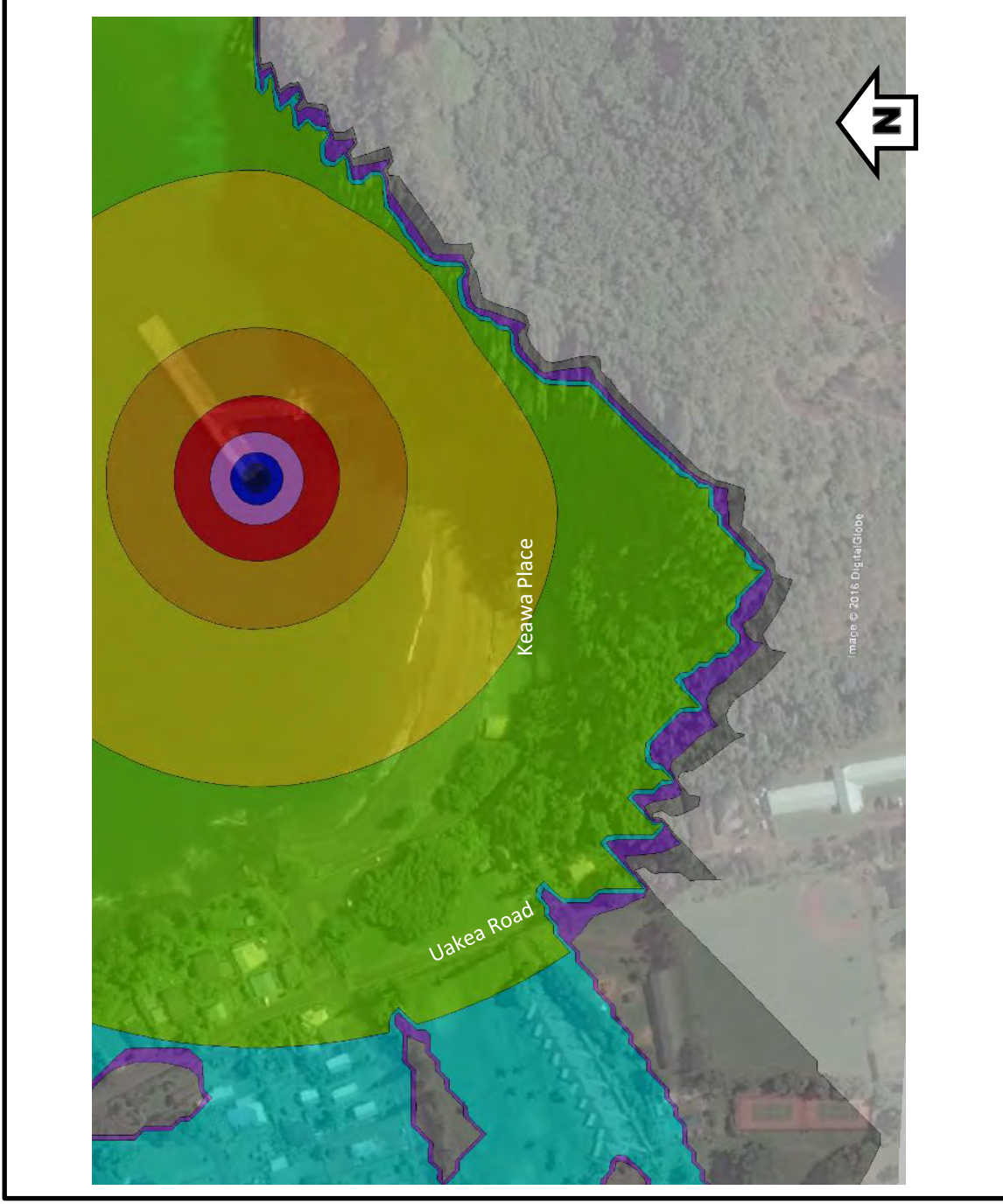
PROJECT: Hana Pier Deck Removal

PROJECT NO: 15-05

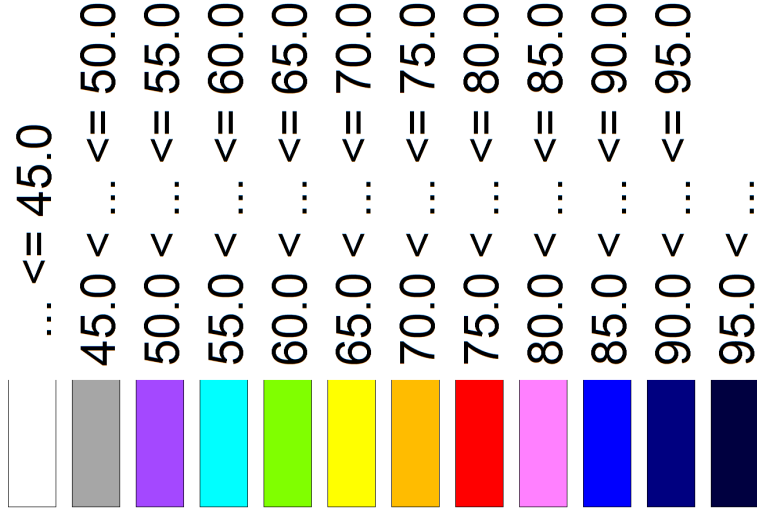
DATE: December 2016

FIGURE: 5

NOISE MAP OF PROJECTED L_{eq} CONTOURS DUE TO DEMOLITION ACTIVITIES AT SOUTHWEST END OF PIER



Noise Level Contour
Key (dBA)



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PROJECT: Hana Pier Deck Removal

PROJECT NO: 15-05

DATE: December 2016

FIGURE: 6

APPENDIX A

Acoustic Terminology

Acoustic Terminology

Sound Pressure Level

Sound, or noise, is the term given to variations in air pressure that are capable of being detected by the human ear. Small fluctuations in atmospheric pressure (sound pressure) constitute the physical property measured with a sound pressure level meter. Because the human ear can detect variations in atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Noise is defined as “unwanted” sound.

Technically, sound pressure level (SPL) is defined as:

$$\text{SPL} = 20 \log (P/P_{\text{ref}}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and P_{ref} is the reference pressure, $20 \mu\text{Pa}$, which is approximately the lowest sound pressure that can be detected by the human ear. For example:

$$\begin{aligned} \text{If } P &= 20 \mu\text{Pa, then SPL} = 0 \text{ dB} \\ \text{If } P &= 200 \mu\text{Pa, then SPL} = 20 \text{ dB} \\ \text{If } P &= 2000 \mu\text{Pa, then SPL} = 40 \text{ dB} \end{aligned}$$

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound sources, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined sound level of 53 dB, not 100 dB. Two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 6 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

A-Weighted Sound Level

Studies have shown conclusively that at equal sound pressure levels, people are generally more sensitive to certain higher frequency sounds (such as made by speech, horns, and whistles) than most lower frequency sounds (such as made by motors and engines)¹ at the same level. To address this preferential response to frequency, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the

¹ D.W. Robinson and R.S. Dadson, “A Re-Determination of the Equal-Loudness Relations for Pure Tones,” *British Journal of Applied Physics*, vol. 7, pp. 166 - 181, 1956. (Adopted by the International Standards Organization as Recommendation R-226.)

human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.

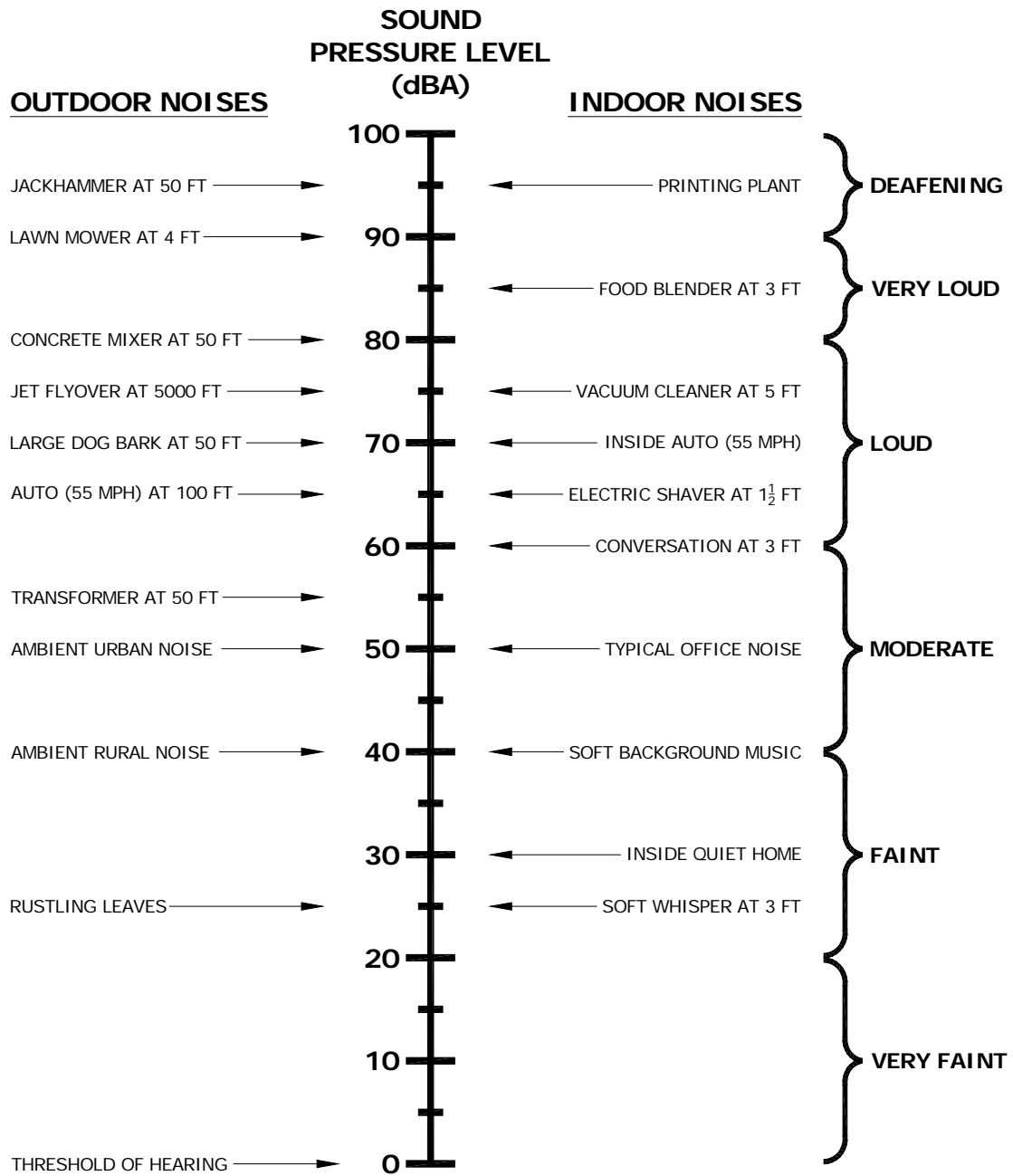


Figure A-1. Common Outdoor/Indoor Sound Levels

Equivalent Sound Level

The Equivalent Sound Level (L_{eq}) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual *instantaneous* noise levels typically fluctuate above and below the measured L_{eq} during the measurement period. The A-weighted L_{eq} is a common index for measuring environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

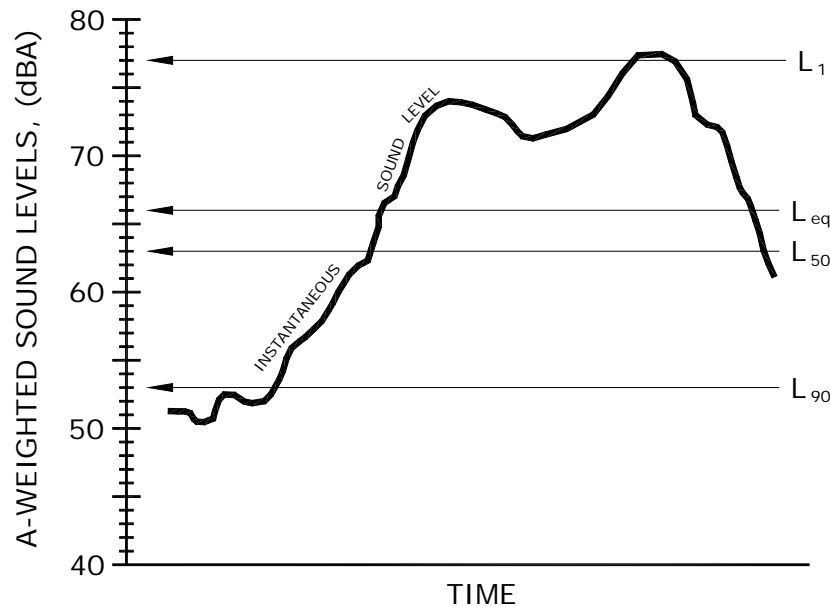


Figure A-2. Example Graph of Equivalent and Statistical Sound Levels

Statistical Sound Level

The sound levels of long-term noise producing activities such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels has been developed. It is known as the Exceedence Level, L_n . The L_n represents the sound level that is exceeded for $n\%$ of the measurement time period. For example, $L_{10} = 60$ dBA indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. Commonly used Exceedence Levels include L_{01} , L_{10} , L_{50} , and L_{90} , which are widely used to assess community and environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

Day-Night Equivalent Sound Level

The Day-Night Equivalent Sound Level, L_{dn} , is the Equivalent Sound Level, L_{eq} , measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 p.m. and 7 a.m. to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The L_{dn} is a commonly used noise descriptor in assessing land use compatibility, and is widely used by federal and local agencies and standards organizations.

APPENDIX B

Photographs of Sound Level Meter Locations

Noise Measurement Location L1



Noise Measurement Location L2



C

Water Quality and Biological Resources
Impact Analysis
AECOS, Inc.

**Water quality and biological resources
impact analysis for the Hāna Pier Deck Removal
Hāna, Maui**

Department of Transportation, Harbors Division

December 2, 2016
Revised February 17, 2017

Water quality and biological resources impact analysis for the Hāna Pier Deck Removal Hāna, Maui¹

December 2, 2016
Rev. February 17, 2017

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¹ Report prepared for a Project EIS (Helber Hastert and Fee Planners) and to become part of the public record.

Introduction

The Hawai'i Department of Transportation Harbors Division (DOT-H) proposes to remove the Hāna pier deck in Hāna Bay, District of Hāna, Maui, Hawai'i (Figure 1). The proposed action involves the demolition of the pier superstructure and pile caps with no new construction ("Project"). The Hāna Pier facility is located along the southern perimeter of Hāna Bay and consists of a concrete pier on piles, a boat ramp, and two boat docks. T-shaped, the Hāna Pier has two sections: the "trestle", which extends out from the shore, and the "pier" or "t-head", which is parallel to shore connected to the far end of the trestle. Hāna Pier was originally constructed in the 1921 by the Territory of Hawai'i to support the sugar cane industry. Act 272, Session Laws of Hawai'i 1991 transferred the pier from DOT-H to the Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DLNR-DOBOR), since the pier was then being used primarily for recreational purposes. In 2010, jurisdiction of the pier was transferred back to DOT-H. Hāna Pier was originally condemned while it was under the jurisdiction of DLNR-DOBOR and has been closed to vehicular traffic since 1991. The pier was restricted from public access after a 2002 DOBOR inspection, and after its 2010 transfer, DOT-H upheld the condemnation. In spite of the pier's deteriorated condition and addition of fencing and warning signage, the public continues to access the pier.

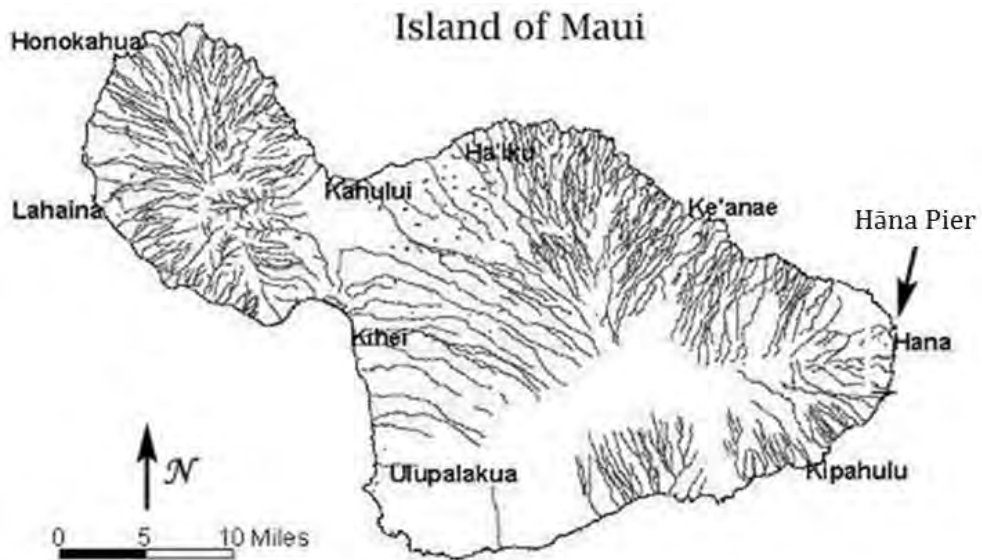


Figure 1. Map of Maui showing location of Hāna Pier at Hāna on eastern-most end of Maui.

In May, 2013, AECOS biologists conducted environmental surveys, including marine and terrestrial biology, and water and sediment quality to establish existing conditions in the Project area and vicinity. A report of the 2013 findings was prepared in 2013 and revised in 2017 (AECOS, 2017). Since 2013, Project plans have changed from replacing the concrete deck and installing mooring dolphins (DOT-H, 2011) to the current demolition plans described below. AECOS Inc. was contracted by Helber Hastert and Fee Planners to provide an impact assessment on the marine and terrestrial environment based on the August 2016 demolition plans (Moffatt & Nichol, 2016). This report presents an assessment of impacts to water quality and biological (marine and terrestrial) resources, based on existing conditions from the 2013 surveys and corresponding 2017 report, which are applicable to the current project impact analysis (AECOS, 2017). An analysis of impacts to the *akule* fishery and associated essential fish habitat (EFH) was provided in a separate report (AECOS, 2016).

Project Description

The Project involves the demolition of the pier superstructure consisting of a trestle guardrail, deck, and beams, small boat landing on the landward end of pier, and pile caps (Fig. 2; Moffatt & Nichol, 2016). The pile caps will be removed to an elevation of approximately +4.00 ft above Mean Lower Low Water (MLLW) except Pile row P which will be removed to elevation +1.00 ft above MLLW (approximately 12 inches below the bottom of the pile caps) and will remain in place once demolition is complete. This plan will provide for the tops of the piles to remain above water at Mean Higher High Water (MHHW), except for the piles on Pile row P. The abutment (headwall) at the shore end of the pier will remain. A barge mounted crane, a service barge, two to three barges for storage of demolished materials and a tug/pusher vessel to maneuver the barges are expected to be used for the demolition. Barges will be anchored or spudded in place. A spud barge employs heavy steel piles mounted vertically within the deck (spud wells) on each corner of barge and are set in the seafloor to hold the barge in place. However, in areas of sensitive benthos, such as live coral, the barge can be anchored with anchors placed outside sensitive areas. In addition, anchors lines are to be kept taut so that the lines do not drag the bottom. Service barges and storage barges are tied alongside the crane barge and are only independently anchored when not in use. When not in use, the service and storage barges may be anchored off shore, out of Hāna Harbor, if desired by DOT-H and/or the community.

Because the proposed action consists of demolition without new construction, storage of materials and land based operation will be limited. It is expected that the contractor staging area will be approximately 1,300 ft² (120.8 m²), with

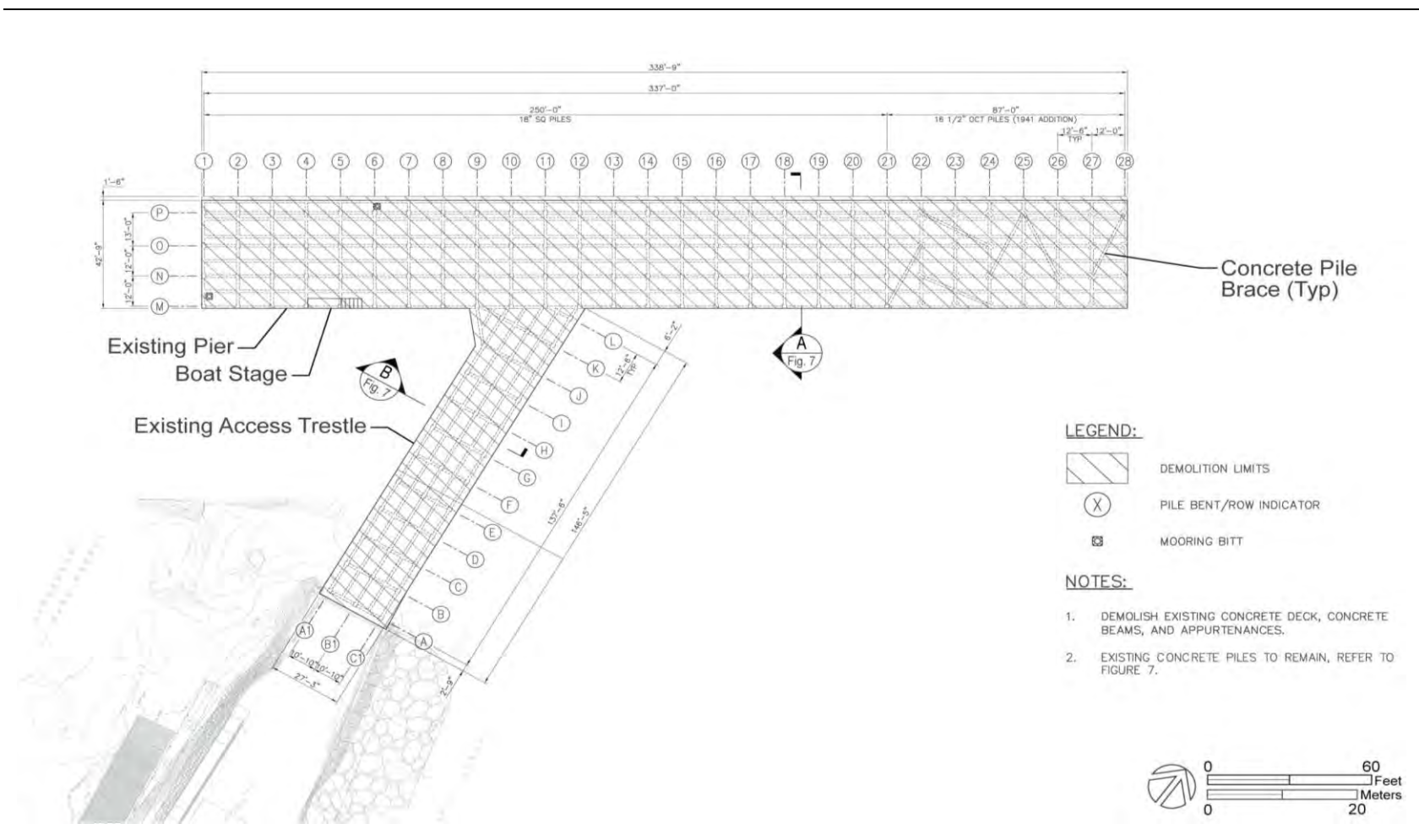


Figure 2. Proposed demolition plan for Hana Pier (Moffatt & Nichol, 2016).

sufficient space for a small 8 x 20 ft (2.4 x 6.1 m) office trailer, an 8 x 20 ft (2.4 x 6.1 m) storage box for tools and small equipment, and open space for the maintenance of equipment or the fabrication of devices used for the disassembly of the pier. The process of disassembling the existing pier would follow a systematic approach. Demolition methods will likely consist of saw cutting of concrete and removal of larger pieces of the superstructure. During the demolition period, industry-standard BMPs will be employed to avoid or minimize adverse effects on marine resources. The contractor will be required to develop a site specific best management practices (BMP) plan in consultation with federal and state regulatory agencies to address specific conditions of the work proposed at the project site. Typical BMPs for this type of work include making use of construction debris control devices such as catchments, underdeck platforms, floating turbidity barriers, tarpaulins, floats, or other devices as necessary to prevent demolition debris from entering the water and airborne materials from leaving the immediate vicinity of the work area, as well as established protocols to prevent toxic materials, including fuel, waste water, etc., from spilling on land or entering the harbor water.

An acceptable water quality monitoring program for the immediate vicinity of the pier demolition work will be developed during permit phases with the regulatory agencies, and, at a minimum, the demolition activities will be conducted in a manner that conforms to the applicable permit conditions. The proposed action does not include any dredging or blasting.

The contractor will be responsible for clean-up of any materials deposited outside the work area or in the water, and restoration of the upland staging area to preconstruction condition. The contractor will be required to abide by all applicable local environmental protection standards, laws, and regulations.

Other BMP's should include:

- Install and maintain appropriate storm runoff protection measures around upland storage areas to minimize the release of surface pollutants into the ocean.
- Provide qualified observers for the presence of ESA-listed marine protected species as required by federal resource agencies during in-water construction/demolition activities.
- If required, reduce construction-related vessel speeds within the harbor to 10 knots or less when piloting vessels in the proximity of sea turtles. If practicable, reduce construction related vessel speed to 5 knots or less when piloting vessels in areas of known or suspected sea turtle and marine mammal activity.

- Implement a contingency plan to control and contain hazardous material spills, including petroleum products.
- Place any project-related materials and equipment in the water free of pollutants.
- Fuel project-related vehicles and equipment at least 50 feet away from the water, preferably over an impervious surface. With respect to construction equipment (barges) that cannot be fueled out of the water, set up spill containment berms on the barges to contain any potential spills and prevent the release of fuel into the marine environment. Clean up any fuel spilled on the barge decks immediately.

The anticipated phasing of the demolition activities may occur as follows:

- Contract award and notice to proceed
- Contractor mobilization to the project site (1 to 2 months)
- Deploy in-water BMPs (½ month)
- Dismantle pier superstructure (2 to 2½ months)
- Postdemolition – Demobilization (½ month)

Once the contractor mobilizes to the site, the Project duration is expected to take approximately 6 months to complete. Work will be conducted during daylight hours only, as practical.

Site Description

Hāna (22° 13.443" N, 159° 26.724" W) is located on the eastern most end of Maui, approximately 60 miles from the population centers of Wailuku and Kahului. Hāna Bay faces east toward the open ocean and is bordered to the north by Nanualele Point, a lava outcrop, and to the south by Ka'uiki Head, a crumbling remnant cinder cone which rises 386 ft (118 m) above sea level. The black sand beach at the south side of Hāna Bay offers a safe swimming area along an otherwise exposed rocky coastline. During rough conditions, a small shore break and a light longshore current occasionally develop (Clark, 1980). These waters are often murky with fine resuspended sediments. Public facilities at the south end of the Bay include Helene Hall, a community center used for community and social events, and Hāna Beach Park, a one-quarter-acre park with access to a black sand beach, parking, restrooms, showers, a canoe *hale*, and a picnic pavilion.

Along the southeast curve of the Bay past Hāna Beach Park and Hāna Pier facility, the coast around Ka'uiki Head offers little to no shoreline access due to steep, unstable terrain and impinging waves. The waters beyond the wharf represent oceanic waters and provide snorkelers and divers excellent visibility

and a diverse flora and fauna (Clark, 1980). Sea conditions change drastically seaward past Ka'uiki Head and Pu'uki'i Islet with its light house, where strong currents and waves prevail.

Hāna Bay receives inputs from Kawaipapa Stream, a perennial stream at the north end of the Bay which drains the 18.6 km² (7.2 mi²) Kawaipapa Watershed (DLNR-DAR and Bishop Museum, 2013). Runoff is also known to sheet flow over land into the Bay. Heavy rainfall can result in high volumes of freshwater and sediment entering the Bay. Periods of calm conditions allow sediments to build up on the reefs, leaving deposits, which due to low wave energy in the south portion of the Bay are only slowly removed from the system. Sediment loading, whether discrete or chronic, can be a key factor in determining the marine biota that resides in shallow Hawai'i benthic environments (Jokiel, 2006).

NOAA-NOS benthic habitat maps (Batista et al., 2007) have not been compiled for the Project area or vicinity that would identify physical zones (i.e., reef flat, channel, reef crest, fore reef, and bank/shelf) and biological cover. The *AECOS* Coastal Zone Atlas map (*AECOS*, 1979) indicates an area west of the pier as "rb" (solid or hard bottom; a massive rock surface) and the adjacent shoreline is "sb1" (sand beach of predominantly detrital sediments). Satellite images and percent coral cover for the area (MRC, 2010) indicate coral occurs mostly on the landward side of the pier, east and west of the trestle, and to the north and east of the pier. The most common coral species reported here are *Porites lobata* and *Montipora capitata*. Other species include (presented here in descending order of abundance): *M. patula*, *M. flabellata*, *P. compressa*, *Pavona varians*, *Pocillopora meandrina*, and *Poc. damicornis*; all at less than 5% cover on average. Piles are heavily encrusted with large plating colonies of *M. capitata* (MRC, 2010; *AECOS*, 2013).

Methods

In June 2006 and May 2013, *AECOS* biologists conducted surveys in the Project area and vicinity (*AECOS*, 2007, 2017). Methods and results from those surveys are included herein.

Water Quality

Scant water quality data exist for Hāna Bay. We are only aware of two sets of data collected in the past ten years (*AECOS*, 2007, 2017). Water quality data listed in the 2007 report were collected on June 5, 2006 from four stations near the ramp and the dock (Figure 3).

On May 1, May 2, and May 3, 2013, water samples were collected and field parameters measured at three water quality stations in the Project vicinity (Figure 4). Station “Trestle” was located on the west side of the trestle, in the middle of the “V” created by the west pier head and the trestle. This station was established by a biologist lining up between the 5th trestle pile and 5th west pier-head pile, counting from the corner where the trestle and west pier head meet. Station “West” was located roughly 2 m (6 ft) from the mid-line of the west end of the pier. Station “East” was located roughly 2 m (6 ft) from the mid-line of the east end of the pier. Samples were collected at two depths: surface (actually 1 foot below the sea surface) and bottom (actually 1 foot above the sea floor).

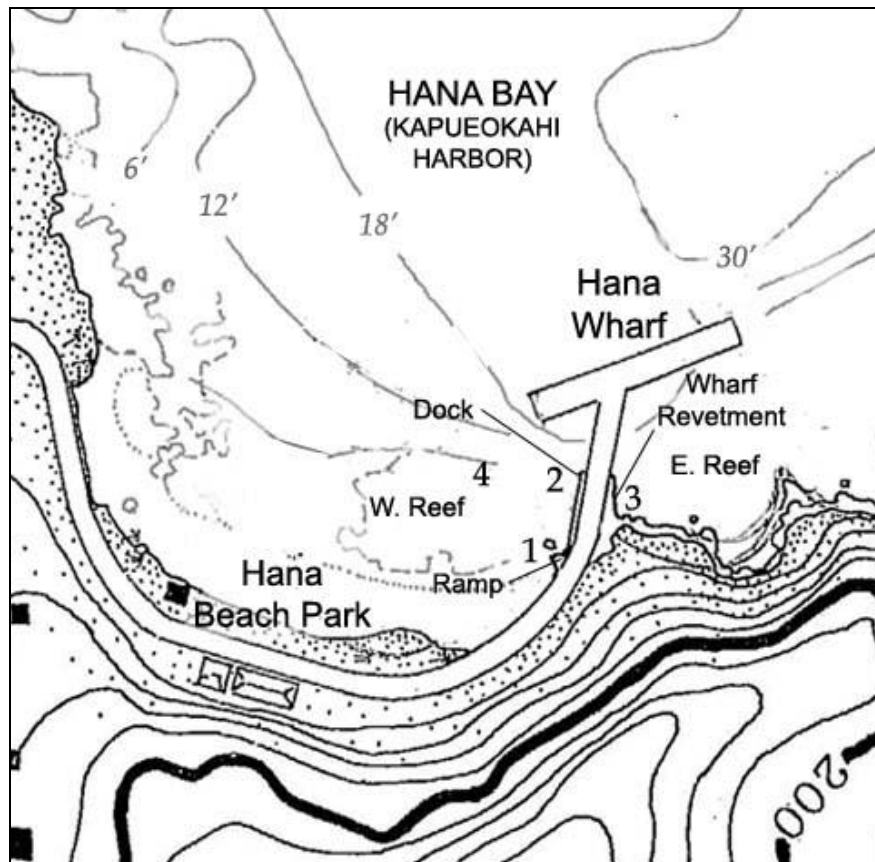


Figure 3. Location of the June 5, 2006 water quality sample stations (1-4) at the south end of Hāna Bay.

Temperature, salinity, pH, dissolved oxygen (DO), and turbidity were measured *in situ*. Water samples were collected in appropriate labeled sample containers

and immediately chilled or frozen. Chlorophyll samples were filtered within 2 hours of collection, and filters frozen.



Figure 4. Water quality and sediment sampling locations sampled May 2013.

Terrestrial biota

A walking survey was conducted for flora (terrestrial plants) and fauna (terrestrial mammals and birds) at Hāna Pier and within a proposed staging area located adjacent to Hāna Pier (Figure 5). The uplands were surveyed from the Hana Beach Park sea wall (fronting nearby Helene Hall) in the west to the base of the wharf in the east (boat trailer turn around area). Botanical resources

were identified by walking around the area on May 2, 2013 and noting the names and relative abundances of all ferns, fern allies, gymnosperms, and flowering plants growing there. The survey area extended well-beyond the actual project site (see Fig. 5).

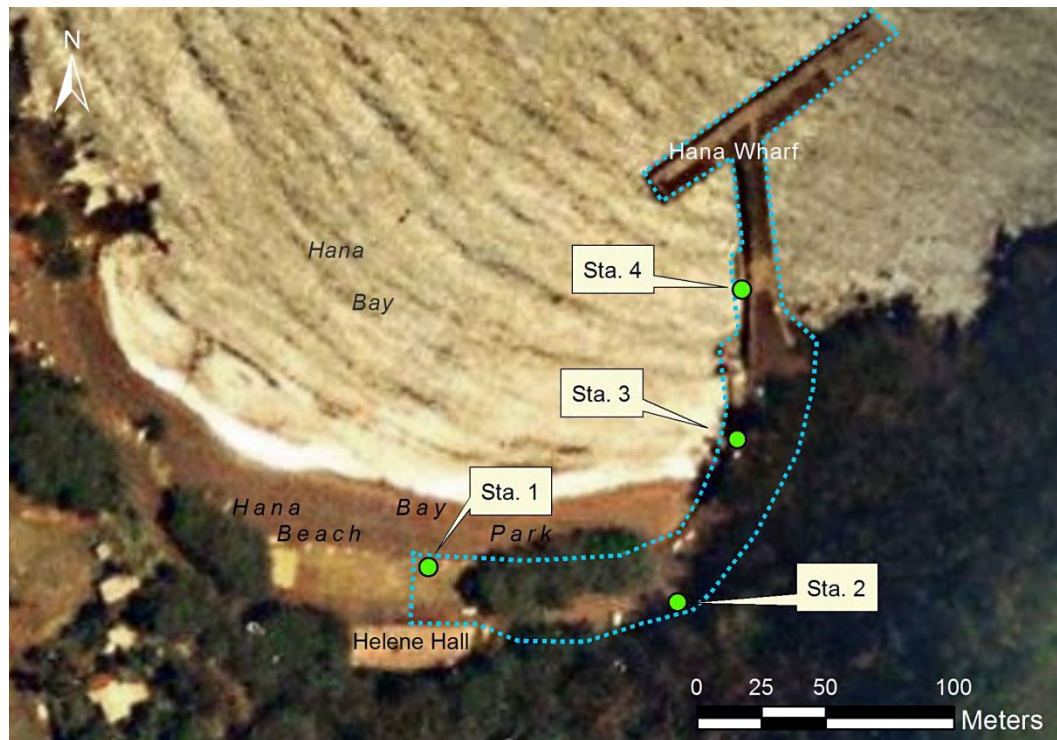


Figure 5. 2013 flora and fauna survey area (blue dots) with avian survey stations indicated.

The bird survey included a series of four stationary point counts in which all birds observed during a 5 minute viewing period were recorded within a visible radius of observer and by listening for vocalizations. Survey points were located adjacent to Helene Hall (Sta. 1), in a parking area beside concrete barrier where the roadway bends toward the wharf (Sta. 2), beside the boat ramp (Sta. 3), and on the Hana Pier loading dock (Sta. 4). Time not spent counting at point count stations was used to search the rest of the site for species and habitats not detected during the point counts. Point counts and incidental observations were conducted in the evening on May 2nd between 1700 and 1815, and on the morning of May 3rd between 0845 and 0945.

Marine Biota

Quantitative benthic surveys were conducted in three areas (see Fig. 6) of the marine environment: 1) an area seaward of pier; 2) under the pier; and 3) under the trestle. Qualitative benthic surveys were conducted in two other areas: 1) west of the pier (“West reef”) and 2) east of the pier (“East reef”). Biologists conducted: 1) a coral delineation survey to aid with barge anchor placement; 2) a quantitative benthic survey for coral and benthic composition in areas likely to be impacted either from barge anchoring (seaward of pier) or from demolition and previously proposed construction activities (sea floor under the pier); 3) a survey of the pier piles with efforts focused on the portion of piles most likely to be directly impacted; and, 4) a qualitative survey of the bottom to landward of the pier t-head (West reef and East reef).

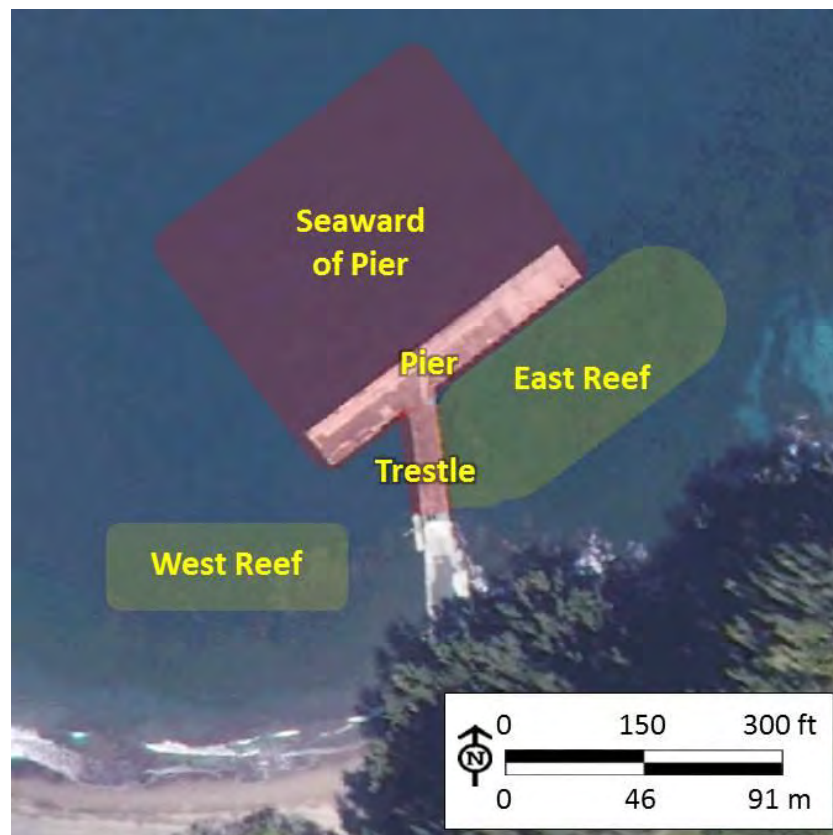


Figure 6. 2013 survey areas at and around Hāna Pier (photo: WorldView II, 2010).

Coral delineation – A coral delineation survey was conducted in the Project area and vicinity to determine coral reef resources occurring where barge

anchors may be placed during construction activities, and to suggest a suitable anchoring area, having minimal coral resources. The seaward extent of coral cover was visually delineated. The survey area spanned from between a point 110 m (360 ft) west of the (base of the) trestle to a point 30 m (100 ft) north of the northeast pier corner and out to 80 m (260 ft) from the pier face. To accomplish this survey, a pair of divers using SCUBA, towed a hand-held Global Positioning System (GPS) in track mode over the visually determined line between coral presence and absence. One biologist swam offshore of the biologist towing the GPS to detect any offshore colonies, and correct the line as required. The GPS unit was attached to a float and maintained over the diver using a taut line. The GPS collected position data every two seconds along the route.

After conducting the delineation, divers spot-checked for corals in the area seaward of the coral/no-coral line. Divers scanned the seafloor for signs of coral cover and any instances of coral cover were noted and GPS points recorded. Divers swam a 76 m (250 ft) line perpendicular to the seaward pier face from a point at the pier's east end. From the distal point, divers followed a compass heading parallel with the pier on a westward path for 100 m (328 ft) before returning to within 20 m (66 ft) of the pier face and making an easterly traverse off the pier face.

Seafloor coral community and benthic composition — At ten stations (Fig. 7), divers collected data on percent benthic composition, coral abundance, and coral size-class distribution. Benthic cover and coral size class distribution were surveyed for the bottom seaward of the pier and for the bottom below the pier decking. Five randomly placed 10-m transects were surveyed for each area (Fig. 7), with separate methods for randomizing locations. To achieve randomization within 25 m (82 ft) of the seaward face of the pier, a weighted buoy was thrown into the water, in a randomly selected cardinal direction, beginning at the western end of coral presence area. The location of each transect was then recorded with a hand-held GPS. Divers descended the weighted line and deployed a transect line in a northeasterly direction (that is, parallel with the seaward face of the pier) from the buoy weight. To randomize transect locations underneath the pier, start points were selected with a random number generator based on the number of piles and rows. The location for pier transects was recorded as the pair of piles the transect start-point was situated between.

Percent benthic composition was measured using the line point-intercept method along each 10-m transect. The bottom or organism below each 0.1-m mark was categorized as one of the following: sand/mud, rubble, turf algae, macroalgae, crustose coralline algae, macroinvertebrate, live coral, dead coral, or other bare substrate. A total of 100 points was evaluated along each transect.

Coral size class distribution data was collected for all coral colonies observed within 0.5 m to either side of the transect line if at least 50% of the colony fell inside the 1-m wide transect area. A biologist swam along the 10-m transect, surveying 0.5 m to either side of the line, for a 10 m² (1 x 10 m) survey area. The following parameters were recorded for coral colonies observed: species name, maximum diameter measured to the closest 5 cm, morphology, percent morbidity, and presence of disease. Coral colonies were then separated into the following size-classes (1 - 5 cm; 6 - 10 cm; 11 - 20 cm; 21 - 40 cm; 41 - 80 cm; 81 - 160 cm; or ≥ 161 cm). Photos of the general survey area and of notable colonies were taken. GPS points were recorded for notable colonies.

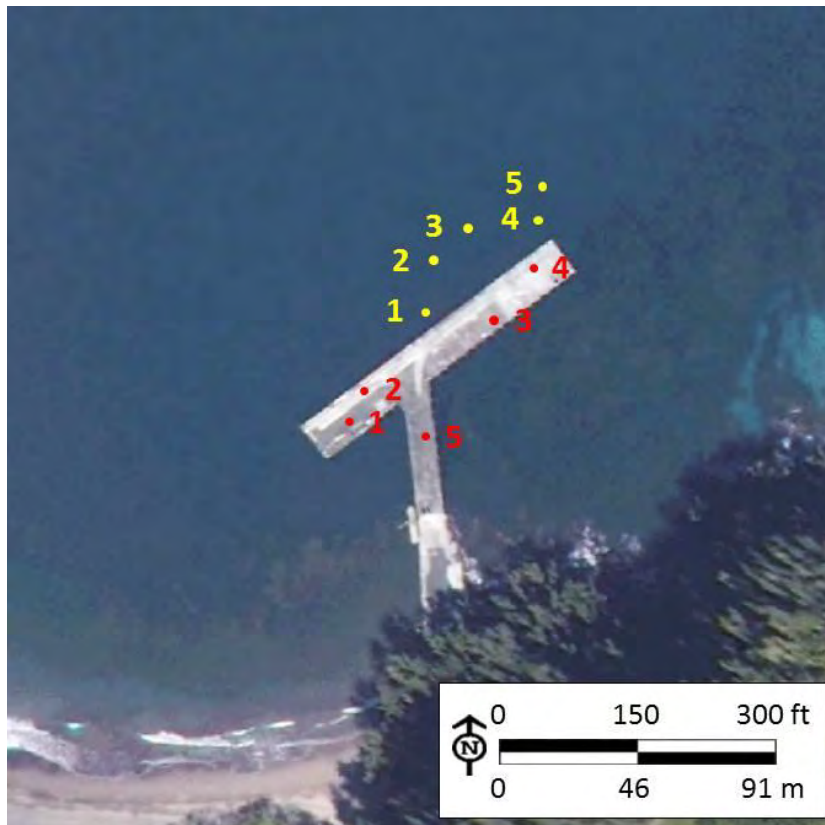


Figure 7. Locations of benthic quantitative transects at Hāna Pier: seaward in yellow, below pier or trestle in red (photo: WorldView II, 2010).

Pier pile coral community — The coral community growing on the 148 piles of Hāna pier (4 rows with 28 piles each) and trestle (3 rows with usually 12 piles each) were evaluated. To record each pile, a diver began at the first pile of a row and videotaped the full height of each pile and the seabed between piles,

along each row for the four rows of pier piles and three rows of trestle piles. To ensure data were collected from all piles in the limited time available, a rapid assessment method was achieved by video recording each pile for subsequent evaluation.

Seven pile sets under the pier and four pile sets under the trestle were selected using a random number generator. For each pile set (numbered 1-28 for the pier and 1-12 for the trestle) chosen all rows A-D under the pier and all rows A-C under the trestle were surveyed. Thus, of the total of 148 piles, the biologists surveyed a total of 28 under the pier and 12 under the trestle. Based on the Project plans in 2013, piles were assessed for the presence of coral colonies, considering both direct and indirect impact areas where “direct impact” area extends 2 m from the encrusting coralline algae intertidal zone and “indirect impact” area being pile surfaces below direct impact area. Biologists surveyed the direct impact area on the piles for corals (species, size class, morphology, mortality and disease presence). An inventory of the indirect impact area on the piles was made for corals, other macro-invertebrates and invasive and ESA-listed species.

Relative abundance of marine biota — The area of probable impacts (bottom seaward of pier, bottom below pier, and pier piles), and the two reef areas east and west of the trestle were surveyed for relative abundance of marine biota (Fig. 5). A pair of biologists snorkeled the reef areas, and used SCUBA to survey the piles, recording occurrence and relative abundance of all species encountered.

Protected Species

Biologists recorded observations of any listed (threatened or endangered) or proposed for listing terrestrial or marine species encountered during the course of the three-day survey in 2013.

Results

Water Quality

State of Hawai‘i, Water Quality Standards classify the waters in the Project area as Class AA, open coastal waters (between Huelo Point and Pu‘u Ōla‘i; HDOH 2014a) with water quality criteria pertaining to wet and dry coastal areas (Table 1). Hāna is in a wet coastal area with an average annual rainfall, recorded at the nearby Hāna Airport, of 47 inches or 3.9 ft (1.2 m; NOAA/NWS, 2006b). It is the objective of Class AA waters that these “...remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of

water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected.” Applicable state water quality criteria for the Project vicinity are shown in Table 1. Hāna Bay (Geocode 996835) is not listed as impaired in the list of impaired waters in Hawai‘i prepared under Clean Water Act §303(d) (HDOH, 2014b). These waters are, however, listed as a “Category 3” water body, meaning that “there is [sic] insufficient available data and/or information to make a use support determinations [sic]”.

Table 1. Selected State of Hawai‘i water quality criteria for open coastal waters (HAR §11-54-5.2; HDOH, 2014).

Parameter	Geometric Mean value not to exceed this value	Value not to be exceeded more than 10% of the time	Value not to be exceeded more than 2% of the time
Total Nitrogen (µg N/l)	150.0 <i>110.0</i>	250.0 <i>180.0</i>	350.0 <i>250.0</i>
Ammonia Nitrogen (µg NH ₄ -N/l)	3.50 2.00	8.50 5.00	15.00 9.00
Nitrate+Nitrite (µg N/l)	5.00 <i>3.50</i>	14.00 <i>10.00</i>	25.00 <i>200.0</i>
Total Phosphorus (µg P/l)	20.0 <i>16.0</i>	40.0 <i>30.0</i>	60.0 <i>45.0</i>
Chlorophyll α (ug/l)	0.30 <i>0.15</i>	0.90 <i>0.50</i>	1.75 <i>1.00</i>
Turbidity (NTU)	5.0 <i>2.0</i>	15.0 <i>5.5</i>	25.0 <i>10.0</i>

Two values: upper, "wet season" criteria apply November 1 through April 30; lower "dry season" (italicized) criteria apply May 1 through October 31.

Other "standards":

- pH units shall not deviate more than 0.5 units from ambient and not lower than 5.5 nor higher than 8.0.
- Dissolved oxygen shall not decrease below 80% of saturation.
- Temperature shall not vary more than 1C° from ambient conditions.

Water quality in the nearshore area of Hāna Bay is influenced primarily by three processes: 1) nearshore groundwater seepage and periodic inflows from Kawaipapa Gulch following major storm events, which introduce sediments and

dissolved nutrients into bay waters; 2) waves and currents, which suspend bottom sediments and circulate water in and out of the bay; and 3) biological processes, especially photosynthesis by marine algae and phytoplankton, which can alter nutrient and pH levels.

Table 2. Mean water quality results for samples collected June 5, 2006 and May 1-3, 2013 (Surface = 1 ft below surface; Bottom = 1 ft. above bottom).

Date / Depth	Temp. (°C)	Salinity (PSU)	DO sat. (%)	pH	Turbidity[†] (ntu)	TSS[†] (mg/l)
June 2006						
Mean Surface	26.0	32.93	103	8.10	0.79	6.3
Range (n=4)	25.8-26.3	32.47-33.60	84-114	8.02-8.14	0.66-0.96	4.1-11.2
May 2013						
Mean Surface	25.5	33.47	96	8.13	1.11	6.0
Range (n=9)	24.3-26.9	32.80-33.89	91-102	8.04-8.17	0.61-1.69	4.5-9.1
Mean Bottom	25.4	34.81	97	8.13	1.86	7.5
Range (n=9)	24.7-26.0	34.49-35.00	91-101	8.06-8.18	0.67-4.35	3.9-12
Date/Depth	NH₃[†] (µg N/l)	N03 + N02[†] (µg N/l)	Total N[†] (µg N/l)	Total P[†] (µg P/l)	Chl. α[†] (mg/l)	
June 2006						
Mean Surface	<1	11.28	144	23	0.69	
Range (n=4)	<1	6-18	139-148	19-34	0.59-0.81	
May 2013						
Mean Surface	<1	9	69	11	0.24	
Range N=9)	<1-1	5-12	56-176	8-12	0.20-0.28	
Mean Bottom	1	4	64	9	0.34	
Range N=9)	<1-3	12-8	55-77	8-11	0.21-0.78	

[†] geometric mean

A summary of water quality results from both sampling events is presented in Table 2 (above). The most notable feature between the two data sets is the difference in total nitrogen and total phosphorus concentrations in the surface samples. The 2006 samples were collected nearer to shore which may account for some of the difference due to increased wave action over a shallow bottom.

Differences in all measured parameters can be expected to vary considerably over time due various inputs from the land that influence water quality, especially in the surface layer. For this reason, a true picture of the water quality requires multiple samples taken over a long period of time.

Terrestrial Biota

Terrestrial plants — The flora of the project area comprises flowering plants dominated by alien (non-native) species. A total of 48 plant species were recorded during the survey on May 2, 2013 and a detailed plant list was prepared in the 2017 report (AECOS, 2017). Only five (10%) of these species are known from the Hawaiian Islands before the arrival of James Cook in 1778 (the start of European contact with the Hawaiian Islands).

Avian biota — A total of 42 individual birds of six different species was recorded in the 2013 surveys (AECOS, 2017). An additional 65 birds, including two additional species, were observed as incidental sightings as biologists walked between survey areas. Approximately 70% of the individual birds identified in the project area were Common Myna (*Acridotheres tristis*) and House Sparrow (*Passer domesticus*). The former were ubiquitous throughout the area, utilizing the beach, parking lot, and false *kamani* trees (*Terminalia catappa*) in the park. Red-crested Cardinals (*Paroaria coronata*) and Zebra Doves (*Geopelia striata*) frequent the lawn at the beach park.

Though naturalized urban dwelling birds comprised the majority of species encountered, three native species were encountered. One Wandering Tattler (*Tringa incana*) was observed foraging on boulders near the boat ramp. Several Great Frigatebirds (*Fregata minor palmerstoni*) were sighted soaring above the project site and into areas *mauka* of Hāna Bay. Similarly, two White-tailed Tropicbirds (*Phaethon lepturus dorotheae*) were observed circling above the shoreline of the Bay along the steep slopes of nearby Ka'uki Head. All three native species encountered during the survey are known to be common throughout the Main Hawaiian Islands (Denny, 2010).

Terrestrial mammals — During the 2013 survey, only domestic cat (*Felis catus*) and domestic dog (*Canis lupus familiaris*) were observed in the Project vicinity.

Protected species - No protected terrestrial species of plants, birds, or mammals were observed, nor are any known to occur in the Project area and vicinity with the exception of bats that might roost in nearby trees and seabirds that fly over the project area.

Marine Environment

Coral delineation — A coral delineation survey established a distinct boundary between coral presence on the bottom and coral absence in the vicinity of Hāna Pier (AECOS, 2017; Figure 8). To the west of the pier, coral colonies are growing within 17 m (56 ft) of the west end of the pier, but coral cover ends abruptly near the boat ramp channel. Between the boat ramp and the west end of the t-head is a small section of live coral located off the north end of the boat dock. Live coral cover extends from the west to the east side of the trestle around the 5th piling row (from land side). The delineation line runs northerly along the east side of the trestle, under the pier, and emerges near the middle of the pier. The line continues northwesterly incorporating a couple of isolated coral outcrops, extending at most 27 m (86 ft) from the pier face. Under the pier and on the reef, areas of no corals occur. A tongue of sand and hard bottom without corals extends north-south to the east of the trestle. Neither hard bottom nor live coral was observed north of the delineation line shown in Figure 8.

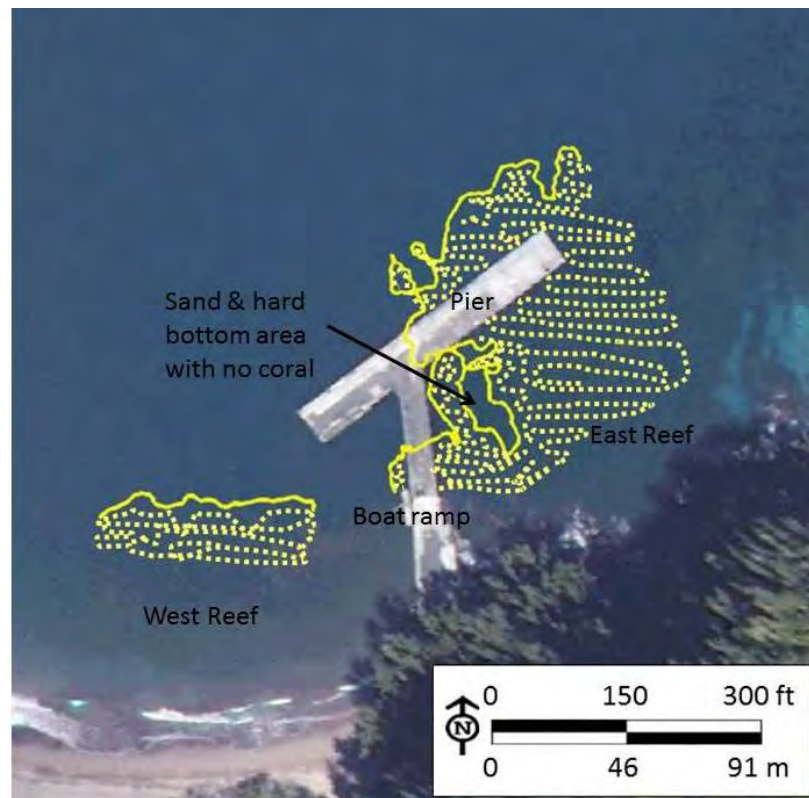


Figure 8. Coral delineation survey, conducted in May, 2013 (AECOS, 2017); solid yellow line represents delineation between live coral and a bottom barren of corals; dotted areas indicate coral presence.

The AECOS, 2013 coral delineation survey mostly corroborated the results of a historical coral cover survey conducted in 2010 (MRC, 2010; see Figure 9). Deviations include a high level of coral cover reported off the boat ramp and coral cover reported adjacent to the east side of the trestle. In the present survey, coral cover in these areas either did not occur or was found to be lower than indicated in the 2010 report. An additional difference is the extension of coral cover off the northeast end of the pier. In the 2013 study, coral cover was found to extend further offshore of the pier than interpreted from the satellite image. This result is likely due to water depth (and possibly poor water clarity) in this area compared to the rest of the survey area, influencing the interpretation from satellite imagery color data to coral cover.

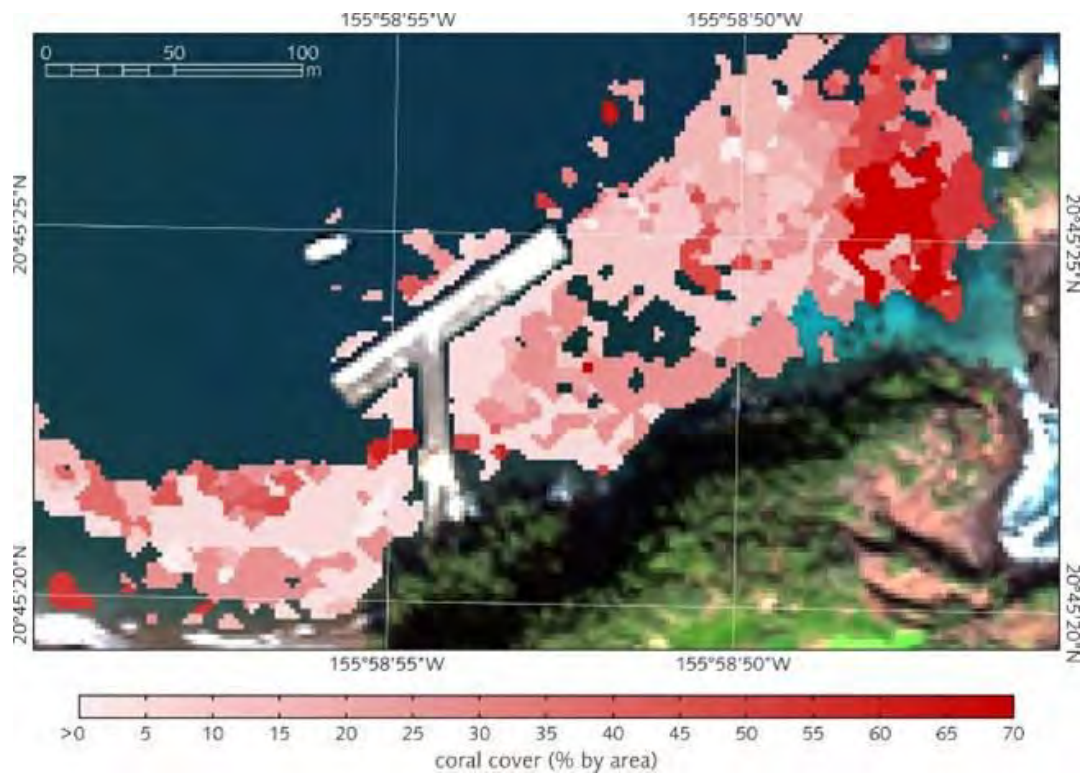


Figure 9. Coral cover in Project vicinity. Interpretation of satellite image calibrated to coral cover measurements. Dark colors indicate higher coral cover (MRC, 2010).

Benthic Composition - Three areas were surveyed in 2013: 1) under the pier; 2) under the trestle; and 3) seaward of the pier. Under the pier, a substratum of primarily silt (49% of bottom) predominates. Coralline and turf algae are found growing on silt-coated rubble. Debris (including bicycles, tires, and broken

concrete slabs) is also present, especially towards the east end of the pier where large mounds of broken concrete pieces and other pier debris were encountered. Average coral cover is low (4%) and corals rare. Under the trestle, substrata included rubble (78%), silt (21%), and turf algae (1%). Seaward of the pier, the bottom is dominated by rubble (57%) and silt (35%). Average coral cover in this area is 7%, consisting mostly of large plating and encrusting *Montipora capitata* colonies and small *L. purpurea* colonies. No macro-invertebrates were recorded.

Under pier – The coral assemblage under the pier comprises scattered encrusting colonies adhered to rubble and concrete fallen from the pier, which is otherwise silt-coated. A total of 51 coral colonies from 6 different taxa were identified and measured: *Pav. duerdeni* (28), *M. flabellata* (7), *M. patula* (6), *Pav. varians* (6), *C. ocellina* (3) and *Poc. meandrina* (1). *Pav. duerdeni* is the most frequently encountered coral species with mostly small (1- to 5-cm) colonies. Seven colonies of *M. flabellata* were encountered: one in each of the 1- to 5-cm and 11- to 20-cm size class, three in the 6- to 10-cm size class, and two in the 41- to 80-cm size class. Five colonies of *M. patula* were observed in the 21- to 40-cm size class, and one in the 41- to 80-cm size class. A total of 4 colonies of *Pav. varians* occurred: three in the 21- to 40-cm size class and one in the 41- to 80-cm size class. Three small (1- to 5-cm) *C. ocellina* colonies and one colony of *Poc. meandrina* (6- to 10-cm) were encountered under the pier.

Under trestle – The coral assemblage on the seafloor under the trestle comprises but a few scattered encrusting colonies adhered to silt-coated rubble and fallen concrete from the trestle structure. Two colonies of *Leptoseris incrustans* were encountered on the one trestle transect, both in the 21- to 40-cm size class.

Seaward of pier – The coral assemblage on the seafloor seaward of the pier comprises mostly large (>20 cm) encrusting *M. capitata* colonies and small *L. purpurea* colonies. Eight different taxa were identified and measured here: *M. capitata*, *M. patula*, *L. purpurea*, *Pav. varians*, *Pav. duerdeni*, *Poc. damicornis*, *Porites* sp., and *C. ocellina*. *M. capitata* is the most frequently encountered coral species in the vicinity, and is represented in all size classes. Most *M. capitata* colonies are in the 21- to 40-cm and 41- to 80-cm size classes.

Pier piles – Six of the twenty-eight pier piles surveyed host no coral colonies on the upper 2 m (6 ft) of each pile. Each of these piles with no coral growth on the upper 2 m of the pile was an inner pile. The coral assemblage on the remaining 22 piles on the pier margins host a total of 292 coral colonies, consisting mainly of encrusting/plating *Montipora* colonies, encrusting *Cyphasastrea* colonies, and few small *Pocillopora* colonies. The most common corals observed are *M.*

flabellata, *M. patula*, and *M. capitata*. Also occurring in less frequency are *C. ocellina*, *Poc. meandrina*, *Poc. damicornis*, and *P. lobata*.

The most conspicuous biota on the piles are plating colonies of *M. capitata*. Barnacle (*Chthamalus proteus*), limpet (*Cellana talcosa* and *C. exarata*), dotted periwinkle (*Littoraria pintado*), black nerite (*Nerita picea*), and rock crabs ('*ama'ama*; *Grapsus tenuicrustatus*) occupy the littoral and splash zones on the piles. Urchins (*Tripneustes gratilla* and *Echinothrix calamaris*) occur on the piles. Outer faces of the piles along the pier margins host more coral than the inner rows of piles, with many of the inner piles void of coral colonies. Damselfish and surgeonfish are the most abundant fish groups under the pier, with the most common being the blackfin chromis (*Chromis vanderbilti*), Hawaiian sergeant (*Abudefduf abdominalis*), Hawaiian dascyllus (*Dascyllus albisella*), Hawaiian gregory (*Stegastes marginatus*), achilles tang (*Acanthurus achilles*), convict tang (*A. triostegus*), and bluespine unicornfish (*Naso unicornis*). Goatfish (*Mulloidichthys vanicolensis* and *Parupeneus porphyreus*) were also occasionally observed.

Trestle piles – All surveyed trestle piles host coral colonies in the upper 2 m of each pile². The coral assemblage on the piles consists mainly of encrusting and plating *M. patula* colonies and encrusting *Cyphastrea* colonies. A total of 204 coral colonies of at least 7 different taxa were identified and measured in the survey area: *M. patula* (118), *M. capitata* (33), *M. flabellata* (5), *C. ocellina* (43), *Poc. meandrina* (2), *Poc. damicornis* (1), and *Pavona duerdeni* (2). *M. patula* is the most frequently encountered coral species (58%).

The most common coral on the trestle piles are plating colonies of *M. patula*. The three rows of piles under the trestle all host corals, and in 2013, biologists observed coral growth on all four sides of the piles. Barnacle (*C. proteus*), limpets (*C. talcosa* and *C. exarata*), dotted periwinkle (*L. pintado*), black nerite (*N. picea*), and rock crab ('*ama'ama*; *G. tenuicrustatus*) occupy the littoral and splash zones on the piles. Zooanthids (*Zoanthus* sp.), urchins (*T. gratilla* and *E. calamaris*), and coralline algae are also found on the piles. Five species of butterflyfish, eight species of damselfish, and six species of surgeonfish were observed, with a total of 30 fish species observed under the pier and trestle piles.

West Reef – The coral reef located west of Hāna Pier is shallow with an abundance of *M. flabellata* and *Porites* spp. Present but not as common are *Poc.*

² Based on the Project plans at the time of the survey, piles were assessed for the presence of coral colonies, considering both direct and indirect impact areas where “direct impact” area extends 2 m from the encrusting coralline algae intertidal zone and “indirect impact” area being pile surfaces below direct impact area.

damicornis, *Poc. meandrina*, and *M. capitata*. *Pav. varians*, *M. patula*, and *P. compressa* are rare. The seaward face of the reef has upwards of 60 to 70% coral cover (visually estimated), whereas the reef crest has coral cover of between 30 and 40%. *Pav. duerdeni* was common in the deeper areas of the reef face. Silt covers surfaces between live colonies and some live colonies had a thin layer of silt. Few macro-invertebrates and only a few sea urchins (*Echinothrix calamaris*, *Echinometra mathaei*, and *Tripneustes gratilla*) and a sea cucumber (*Actinopyga mauritiana*) were observed. Fishes were seen to be moderately abundant, with four species of butterflyfishes, three species of goatfishes, and ten species of surgeonfishes observed. A total of 31 fish species was recorded.

East Reef - East of the Hāna Pier trestle are a number coral outcroppings interspersed with sand bottom. Outcroppings reach to within 2-3 ft of the water's surface close to the trestle. These outcroppings host a wide variety of coral, with *P. lobata* and *M. flabellata* being most common, followed by *Poc. meandrina*, *M. capitata*, *M. patula*. Further east, the reef becomes more continuous. In these deeper areas *Pav. duerdeni* and *P. compressa* occur. Few macro-invertebrates were observed (*E. calamaris*, *E. mathaei*, *A. mauritiana*, and *H. atra*). A wide variety of fish were observed with greater concentrations observed in the far east of the survey area, where a more continuous reef with greater topographic relief occurs. The greatest fish species diversity in the survey area was observed over the East Reef, with seven species of butterflyfishes, six species of damselfishes, nine species of surgeonfishes, and five species of wrasses, with a total of 39 species observed.

Seaward Reef - The seafloor off the west end of the pier is primarily soft bottom with rubble and debris covered with a low-growing algal turf and fine sediment. *Acanthophora pacifica* is commonly observed here, with *Halimeda opuntia* and an unidentified wispy red cyanobacteria occasional. Off the east end of the pier, plating and encrusting *M. capitata* coral colonies are scattered on the seafloor. Some of these colonies are large, reaching 3 to 4 m (9.8 to 13 ft) in diameter. Many dead encrusting and plating colonies were observed with some clearly layered, the upper layer a living coral surface. *M. patula*, *Pav. varians*, *Pav. duerdeni*, *Poc. damicornis*, and *Porites* spp. also occur but are less common.

Only a few macro-invertebrates including two nudibranchs (*Phyllidia varicosa* and *Phyllidiopsis sphingis*) and two lobster carapace (*Panularis marginatus* and *Panularis penicillatus*) were observed. Few fishes were observed (*Parupeneus multifasciatus*, *Canthigastor jactator*, *Acanthurus nigrofuscus*, *Thalassoma duperrey*, and *Chaetodon multicinctus*), however it is likely that most fishes observed in other survey areas would also occur here. A total of 12 fish species was observed.

Protected and listed species

One marine protected species was observed in the 2013 surveys: green sea turtle or *honu* (*Chelonia mydas*). Also known to occasion the marine waters off the Project area is Hawaiian monk seal (*Neomonachus schauinslandi*) and spinner dolphin (*Stenella longirostris*; pers. comm., Russell Sparks, Maui DLNR-DAR).

Sea turtles — Of the sea turtles found in the Hawaiian Islands, only green sea turtle is likely in the Project vicinity. Hawksbill sea turtle (*Eretmochelys imbricata*) is rare in the Hawaiian Islands and only known to nest in the southern reaches of the state (NOAA-PIFSC, 2010). The green sea turtle was listed as a threatened species under the Endangered Species Act in 1978. Since protection, the green sea turtle has become the most common sea turtle in the Hawaiian Islands with a steadily growing population (Chaloupka et al., 2008). On February 16, 2012, NMFS and the USFWS received a petition from the Association of Hawaiian Civic Clubs to identify the Hawaiian green turtle population as a distinct population segment (DPS) and delist the Hawai'i DPS under the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 et seq.). In April 2016, NOAA-NMFS published a final rule to reclassify the green sea turtle into 11 DPS, but continue protection of the Hawai'i DPS as a threatened species under the ESA (USFWS & NOAA, 2016).

Monk Seal — The endangered Hawaiian monk seal (*Neomonachus schauinslandi*) is known to occur in the waters of the mooring site. The Hawaiian monk seal was listed as an endangered species pursuant to the ESA on November 23, 1976 (41 FR 51612) and remains listed as endangered. In that same year, the Hawaiian monk seal was designated as "depleted" under the Marine Mammal Protection Act (MMPA).

Spinner Dolphin - The spinner dolphin (*Stenella longirostris*) is protected under the Marine Mammal Protection Act (MMPA), and are not considered depleted in the waters of the Pacific Islands Region, where they are frequently encountered. During the day, spinner dolphins can be found in coastal waters and calm bays where they rest, care for young, and avoid predators. At night, they travel to deeper waters to hunt. Research indicates that pursuit and close approach of boats, swimmers and other ocean users to spinner dolphins may have negative impacts on their health and behavior. Other potential threats include entanglement in marine debris, anthropogenic noise, and fisheries interactions. In August, 2016, NOAA Fisheries published a proposed rule to enhance protections for Hawaiian spinner dolphins to prevent disturbance and harassment from dolphin-directed human activities (NOAA-NMFS, 2016a). The proposed rule would prohibit swimming with and approaching a Hawaiian

spinner dolphin within 50 yards by any means (vessel, person, or other object) and would be implemented within two nautical miles from shore of the Main Hawaiian Islands and in designated waters between Maui, Lanai, and Kahoolawe where spinner dolphins are found throughout the day. The proposed rule is based on the preferred alternative in the Draft Environmental Impact Statement (DEIS) and Regulatory Impact Review for spinner dolphins (NOAA-NMFS, 2016b). The public comment period on the proposed rule ended on December 1, 2016.

Coral - Corals are protected under Hawai'i state law. State law prohibits the breaking or damaging, with any implement, any stony coral from the waters of Hawai'i, including any reef or mushroom coral (HAR §13-95-70, DLNR, 2002). It is also unlawful to take, break or damage, with any implement, any rock or coral to which marine life of any type is visibly attached (HAR §13-95-71, DLNR, 2002). On August 27, 2014, NOAA issued a final rule for listing 20 coral species as threatened under ESA (NOAA-NMFS, 2014). None of these listed corals occurs in Hawai'i.

Critical Habitat

Critical habitat for Hawaiian monk seals has been designated (NOAA-NMFS, 2015) and includes the seafloor and marine habitat to 10 m above the seafloor from the 200 m depth contour through the shoreline and extending into terrestrial habitat 5 m inland from the shoreline between identified boundary points. These terrestrial boundary points define preferred pupping areas and significant haul-out areas (NOAA-NMFS, 2015). Terrestrial critical habitat along the shoreline of Hāna Bay falls within assigned boundary points MA 11 to MA 12 (Kuloa Point through Hāna Wharf and Ramp) and MA 21 to MA 22 (Hāna Wharf and Ramp through Kainalimu Bay). Hāna Wharf and ramp fall between boundary points MA 12 and MA 21, and is thus excluded from terrestrial critical habitat designation (Fig. 10). Marine critical habitat in Hāna Bay starts at the waterline and extends from there out to the 200-m depth contour, including the seafloor and marine habitat 10 m in height. As such, the Project occurs in designated terrestrial (excluding the ramp) and marine critical habitat area. The Hāna pier structure is excluded in the designation because this manmade structure does not meet the definition of critical habitat (NOAA-NMFS, 2015). The east end of Maui and Hāna Bay are not within the Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS, 2016). However, humpback whale are seen off the Hāna coast.

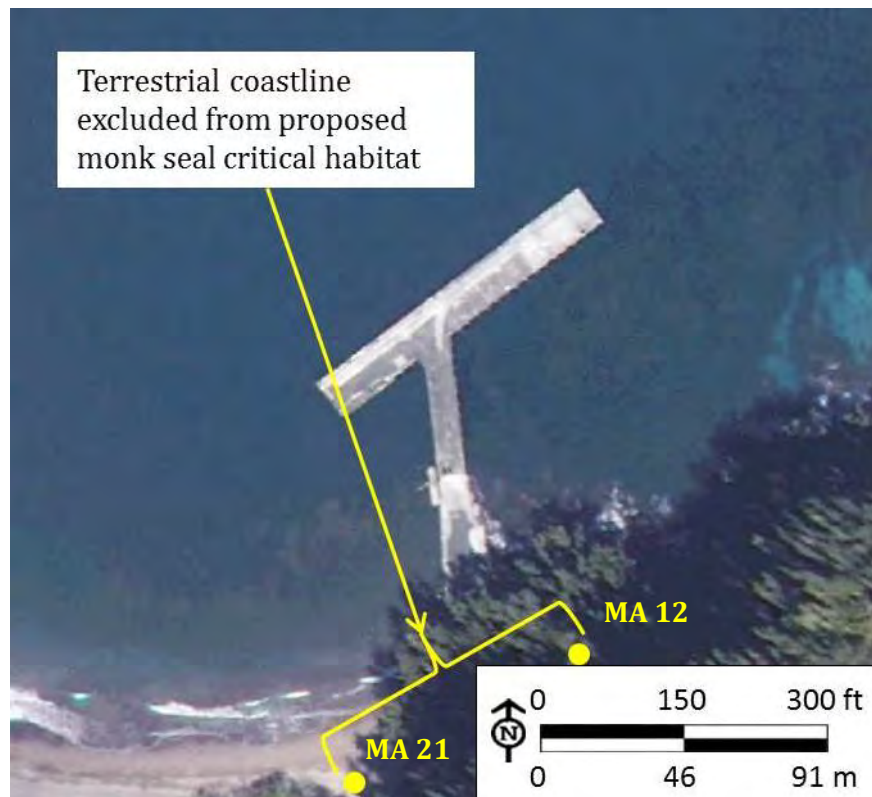


Figure 10. Terrestrial coastline excluded from proposed monk seal critical habitat at Hāna Wharf and boat ramp. This area falls between designated boundary points MA 12 and MA 21 (NOAA-NMFS, 2015; photo: WorldView II, 2010).

Impact Assessment

Water Quality

Potential impacts from Project operations will be related primarily to disturbance of bottom sediments and include:

- Suspension of bottom sediments (turbidity and TSS) due to water craft movement in the vicinity of the demolition work area: silty sediments cover approximately 50% of the bottom under the pier and 35% of the bottom seaward off the pier and may be resuspended due to propeller wash. Boat wakes may also disturb sediments in shallow areas of the Bay. Suspension of sediments may also result in increased nutrients in the water column;

- Suspension of bottom sediments (turbidity and TSS) due to barge spudding or anchoring and dragging of anchor lines;
- Suspension of concrete residue from concrete sawing during demolition operations which could affect turbidity levels throughout the water column.
- Spillage of oil, grease, or solvents.

Best management practices (BMPs; Moffat & Nichol, 2016) to avoid or minimize impacts to water quality will be determined by the appropriate federal and state agencies and may include:

- Construction debris control devices—such as catchments, underdeck platforms, floating turbidity barriers, tarpaulins, floats, or other devices as necessary—used to prevent demolition debris from entering the water
- Storage barges anchored clear of the work site when not in immediate use;
- Appropriate storm runoff protection measures installed and maintained around upland storage areas to minimize the release of surface pollutants into the ocean;
- A contingency plan implement to control and contain hazardous material spills, including petroleum products;
- Construction project-related vehicles and equipment fueled at least 50 ft away from the water, preferably over an impervious surface

Additionally, the Contractor will be required to develop a site specific best management practices (BMP) plan in consultation with federal and state regulatory agencies to address specific conditions of the work proposed at the Project site. An acceptable water quality monitoring program for the area around the demolition work will be developed during permit phases with the regulatory agencies, and, at a minimum, demolition activities will be conducted in a manner that conforms to the applicable permit conditions (Moffatt & Nichol, 2016).

Terrestrial

Terrestrial plants — The flora of the project area comprises flowering plants and is dominated by alien (non-native) species. No species of plants were noted that are of particular concern or are listed as threatened or endangered (DLNR, 1998; USFWS, 2015).

Avian resources — Naturalized, urban dwelling birds comprise the bulk of species encountered in the Project vicinity. No species protected by State of Hawai'i Administrative Rules (DLNR, 1998, 2007) nor federally endangered or

threatened species (USFWS, 2015) are present. The Project is not expected to adversely impact avian resources extant in the Project vicinity.

Terrestrial mammals — No mammalian species currently protected or proposed for protection under either the federal or State of Hawai'i endangered species programs were detected during the course of this survey (DLNR, 1998; USFWS; 2008, 2014). Hawaiian hoary bat or 'ōpe'ape'a (*L. cinereus semotus*) was not detected during the course of this survey. The only potential impact that the Project could possibly pose to bats would be from trimming or removal of trees in a staging area. Such action may temporarily displace individual bats roosting in trees. As bats use multiple roosts within their home territories, the disturbance resulting from the removal of vegetation would be minimal. During the pupping season, between June 1 and September 15, females carrying pups may be less able to rapidly vacate a roost site if the tree is trimmed or felled. Adverse impacts from such disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 m (15 ft) during the pupping season.

Marine environment

The following is a discussion of potential impacts from the Project on the coral community. An assessment of impacts from the Project on fishery resources and essential fish habitat (EFH) was prepared (AECOS, 2016). Potential direct impacts to the coral community would result from vibrations from the pile cutting for the pier demolition, modifications in shading of the bottom from the removal of the superstructure, and seafloor disruption due to anchors being placed for construction barge stabilization. Indirect impacts to the marine environment may occur during demolition and include suspension of fine sedimentary material.

Pile cutting — When cutting piles, care must be taken to minimize damage to coral during removal of the deck-supporting portion above the waterline. The vertical extent of coral growth should be field-verified and the piles marked by a biologist prior to construction to ensure that piles are cut well above the coral growth. The marking should include a safety margin above the coral growth based on requirements specific to the method of removal used.

Branching corals (*Poc. damicornis* and *Poc. meandrina*) and plating corals (*M. capitata*, *M. patula*, *M. flabellata*) can be impacted due to vibration disturbances associated with the pile cutting. Any of these branching and plating corals that are disturbed during the pile cutting activity could be re-attached to the pile (AECOS, 2011).

Shading modifications—Overwater structures, such as the Hāna pier superstructure, create shade which reduces the light levels below the structure. Light is the single most important factor affecting aquatic plants. Under-pier light levels have been found to fall below threshold amounts for photosynthesis by diatoms, benthic algae, and associated epiphytes and other autotrophs. These photoautotrophs are an essential part of nearshore environments and the estuarine and nearshore food chains that support many species of marine and estuarine fishes. The shadow cast by an overwater structure affects both the plant and animal assemblages below the structure. When compared to adjacent, unshaded locations, distributions of plants, invertebrates, and fishes have been found to be limited where structures serve as a roof over the water and shallow bottom (Kahler et al. 2000, Haas et al. 2002). Shading from overwater structures may also reduce prey organism abundance and the complexity of the habitat by reducing aquatic vegetation and phytoplankton abundance. Removal of the Hāna Pier superstructure will eliminate shading, resulting in an increase in the photoautotrophs (like plants and algae) occurring on this marine bottom, thereby changing the nearshore food web. The increase in primary production by photoautotrophs is expected to result in a growth of corals, other invertebrates and fishes.

The reduced light levels under the Hāna Pier superstructure influences the coral community. As noted in the 2013 survey, the seafloor under the pier is dominated by non-living substrata, with average coral cover low (4%: *AECOS*, 2017). Additionally, the coral community on the pier piles is greatly influenced by the amount of light levels. The “outer piles” with minimal shading host more coral than the inner rows of piles (heavily shaded), with many of the inner piles void of coral colonies (*AECOS*, 2017). In the long term, the removal of the superstructure is anticipated to enhance the benthos, increasing coral cover, with a cascading positive changes to the marine assemblages.

Seafloor disruption—Direct impacts to the marine resources on the seafloor surrounding Hāna Pier would occur from anchoring the barges. The coral delineation survey established a boundary between coral presence on the bottom and coral absence in the vicinity of Hāna Pier (see Fig. 8). To avoid damage to corals in this area, barge anchor locations should be placed outside of high coral cover areas (i.e., yellow areas in Fig. 8).

Suspended sediments—Impacts to the marine environment may occur during demolition. Deconstruction of the pier superstructure may temporarily increase the amount of suspended sediment (i.e., turbidity) in the water column. This increased sediment load can negatively impact corals in several ways: inhibit coral recruitment, reduce light required by zooxanthellae, reduce the ability of coral polyps to feed, increase respiration rates, reduce growth rates, and

increase mucus production for sloughing away sediment (Rogers, 1983; Hodgson, 1990; Te, 1992; ISRS, 2004; Piniak, 2004). Turbidity barriers around the in-water work areas can minimize demolition impacts, but demolition activities should avoid peak coral spawning times (i.e. May through September). Peak reproduction of Hawaiian corals occurs during summer months, although reproduction continues year round for some brooders. *Montipora capitata* spawns May to September, at night during the new moon's 1st quarter. *Porites lobata* spawns June to August, two to three days after the full moon. *Pavona varians* spawns in June, at night during the full moon's 3rd quarter. *Montipora patula* spawns July to September, at night on the new moon's 1st quarter and 3rd quarter phase. *Pocillopora damicornis* spawns year-round, with all phases of the moon. The majority of larvae are released at night, but some are released throughout the day (Kolinski and Cox, 2003).

Protected and Listed Species

The Project has the potential to interact directly or indirectly with ESA-listed species, such as sea turtles, through the following stressors:

- physical injury from demolition;
- behavioral changes in response to human activity and equipment operation;
- physical and behavioral changes in response to elevated turbidity;
- exposure to wastes and discharges;
- exposure to elevated noise levels;
- effects on monk seal critical habitat

Direct physical impact—Sea turtles and marine mammals must surface to breathe, and they are known to rest or bask at the surface. When at or near the surface within the project area, these animals are at risk of being struck by Project equipment —such as barge anchors. Additionally, chunks of concrete and other debris may inadvertently fall into the water during above-water demolition work. These activities and events have the potential to directly strike ESA-listed marine animals should such animals be present. Potential injuries and their severity will depend on the animal's proximity to the bottom when struck, the angle of the strike, and the body part impacted. Injuries may include cuts, bruises, and broken bones, cracked or crushed carapaces, and amputations, any of which could result in the animal's death. Animals could also be pinned to the bottom and drowned.

NMFS Protected Resources Division BMPs require construction crews to watch for sea turtles and marine mammals 30 minutes prior to beginning work, and to halt or postpone that work when those animals are within 46 m (50 yd). It is expected that sea turtles and marine mammals will avoid the area during

demolition operations, and therefore the risk to sea turtles and marine mammals of collision with the equipment is extremely low.

Disturbance from human activity and equipment operation—The Project includes work above marine waters where ESA-listed species may be directly exposed to Project-related activity. These animals may experience a startle reaction and resulting stress if they encounter on-going demolition activities. Reactions could range from one extreme when an animal approaches to investigate the activity, to an opposite extreme of panicked flight resulting in injury in the attempt to flee. Because sea turtles and marine mammals typically avoid human activity, the expected effect of this interaction would be an avoidance behavior leading to an exposed animal rapidly leaving the Project area without injury.

The likelihood of interaction will be reduced through the BMP of watching for and avoiding protected marine life before commencing work and by postponing operations when protected species are within 50 yd of Project activities.

Exposure to elevated turbidity—Potential impacts to marine resources and ESA-listed species from demolition may occur from degradation of water quality. Project demolition, propeller wash from tugs repositioning barges, and barge anchors may cause increases in the amount of suspended sediment in the water column. Repositioning of barges will be brief in duration and done as-needed (i.e., not continuously). Turbidity barriers around the in-water work areas can minimize demolition impacts. With the proper employment of BMPs, this Project should not have a long-term negative effect on either the water quality or biological communities of the area. As such, exposure to Project-related elevated turbidity is expected to have insignificant effects on ESA-listed sea turtles and marine mammals.

Exposure to elevated noise levels—Sound pressure waves in the water from pile cutting can produce high-intensity underwater sounds capable of causing injury or adverse behavioral modifications for marine mammals and sea turtles. Effects vary with the frequency, intensity, and duration of the sound, as well as the hearing characteristics of the affected animal. Effects may include: (1) physical injury and/or permanent hearing damage, (2) behavioral impacts through temporarily reduced sensitivity also referred to as temporary threshold shifts (TTS), temporarily masked communications or acoustical environmental cues, and modified behavior ranging from attraction to avoidance.

The effects thresholds currently used by NMFS are marine mammal specific and based on levels of harassment as defined by the Marine Mammal Protection Act (MMPA). For exposure to sounds in water, ≥ 180 dB and ≥ 190 dB are the thresholds for Level A harassment (i.e. injury and/or TTS) for cetaceans and

pinnipeds, respectively. The thresholds for Level B harassment for all marine mammals in the form of TTS and other behavioral impacts are ≥ 160 dB for impulsive noises and ≥ 120 dB for continuous noises. Currently, no acoustic thresholds have been established for sea turtles. Consequently, the marine mammal thresholds is used for sea turtles, under the assumption that they are likely to be conservative.

The Project BMPs should establish a 50-yard (46-m) safety range that requires mandatory shut-down of saw-cutting should ESA-listed marine animals enter that area. Accordingly, exposure to noise from saw-cutting activities is expected to result in no more than an insignificant level of behavioral modification in the form of temporary avoidance of the immediate area.

Effects on Hawaiian Monk Seal Critical Habitat— The proposed project is expected to have no long-term effect on the foraging characteristics or upon the quality or quantity of monk seal prey. Marine waters in the depth range of 0 to 500 m are the only essential feature of monk seal critical habitat that may be impacted by the planned work. Project-related in-water noise levels may temporarily deter monk seals from entering the Project area. The area that might be avoided is not known to provide significant monk seal forage resources, and the project is not expected to have any impact on monk seal forage resources. Avoidance of the ensonified area would not hinder monk seal access up and down the coast past the bay. However, due to the fact that the area surrounding the pier is designated marine and terrestrial critical habitat, ESA Section 7 consultation with NOAA Fisheries and USFWS is necessary and will be conducted during the Project's U.S. Army Corps of Engineers permitting process. Specific mitigation measures for effects to monk seal critical habitat, if any, will be determined during the consultation process.

Conclusion

Impacts to water quality, coral resources, and other protected species during demolition of the pier will be localized and temporary if Project BMPs, designed to avoid/minimize impacts to marine resources, are effectively implemented. The elimination of the pier superstructure will allow light to reach the bottom beneath the pier structures, enhancing marine resources there and contributing in the long-term to positive effects on the marine community.

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Akule Fishery Study
AECOS, Inc.

***Akule* Fishery Study for the Hāna Pier Deck Removal
Project, Hāna, Maui**

Department of Transportation, Harbors Division

September 27, 2016

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Introduction

The Hawai'i Department of Transportation Harbors Division (DOT-H) proposes to remove the Hāna Pier facility in Hāna Bay, District of Hāna, Maui, Hawai'i (Figure 1). The proposed action involves the demolition of the pier superstructure and pile caps with no new construction ("Project"). The Hāna Pier facility is located along the southern perimeter of Hāna Bay and consists of a large T-shaped concrete pier on piles, a boat ramp, and two boat docks. The T-shaped Hāna Pier has two sections: the "trestle", which extends out from the shore, and the "pier" or "t-head", which is parallel to shore at the far end of the trestle part. Hāna Pier was originally constructed in the 1921 by the Territory of Hawai'i to support the sugar cane industry. Act 272, Session Laws of Hawai'i 1991 transferred the pier from DOT-H to the Department of Land and Natural Resources, Division of Boating and Ocean Recreation (HDLNR-DOBOR). In 2010, jurisdiction of the pier was transferred to DOT-H. Prior to 2010, the pier was used primarily for recreational purposes; however, it was subsequently condemned due to its deteriorated condition.

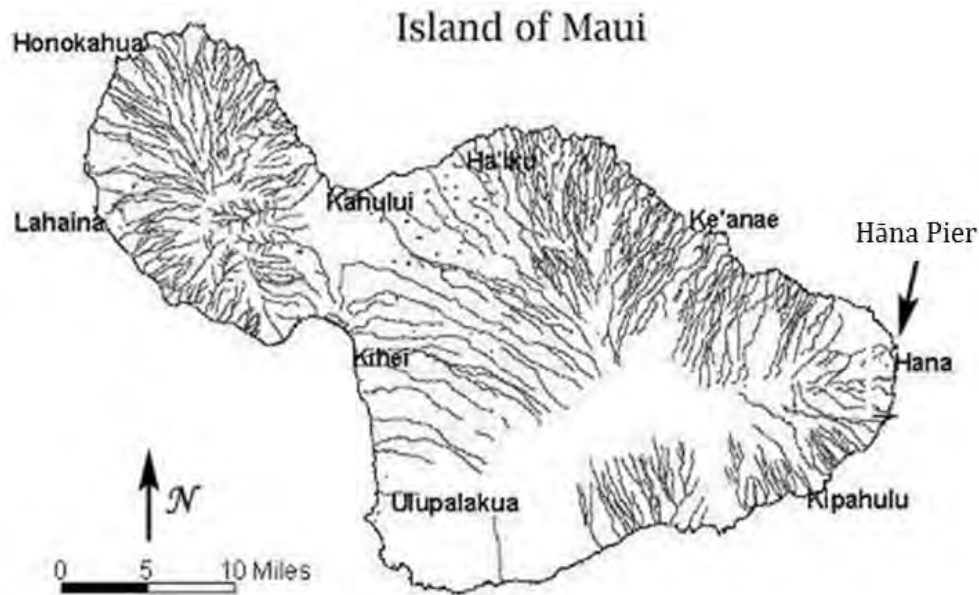


Figure 1. Map of Maui showing location of Hāna Pier in Hāna Bay at eastern most end of Maui

In July 2013 and October 2014, community meetings regarding various options for renovations to the pier were held in Hāna. Written and oral comments were provided from both meetings. As a result of the meetings and written input, community concerns were made about potential impacts to marine subsistence resources in and around Hāna Bay in terms of habitat and migration patterns and local fishing and gathering. Specific comments were made about the impacts to the *akule* (big eye scad, *Selar crumenophthalmus*) population and associated subsistence fishery as a result of the Project. Helber Hastert & Fee Planners, Inc. contracted AECOS to describe existing subsistence fisheries in Hāna Bay and assess impacts to these resources from the Project. The Hāna community has a long history of fishing and gathering, focused on *limu*, *‘opihi*, reef fishes, and especially *akule*. The *akule* fishery remains a significant and relevant socioeconomic activity in Hāna, more so than other subsistence fisheries. As such, the potential impacts to this fishery are considered by the community to be of great concern and therefore is the focus of our study. This report presents a description of the *akule* fishery, results from community interviews conducted in April, 2015 in Hāna, and potential impact to the fishery from the proposed Project.

Project description

The Project involves the demolition of the pier superstructure consisting of a trestle guardrail, deck, and beams, small boat landing on the landward end of pier, and pile caps (Moffatt & Nichol, 2016). The pile caps will be removed to an elevation of approximately +4.00 ft above Mean Lower Low Water (MLLW) except Pile Row P which will be removed to elevation +1.00 ft MLLW (approximately 12 inches below the bottom of the pile caps) and will remain in place once demolition is complete. This will provide that the tops of the piles will remain above water at Mean Higher High Water (MHHW) except for the piles on Pile Row P. The abutment (headwall) at the shore end of the pier will remain. A barge mounted crane, a service barge, two to three barges for storage of demolished materials and a tug/pusher vessel to maneuver the barges are expected to be used for the demolition. Barges will be anchored or spudded in place. When not in use, the service and storage barges may be anchored offshore, out of Hāna Harbor, if desired by HDOT and/or the community.

The process of disassembling the existing pier would follow a systematic approach. During the demolition period, industry-standard BMPs will be employed to avoid or minimize impacts on marine resources. The contractor will be required to develop a site specific best management practices (BMP) plan in consultation with federal and state regulatory agencies to address specific conditions of the work proposed at the project site. Typical BMPs for this type of work include making use of construction debris control devices such as

catchments, underdeck platforms, floating turbidity barriers, tarpaulins, floats, or other devices as necessary to prevent demolition debris from entering the water and airborne materials from leaving the immediate vicinity of the work area as well as established protocols to prevent toxic materials, including fuel, waste water, etc., from spilling on land or entering the harbor water.

An acceptable water quality monitoring program for the immediate vicinity of the pier demolition work will be developed during permit phases with the regulatory agencies, and, at a minimum, the demolition activities will be conducted in a manner that conforms to the applicable permit conditions. The proposed action does not include any dredging or blasting.

Other BMP's may include:

- Install and maintain appropriate storm runoff protection measures around upland storage areas to minimize the release of surface pollutants into the ocean.
- Provide qualified observers for the presence of ESA-listed marine protected species as required by federal resource agencies during in-water construction/demolition activities.
- If required, reduce construction-related vessel speeds within the harbor to 10 knots or less when piloting vessels in the proximity of sea turtles. If practicable, reduce construction related vessel speed to 5 knots or less when piloting vessels in areas of known or suspected sea turtle and marine mammal activity.
- Implement a contingency plan to control and contain hazardous material spills, including petroleum products.
- Place any project-related materials and equipment in the water free of pollutants.
- Fuel project-related vehicles and equipment at least 50 feet away from the water, preferably over an impervious surface. With respect to construction equipment (barges) that cannot be fueled out of the water, set up spill containment berms on the barges to contain any potential spills and prevent the release of fuel into the marine environment. Clean up any fuel spilled on the barge decks immediately.

The anticipated phasing of the demolition activities may occur as follows:

- Contract award and notice to proceed
- Contractor mobilization to the project site (1 to 2 months)
- Deploy in-water BMPs (½ month)
- Dismantle pier superstructure (2 to 2½ months)

- Post-demolition – Demobilization (½ month)

Once the contractor mobilizes to the site, the Project duration is expected to take approximately 6 months to complete. Work will be conducted during daylight hours only, as practical.

Site description

Hāna (22° 13.443" N, 159° 26.724" W) is located on the eastern most end of Maui, approximately 50 miles from the population centers of Wailuku and Kahului. Hāna Bay faces east toward the open ocean and is bordered to the north by Nanualele Point, a lava outcrop, and to the south by Ka'uiki Head, a crumbling remnant cinder cone which rises 386 ft (118 m) above sea level. The black sand beach at the south side of Hāna Bay offers a safe swimming area along an otherwise exposed rocky coastline. During rough conditions, a small shore break and a light longshore current occasionally develop (Clark, 1980). These waters are often murky with fine resuspended sediments. Public facilities at the south end of the Bay include Helene Hall, a community center used for social gatherings and church services and Hāna Beach Park, a one-quarter-acre park with access to a black sand beach, parking, restrooms, showers, a canoe *hale*, and a picnic pavilion.

Along the southeast curve of the Bay, past Hāna Beach Park and Hāna Pier facility, the coast around Ka'uiki Head offers little to no shoreline access due to steep, unstable terrain and impinging waves. The waters beyond the wharf represent oceanic waters that provide snorkelers and divers excellent visibility and a diverse flora and fauna (Clark, 1980). Sea conditions seaward past Ka'uiki Head and Pu'uiki'i Islet with its lighthouse are characterized by strong currents and waves (Clark, 1980).

Marine Assemblages -- NOAA-NOS benthic habitat maps (Batista et al., 2007) have not been compiled for the Project area or vicinity that can be used to identify physical zones (i.e., reef flat, channel, reef crest, fore reef, and bank/shelf) and biological cover (i.e., % coral, % macroalgae, % turf, % coralline algae, and uncolonized). The historical AECOS Coastal Zone map (AECOS, 1979) indicates that an area west of the pier is "rb" (solid or hard bottom; a massive rock surface) and the adjacent shoreline is "sb1" (sand beach of predominantly detrital sediments). Satellite images, and percent coral cover for the area (MRC, 2010), indicate coral cover occurs on the landward side of the pier, east and west of the trestle, and to the north and east of the pier. The most common coral species reported here are *Porites lobata* and *Montipora capitata*. Other species reported include *M. patula*, *M. flabellata*, *P. compressa*, *Pavona varians*, *Pocillopora meandrina*, and *Poc. damicornis*; all at less than 5% coral cover on average, presented here in descending order of abundance. Some piles with

higher levels of light exposure are heavily encrusted with large plating colonies of *M. capitata* (MRC, 2010; AECOS, 2013).

Existing information on *akule*

Akule biology, habitats and life history

In North America, *Selar crumenophthalmus* is commonly referred to as bigeye scad. In Hawai'i, names given to this fish vary by size. Small fish of 5.1-7.6 cm (2.-3 in.) in length are known as *pa'ā'ā*, the intermediate sizes as *hahalalū* (2-2.4 cm; 5-6 in), and fish greater than 22.8 cm (9 in.) as *akule* (Titcomb, 1972). *Akule* or bigeye scad are circumtropical in distribution in warm coastal waters of the Atlantic, Indian, and Pacific Oceans. In Hawaiian waters, the *akule* ranges throughout the archipelago from Kure Island to the island of Hawai'i. The *akule* inhabits the coastal waters from the shallow shore out to depths of 100 m (50 fathoms) and is relatively scarce in offshore waters (Kazama, 1977). They can form schools numbering from a few to tens of thousands of individuals (Shiota, 1986).

Akule is a relatively fast-growing fish. Individuals are between 10.2 and 17.5 cm when they first appear in shallow coastal waters in large schools and grow to 22.9 cm by the end of the first year and 30.5 cm by the end of the second year. Results from tagging experiments indicate that *akule* is not migratory and tends to remain in very localized areas (Kawamoto, 1973). Results of studies in the main Islands found *akule* gonads are predominantly mature or spent in April-November (Kawamoto, 1973), and fish under 15 cm appear in shallow coastal waters in large schools in July-December (Gosline and Brock, 1960). These data suggest that spawning occurs in the spring and summer. Before spawning, mature fish move into shallow water, where the adults form large schools in shallow, sandy, or flat-bottomed areas in the main Islands (Gosline and Brock 1960). The bulk of *akule* diet is composed of small fishes such as anchovies and holocentrids, and crustaceans such as copepods, crab megalops, stomatopods, and shrimps (Kawamoto, 1973).

Historical knowledge

In 2002, Kumo Pono Associates conducted detailed archival-historical documentary research, and oral history interviews to identify and document traditional knowledge of Hawaiian fisheries. The following historical account of *akule* fishing is taken from that research (Kumo Pono, 2003):

The *akule* fish seek the deep. Sometimes though, they come close inshore. This fish is a globetrotter and stop whenever they find a place that they like, they stay there. When you see them from the shore, you will see the redness of the water. Only when caught that those who were not skilled in fishing lore know that they are present. They remain several days or weeks at a place...When the fisherman who is well supplied with papa nets sees the fish, he calls for his canoes or boats and go out to surround the fish with the nets. Two canoes would go ahead and they carried the curtain nets. The head fisherman watches from the shore and when he sees that they have reached the right places, he makes signs by waving his hands. The curtain nets are lowered and every effort is made to draw them shoreward. If the fish is surrounded in this time that the net is lowered, then the bag net is set in place. This is an exciting time for the *akule* fish.

Such episodes as those just described, when *akule* (and mullet) are running, were, in old Hawaiian days, times when planters left their cultivating of taro, sweet potato, and banana, and feeding of livestock to join their relatives and neighbors along shore in their fishing operations. Each man received his share of catch in proportion to his contribution in time and equipment. The canoes and nets belonged to families living along shore. They exchanged some of their fish and limu (edible seaweed) for taro (or poi) and sweet potatoes.

Akule fishery in Hāna

The *akule* fishery is among Hawai'i's primary inshore fishery resource (Lowe, 1995; Kazama, 1977; Weng and Sibert, 2000). The Hāna community has a long tradition of fishing and, due to its remoteness, fishing remains an important socioeconomic activity for many community members. An account of the historical fishing of *akule* in Hāna, as recalled from long-time resident of the community is described below (Kanaka'ole, 2005):

Throughout the 40's, 50's and 60's the *akule* fish was plentiful in Hāna. The *akule* always came into Kapueokahi to spawn. Men on canoes would paddle out and set the nets to catch the *akule* and sometimes the catch was so plentiful. When word got out that *akule* was being surrounded, you would drop whatever you were doing and headed down to Kapueokahi. This event became a community affair. Many people came to help pull in the nets unto the shore and everyone who helped got a share of the catch. Many times we salted and dried our *akule* so that we could enjoy it on another day, mainly because a refrigerator was not a regular kitchen appliance as it is today. In fact,

what we had was called an “ice box”, which consisted of a heavy duty, compartmentalized box with blocks of ice stored in the bottom. This is where the term ice box comes from and we still use it today.

Akule fisheries management

Presently, the *akule* fishery is managed through two regulations. The first was established in 1929, which prohibits the use of nets with stretch mesh size of less than 38.1 mm (1-1.6 in.). Because of a decrease in catch during the years from 1951 to 1965, a second regulation was enacted in 1968 to protect the young *akule*. The 1968 regulation prohibits the netting of *akule* under 21.6 cm (8.5 in.) in total length from July through October during the season of peak recruitment into the fishery (HAR 13-95; HDLNR, 2010).

Study methods

An AECOS biologist conducted historical documentary research to identify and document traditional knowledge of *akule* in Hawai‘i. To gather specific fishery information in Hāna, community members and fishermen were informally interviewed between April 23 and 26, 2015. AECOS biologist, Stacey Kilarski, talked with a total of 33 people; all of whom reside in Hāna and the surrounding area. Ten of the respondents frequently fish (three considered themselves commercial offshore fishermen), and four of the respondents are elders (*kupuna*) of the community. All of the community members interviewed utilize Hāna Bay for various activities including; fishing/gathering, swimming, paddle boarding, and community gatherings (e.g. weddings, parties, concerts, etc.). The 15-20 minute interviews were focused on gathering information on the *akule* fishing practices, including the frequency, level of reliance, and cultural connections to the resources and bay.

Results

Harvest methods

As described in historical accounts, schools of *akule* were sighted by a “spotter” from high ground on land, from ripples or a color change in the water. The “spotter” was responsible for coordinating the net setting operation through hand signals to the fishermen. As described from interviewees, this practice is still followed today in Hāna. Atop a hill above the Bay, a *hale* or traditional Hawaiian house exists. Here the daily practices of participants, of an active local canoe club, keep a watchful eye on possible runs of *akule*. It is called the Akule

Hale or fisherman's club, and it is where the fishermen and *kupuna* of the community gather to talk, tell stories, and watch for fish. Once the *akule* are spotted in the bay from the *hale*, the community is notified (currently through phone calls and social media networks) and participants mobilized. A skiff, loaded with the net, launches from the boat ramp at Hāna Pier. This boat drops large surround nets (called *hukilau*) to enclose schools of *akule* that gather close to shore in relatively shallow water. The setting pattern depends upon the behavior of the fish school, depth of water, and current condition during the fishing operation. The two ends of the net are overlapped to completely encircle the fish. Divers then enter the water on the down-current end of the net and remove the lacing between the two net sections. A bag is attached in-between the sections and secured by weaving foot-long "chopsticks" through the webbing. The circle of the net is reduced in size by moving sections of the net toward the center to direct the surrounded fish into the bag.

Accounts from the community indicate that the harvest is a community event, where people of all ages gather to participate, including children, who help to detangle the fish from the nets. Every person interviewed elaborated on the fact that the *akule* harvest unites the community. One fisherman explained that "the majority of the community participates, (up to) 80%, most of whom reside in Hāna and the surrounding area. Everyone benefits from the *akule* harvests". Once the catch is brought on shore, the manager of the Akule Hale distributes the harvest of the fish and rations the fish proportionally among the families of the community. The catch is never sold. Accounts from the community and fishermen indicate that the harvest occurs approximately once every six months.

Catch

As well as being a valuable commercial species, the *akule* is also a sought-after recreational and subsistence catch. Fisheries catch statistics alone are unreliable owing to under-reporting by commercial fishers and a large resident recreational and subsistence fishing catch that goes unreported. The only consistent long-term source of data of Hawai'i's coastal fisheries is the commercial landings database maintained by the Department of Land & Natural Resources (DLNR), Division of Aquatic Resources (DAR). They collect commercial catch and effort data from commercial fishermen on mandatory catch reports. All Commercial Marine License (CML) holders are required to report what is caught and how many pounds on a monthly basis, regardless of whether the catch is sold.

Hawai'i is one of the few coastal states that does not require a saltwater recreational fishing license, and therefore the recreational fishing harvest goes undocumented. The nearshore recreational and subsistence catch is probably

equal to or greater than the nearshore commercial fisheries catch, and recreational and subsistence fishers take more species using a wider range of fishing gear (Friedlander, 2004). The *akule* fishers in Hāna are not registered as commercial fishers, and therefore there is no DAR-collected landing data for *akule* in Hāna (pers. comm. Russell Sparks and Reginald Kokubun).

Beginning in 2001, the National Marine Fisheries Service (NMFS) and DAR began collecting marine recreational fishery data in Hawai‘i, administered through the Hawai‘i Marine Recreational Fishing Survey (HMRFS). However, due to the remote location of the area, non-commercial fishing data is not collected in Hāna (pers. comm. Thomas Ogawa).

Community ties to fishing

The cultural review of Hāna Bay, as related to the Project, is not the focus of this report, however, the interviews with the community revealed a strong connection to Hāna Bay that is worthy of including here. Multiple interviewees stated that Hāna Bay is the “Heart of Hāna” and the community here has “cultural, religious, and subsistence” ties to it. One fisherman stated that “we are a fishing village, first and foremost”. Every person who was interviewed in April 2015 described a strong connection the community has to the environment, specifically the ocean and fishing.

Assessment of potential impacts

The following section is a discussion of potential impacts from the Project on *akule* and associated essential fish habitat (EFH). Direct impacts to *akule* and EFH at the Project site would result from the sound emissions during pile-cutting for the pier demolition, modifications in shading of the bottom from the removal of the superstructure, and seafloor disruption due to anchors placed for construction barge stabilization. Indirect impacts to *akule* and the marine environment may occur during demolition and include suspended sediments that may move into distant areas of Hāna Bay utilized by *akule*.

Acoustical impacts

Sound pressure waves in the water from pile cutting can affect *akule* (or any fish, particularly those with a swim bladder). Types of effects on fishes can include mortality from swim bladder rupture or internal hemorrhaging, changes in behavior and hearing loss (permanent or temporary; Vagle, 2003). The most commonly observed behavioral changes are temporary dispersal of fish schools.

The extent of impact is influenced by factors such as species, fish size, physical condition, peak sound pressure and frequency, shape of the sound wave, depth of water, location of fish in the water column, amount of air in the water, size and number of waves on the water surface, bottom substrate texture, currents, presence of predators, and pile type and size (NMFS, 2004). Noise and vibrations generated during pile cutting can disturb the normal behaviors and mask sounds from other members of the same species or from predators. This would result in behavioral responses such as avoidance and deflections in travel direction and spawning relocation. Before spawning, mature *akule* move into shallow water in Hāna Bay. Acoustical impacts from pile-cutting are expected to be temporary and localized, but could cause *akule* to avoid the shallow waters of Hāna Bay and thus impact spawning.

Shading modifications

Overwater structures, such as the Hāna pier superstructure, create shade which reduces the light levels below the structure. The shadow cast by an overwater structure affects both the plant and animal assemblages below the structure. Distributions of plants, invertebrates, and fishes have been found to be severely limited in under-dock environments when compared to adjacent, unshaded locations. Shading from overwater structures may also reduce prey organism abundance and the complexity of the habitat by reducing aquatic vegetation and phytoplankton abundance (Kahler et al. 2000, Haas et al. 2002). Light is the single most important factor affecting aquatic plants. Under-pier light levels have been found to fall below threshold amounts for photosynthesis by diatoms, benthic algae, and associated epiphytes and other autotrophs. These photoautotrophs are an essential part of nearshore environments and the estuarine and nearshore food chains that support many species of marine and estuarine fishes, including *akule*. As noted above, the *akule* diet is composed of small fishes and crustaceans (Kawamoto, 1973), which feed on planktonic diatoms, benthic algae and other photoautotrophs. Removal of the Hāna Pier superstructure will eliminate shading, resulting in an increase in the photoautotrophs occurring at the location, thereby enhancing the *akule*, and other nearshore fish diets.

Fishes rely on visual cues for spatial orientation, prey capture, schooling, predator avoidance, and migration. The reduced-light conditions found under an overwater structure limit the ability of fishes, especially juveniles and larvae, to perform these essential activities. In the long term, the removal of the superstructure is anticipated to enhance the physical environment, resulting in positive changes in *akule* schooling, spawning and migration behaviors.

Suspended sediments

Potential impacts to *akule* populations from demolition may occur from degradation of water quality. Project demolition, propeller wash from tugs repositioning barges, and barge anchors may cause increases in the amount of suspended sediment in the water column. The re-positioning of barges will be brief in duration and done as-needed (i.e., not continuously). Turbidity barriers around the in-water work areas can minimize demolition impacts. *Akule* prefer clean, clear, insular waters (Cervigon, 1993). It is anticipated that *akule*, and other demersal and pelagic fishes, will avoid areas where active in-water work is occurring (proposed to be 3 months in duration). Results suggest that *akule* spawning occurs in the spring and summer (Kawamoto, 1973; Gosline and Brock, 1960). Large schools of mature fish are found in shallow waters, like Hāna Bay, prior to spawning between April and November. In-water Project activities occurring during this time may alter fish behavior and result in the temporary displacement of the large schools of this species. In the short term this may have adverse cascading effects, both ecologically and socially/culturally, if turbidity is not limited to the immediate work areas.

The small boat loading dock adjacent to Hāna Pier is not proposed to be demolished, retaining local boat launching capability. Therefore, impacts to community fisheries from any limitation on boat access will not result from the Project. Displacement of fish, as a result of avoiding in-water work areas could result in temporary declines in *akule* catches. This impact is expected to be limited to in-water work periods.

Conclusion

Impacts to subsistence fisheries during demolition of Hana pier would be localized and temporary. Project BMPs are intended to avoid or at least minimize impacts to EFH, and with effective implementation, BMPs will limit adverse impacts to *akule*, associated EFH, and fish catch. The elimination of the pier superstructure will allow sunlight into areas where light was blocked by the pier structure. Enhanced sunlight is expected to improve marine resources below the existing pier, contributing in the long-term to positive effects on *akule* and other Hana Bay marine resources.

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E

Historic Properties Evaluation Materials
and SHPD Correspondence

Rossetter, Sandra C

From: Shen, Celia Y
Sent: Tuesday, May 23, 2017 10:00 AM
To: DLNR.Intake.SHPD
Cc: Puff, Jessica L; Rossetter, Sandra C
Subject: 6E Review_RLS Hana Pier; Northeast of TMK (2) 1-4-004:036
Attachments: 2017.05.23_6E Review Submittal_RLS Hana Pier.pdf

Please see attached requesting HRS 6E review of Reconnaissance Level Survey of Hana Pier.

Thank you.

Celia Shen
Planner
Department of Transportation Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813
PH: (808) 587-2013



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
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FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HAR-EP
8626.17

May 22, 2017

TO: DR. ALAN DOWNER, ADMINISTRATOR
DEPARTMENT OF LAND AND NATURAL RESOURCES,
STATE HISTORIC PRESERVATION DIVISION

ATTN: JESSICA PUFF, ARCHITECTURAL HISTORIAN

FROM: DARRELL T. YOUNG, DEPUTY DIRECTOR *Darrell T. Young*
DEPARTMENT OF TRANSPORTATION, HARBORS DIVISION

SUBJECT: REQUEST REVIEW OF THE HĀNA RECONNAISSANCE LEVEL
SURVEY, HĀNA, MAUI - JOB H.C. 30108

Enclosed for your review is the Chapter 6E Historic Preservation Review Submittal Form, a cover letter and Reconnaissance Level Survey prepared in advance of modifications to the pier. The Department of Transportation, Harbors Division (DOT-H) is proposing removal of the pier deck in the interest of public safety. The pier was constructed in 1921. It is currently in disrepair and closed to the public.

DOT-H is preparing a Hawaii Revised Statutes, Chapter 343 Draft Environmental Impact Statement for the removal of the pier deck, which we plan to publish this July. The project will require a Department of the Army permit, which will trigger Section 106 consultation.

Feel free to contact Sandra Rossetter, of our Engineering Branch, Planning Section at 587-1886 if you have any questions.

Enc.: Chapter 6E Historic Preservation Review Submittal Form, Cover letter from Mason Architects, Reconnaissance Level Survey

HAWAII STATE HISTORIC PRESERVATION DIVISION
Chapter 6E Historic Preservation Review Submittal Form
 For projects affecting buildings more than 50 years old.

1

TMK: N/A (Northeast of TMK (2) 1-4-004:036)		YEAR BUILT: 1921	
STREET ADDRESS: N/A		Island: Maui	
TOWN/AREA: Wainanaluua Ahupua'a, Hāna District		ZIP CODE: 96713	
PROPERTY NAME: Hāna Pier		HISTORIC NAME: Hāna Wharf	
OWNER: State of Hawai'i		ARCHITECT (If known): William D'Esmond, Engineer / J.B. Agassiz, Contractor	
OWNER TYPE: <input type="checkbox"/> PRIVATE <input checked="" type="checkbox"/> PUBLIC		CONTACT # : (808) 587- 1886 EMAIL sandra.c.rossetter@hawaii.gov	

2

Submittal Checklist:
 All submittals **must** include the following



PLANS

Plans must illustrate the building before and after the proposed work. A very detailed project description will suffice for small projects. Any plans larger than 11X17 must be submitted in a digital format.
PLANS WILL NOT BE RETURNED!



PHOTOS

Include clear photos of each elevation as well as photos of the specific locations of the proposed work. Digital photos are accepted and encouraged.

3

Share your knowledge (Optional)

Is the property associated with:



significant historical events;

Examples: A building that once housed an early school. - An old commercial district that represents a town's growth over time. - A building that once housed an important social organization.



a prominent historical figure;

Examples: The office of an important labor leader. - The halau of a prominent kumu hula. - The boyhood home of a president or world leader. The studio of a locally significant artist.



an exemplary design or construction method;

Examples: A representative work of a master architect. - The oldest brick building in the state. - A small farm house with exceptional examples of Japanese carpentry. - A military facility that illustrates cold war technology.



an archaeological site

Examples: An important pre-contact habitation site. - The site of an important battle. - A plane crash site.

Describe this association:

Include any other important historical information you may know. Feel free to use multiple pages

See attached

office-use-only	TMK:	PROPERTY NAME:
	ADDRESS:	TOWN/AREA:
DETERMINATION	ISLAND	ZIP CODE
ELIGIBLE FOR REGISTER:	<input type="checkbox"/> YES <input type="checkbox"/> NO	REGISTER #:



ARCHITECTURE
RESTORATION
RENOVATION
RESEARCH

Mason Architects

February 22, 2017

Jessica Puff
State Historic Preservation Division
Kakuhihewa Building
601 Kamokila Blvd., Suite 555
Kapolei, HI 96707

Re: Hāna Pier– Reconnaissance Level Survey

Dear Jessica,

Mason Architects, Inc. (MAI) was hired by HHF Planners to prepare the enclosed Reconnaissance Level Survey (RLS) of the Hāna Pier in Hāna, Maui. The concrete wharf was constructed in 1921, is severely deteriorated, and currently closed to the public. The RLS was undertaken on behalf of the Department of Transportation (DOT-H), Harbors Division in advance of modifications to the pier (removal of deck and pile caps). An Environmental Impact Statement (EIS) is being prepared for the project. The project will require a U.S. Army Corps of Engineers (USACE) permit, which will trigger eventual Section 106 consultation.

To follow are the RLS parameters and our summary of findings. The RLS form for the Hāna Pier is attached. The spreadsheet summary, photographs that are required by State Historic Preservation Division (SHPD), and GIS shapefile are included on the enclosed disc.

Survey Parameters

A total of 1 structure was surveyed. Research indicates that it was constructed in 1921.

Survey Findings

The Hāna Pier was evaluated for National Register of Historic Places (NRHP) eligibility, and was found eligible under NRHP Criterion A for its association with the economic growth of Hāna. It served as the only shipping point for local sugar from the Kaeleku Plantation Co. from 1921 until 1947 when the plantation closed down. In addition, until the 1926 construction of the Hāna Highway, shipping by means of the pier was the source of most all of the goods consumed in Hāna. It also supported Hāna's personal transportation needs as it hosted weekly passenger service until 1929. Explanation of this finding, and additional detail about the pier, are in the attached RLS form.

Evaluation of Effects of the Proposed Project

According to 36 CFR 800.5 (a)(1) and 800.5(a)(2), respectively:

Adverse effects occur when an undertaking may directly or indirectly alter characteristics of a historic property that qualify it for inclusion in the Register. Reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative also need to be considered.

Examples of adverse effects include physical destruction or damage; alteration not consistent with the Secretary of the Interior's Standards; relocation of a property; change of use or physical features of a property's setting; visual, atmospheric, or

audible intrusions; neglect resulting in deterioration; or transfer, lease, or sale of a property out of Federal ownership or control without adequate protections.

The proposed action is the removal of the concrete pier deck and pile caps with the retention of 146 concrete piles. As outlined in the Criteria of Adverse Effect 36 CFR 800.5(a)(2), the physical destruction of this highly visible and sizable portion of an eligible property directly alters the characteristics that qualify this property for inclusion on the National Register of Historic Places and substantially diminishes its integrity of design, materials and workmanship.

Proposed Mitigation

Proposed mitigation is development of a Historic American Engineering Record (HAER) report. The appropriate level of documentation would be determined by SHPD and in consultation with the National Park Service.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Polly Tice". The signature is written in black ink and is positioned below the word "Sincerely,".

Polly Tice

Enclosure: RLS Survey Form and Disc with spreadsheet, photographs, and GIS shapefile



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HISTORIC RESOURCE INVENTORY FORM – Reconnaissance Level

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GENERAL INFORMATION

Common / Present Name: Hana Pier

Historic Name: Hana Wharf

Address: Keawa Place at Hana Bay waterfront

City/ Town/ Location: Hana, Maui 96713

County: Maui

TMK [(X)-X-X-XXX:XXX]: adjacent to the northeast of (2) 1-4-004:036

Subdivision/Neighborhood: n/a

Latitude: 20d-45m-23.20s N

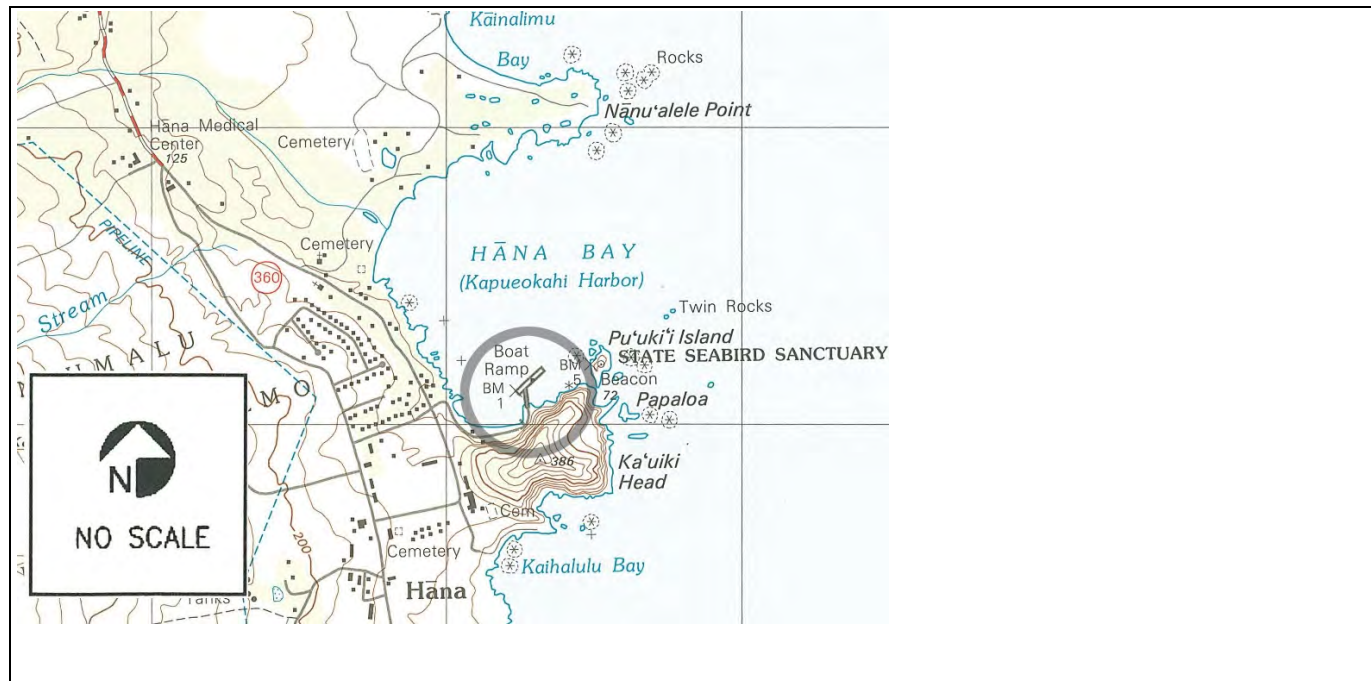
Longitude: 155d-58m-55.60s W

Original Use: Pier (historically referred to as "Hana Wharf")

Current Use: None; condemned pier

Architect/ Builder (if known): William D'Esmond, Engineer, Hawaii Board of Harbor Commissioners. J.B. Agassiz, Contractor.

Date of Construction (if known): 1921



LOCATION MAP

Prepared By: Dee Ruzicka

Consulting Firm: Mason Architects, Inc.



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Address: 119 Merchant St. Suite 501 Honolulu, HI 96813
Telephone Number: 808-536-0556 Email: dr@masonarch.com Date:
[Click here to enter text.](#)

CONDITION ASSESSMENT

Category (select all that apply):

- Building(s)
 - Residential
 - Commercial
 - Educational
 - Public/Civic
 - Religious
- Structure(s)
- Object(s)
- Site(s)/Landscape(s)
- Archaeology or potential for archaeology

Describe: _____



Alterations (additions, etc.) if known: The original 250' long main section was extended east to a total length of 339' in 1941. At the same time, the double row of rail tracks on the main section was changed to single tracks. Before 1963 all structures were removed from the main section. In the 1970s and late 1980s, the Department of Land and Natural Resources Division of Boating and Ocean Recreation (DLNR DOBOR) concrete boat ramp and piers were added, which are separate from the Hana Pier itself. Since 1991, the pier has been closed to vehicular traffic, and the large steel bollards were likely installed around that time to prevent vehicular access. In 2002, DOBOR Engineering inspected the Hana Pier and recommended that it should be restricted from public access. In 2003 a section of concrete boat ramp dislodged by strong surf was repositioned back in place. The metal fence between the steel bollards was erected sometime between 2002 and 2004, to prevent access to the pier.



Original Location, if moved: _____

Reason for move (if known): _____

Condition:

- Excellent
- Good
- Fair
- Deteriorated

Condition Explanation: Holes in the concrete deck.

Eligibility (select all that apply):

- National Register of Historic Places
- State Register of Historic Places
- Not Eligible



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- Eligible
- Listed
- Contributing to Historic District:
- Name of District:
- Unknown

Criteria of Significance (select all that apply)

A: Associated with Events

Event: The Hana Pier is associated with the economic growth of Hana, as the source of most all goods consumed in Hana until about 1926, for accommodating passenger service to Hana until 1929, and as the only shipping point for local sugar until 1947.

B: Associated with Significant Person(s)
Person(s): _____

C: Distinctive characteristics of a type, period or method of construction; work of a master; possess high artistic values (Architecture, Engineering, Design)

D: Have yielded or may be likely to yield information important to history or prehistory. Explain: _____



DESCRIPTION

Materials (please check those materials that are visible):

Height

- Stories: _____
- Below Ground
- N/A
- Other: pier

Exterior Walls (siding):

- | | | |
|---|---|--|
| <input type="checkbox"/> Aluminum Siding | <input type="checkbox"/> Log | <input type="checkbox"/> Vinyl Siding |
| <input type="checkbox"/> Asbestos | <input type="checkbox"/> Metal | <input type="checkbox"/> Engineered Siding |
| <input type="checkbox"/> Brick | <input type="checkbox"/> Shingles-Asphalt | <input type="checkbox"/> Plywood |
| <input type="checkbox"/> Ceramic | <input type="checkbox"/> Shingles-Wood | <input type="checkbox"/> OSB |
| <input checked="" type="checkbox"/> Concrete | <input type="checkbox"/> Stone | <input type="checkbox"/> Fiberboard |
| <input type="checkbox"/> Horizontal Wood Siding | <input type="checkbox"/> Stucco | <input type="checkbox"/> Fiber Cement |
| | <input type="checkbox"/> Vertical Wood Siding | <input type="checkbox"/> Other: _____ |

Roof:

- | | | |
|---|-----------------------------------|--|
| <input type="checkbox"/> Asphalt, shingle | <input type="checkbox"/> Metal | <input type="checkbox"/> Ceramic Tile |
| <input type="checkbox"/> Asphalt, roll | <input type="checkbox"/> Slate | <input type="checkbox"/> Wood Shingle |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Built Up | <input checked="" type="checkbox"/> None |

Foundation:

- | | | |
|---|---|---------------------------------------|
| <input type="checkbox"/> Brick | <input type="checkbox"/> None – on earth | <input type="checkbox"/> Stone |
| <input type="checkbox"/> Concrete Block | <input type="checkbox"/> Poured Concrete | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Concrete Slab | <input checked="" type="checkbox"/> Raised/Pile | |

Structural Support:

- | | | |
|------------------------------------|---|---|
| <input type="checkbox"/> Baled Hay | <input type="checkbox"/> Concrete Block | <input checked="" type="checkbox"/> Concrete Framed |
|------------------------------------|---|---|



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- Concrete Poured
- Frame-wood
- Frame-metal/steel

- Brick-load bearing
- Stone-load bearing
- Puddled Clay

- Rammed Earth
- Sod
- Other: _____

Windows:

- Double Hung Sash
- Single Hung Sash
- Casement
- Fixed
- Stained Glass

- Replacement
 - Aluminum
 - Vinyl
- Jalousie
- Ribbon

- Glass Block
- None/Unknown
- Other: _____

Lanai(s)

- Arcade
- Balcony
- Porte-Cochere
- Recessed

- Stoop
- Portico
- Verandah
- Wrap-around

- None
- Other: _____

Chimney

- Brick
- Concrete
- Stuccoed Masonry

- Stone
- Stove Pipe
- Siding

- None
- Other: _____



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Narrative Description

DESCRIPTION

Hana Pier is a concrete pier located on the southern shore of Hana Bay. It is supported by driven concrete piles and has a footprint in a slanted T shape. The pier has a main section about 339' long x 42'-9" wide that runs approximately parallel to shore. This section is connected to shore by a 145'-6" long approach extension that is about 27'-3" wide, and joins the main section of the pier at an approximate 60 degree angle about 100' from the southwest end of the main section. On shore, a paved, earthen approach of riprap boulders and fill about 135' long provides vehicle access to the edge of the pier approach extension from the shoreline terminus of Keawa Place. The filled approach is poured concrete at its seaward end, which is an approximate 9" thick slab that is cantilevered about 2'. A gap of about 2" separates the cantilevered end from the approach extension. A metal fence of vertical bars with pipe posts at the beginning of the approach extension prevents vehicle access onto the pier.

The approach extension has 4' high, solid panel concrete parapets at its side edges that provide a 25' useable width of the approach between them. The parapets are about 6" thick, with 8" wide x 6" high top rail and a 1'-3" high base that is about 1' thick. Both rail and base have chamfered edges. The concrete deck of the approach extension has a single set of 3' gauge railroad tracks that run the length of the approach extension. The tracks do not extend onto the filled approach. Where the extension ends, at the beginning of the filled approach, the steel rail of the tracks are revealed to be about 3 ½ " high with a base about 3 ½ " wide. At the seaward end of the approach extension, the tracks have a Y intersection onto the main section of the pier. At this intersection, all switches for the rail tracks have been removed and the depressions filled with concrete. The approach extension is supported on 18" square concrete piles, three piles per bent on 10'-10" spacing, with bents on longitudinal spacing of 12'-6" o.c. Each bent is topped with an approximate 2' high concrete beam with transverse gussets at each pile top.

The main section of the pier is also supported on 18" square, driven concrete piles, four piles per bent on variable spacing of 12' to 13'. Bents of the main section of the pier are on 12'-6" spacing, except for the last bent at the northeast end, which is 12'-0". At the seaward side of the main section, the typical, approximately 2' high concrete beam that tops the bents tapers wider to an approximate 5' high at the outer row of piles. This heightened beam and the concrete deck of the pier above overhangs the outer row of piles by about 5'. The outboard edge of the heightened beam is notched about 4'-6" above the Mean Lower Low Water (MLLW) level to accept horizontal wooden wales as a ship bumper. These horizontal timbers remain at the first 3 bents at the west end of the pier.

The concrete deck of the main section of the pier is about 9' above MLLW. The deck has a 3' gauge railroad track along its length. The rails of this track are at 9'-2" and 12'-2" from the seaward edge of the pier. A small boat landing is located along the land-facing edge of the pier, about 37' from the west end. This landing is a set



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of concrete steps, about 6' wide, that descend from the pier deck down to an approximately 6' x 10' concrete platform that is about 3'-9" above MLLW.

Just west of where the approach extension joins the main section of the pier are the remains of the concrete foundation of a former toilet room. This is a partial concrete curb, about 8" wide x 4" high, forming the remains of a 10' x 11'-6" rectangle. Within the enclosure of the curb is part of a 2" thick concrete slab that was poured atop the concrete deck of the pier. A portion of this slab is chipped away. Several vertical sections of piping that are flush with the top of the 2" thick slab extend down through the deck and are open to the ocean below.

Just east of where the approach extension joins the main section of the pier are the remains of the concrete curb foundation of a former warehouse building. This curb is 8" wide x 4" high and forms a 75' x 24' rectangle along the landward edge of the pier.

Two large, single bit, horn bollards and several large cleats remain at the edges of the main section of the pier. Bollards are typically about 2'-10" high on a 2'-6" square base. They are located at the east end, shoreward corner, and at the seaward edge near the 4th bent from the east end. Cleats are typically about 2'-3" long and 6" high and are located near the two bollards.

The Hana Pier is in poor condition. Many of the concrete piles supporting the approach extension and the main section have extensive spalling and exposed steel reinforcing that is severely rusted. There is a large hole through the deck of the approach extension at its shoreward end. Additional holes through the deck of the main section of the pier are at the east end and at the concrete platform of the small boat landing.

The Hana Pier, as described above, is under the jurisdiction of the State of Hawaii, Department of Transportation, Harbors Division (DOT-H). Adjacent to the filled approach, and accessed from it, are two separate piers and a concrete boat ramp that are under the jurisdiction of the State of Hawaii, Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DOBOR). This RLS report covers projects undertaken on the DOT-H structures only.

Adjacent DOBOR Facilities

Along the west edge of the filled approach there is a concrete boat ramp with a 100' long fixed pier alongside that roughly parallels the filled approach. There is a second, shorter fixed pier about 40' long that is located at the west edge of the approach, where the filled approach transitions to the approach extension. At the concrete boat ramp there is a bronze plaque, installed in memory of the five men who were lost at sea off Hana on February 11, 1979 when their fishing boat failed to return after a storm. The plaque reads:

"In loving memory of the crew of the Sarah-Joe. Lost at sea off Hana, Maui February 11, 1979. Peter Hanchett, Ralph Malaiakini, Benjamin Kalama, Scott Moorman, Patrick Woessner. Hana remembers her sons."



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INTEGRITY

The Hana Pier retains integrity of location. Although the area surrounding the pier has changed in usage due to the beach park, integrity of setting is partially retained by virtue of the low building density, which is similar to historic times. Intergity of design, materials, and workmanship are partially retained. Although the filled approach has been altered by the addition of the DOBOR boat ramp, the approach extension and main section of the pier have much of their original and historic attributes and features. Integrity of feeling and association are retained because the pier has the physical features to convey a historic sense of the time it was in use.

Statement of Significance

HISTORICAL CONTEXT

Construction

The pier at Hana Bay (also historically known as Kauiki Bay ca. 1920, and as Kapueokahi Bay ca. 1882) was completed in the first half of 1921. It replaced an earlier landing located near the foot of Keawa Place, on the shore of Hana Bay, about 250 yards to the west. Here, a series of landings, jetties, and a pier had been in use since at least 1882. When the 1921 structure was built, it was referred to as “Hana Wharf”, not as a pier (as it is known today). As such, the historical context that follows uses the historically accurate terms “wharf” and “Hana Wharf” to describe what is now known as Hana Pier.

Original drawings for the wharf were produced by the Board of Harbor Commissioners. They are dated from September 1918 to March 5, 1919, and are signed by Lyman H. Bigelow, Chairman, and all refer to the structure as the “Hana Wharf”. William D'Esmond, Engineer, Board of Harbor Commissioners, was responsible for many of the drawings, along with J.O. Yapp, and persons with the initials G.H.E. and A.W.H. (12 drawing series HC 305 in Rm 208 Plan Room at Hawaii Dept. of Transportation, Harbors Division, 79 . Nimitz Highway, Honolulu).

The contractor for the Hana Wharf was J. B. Agassiz of Honolulu. The structure had been planned since at least 1917, when the Territorial Legislature approved a \$75,000 bond issue to cover cost of construction. Theo H. Davies Co. of Honolulu, agents for Hana's Kaeleku Sugar Co., purchased the bonds. This initial amount was increased to \$95,000 in 1919, the year that construction started on the wharf structure. Because of a manpower shortage due to the military draft for service during World War I (Annual Report, Board of Harbor Commissioners, 1919. P. 17), prison labor was used to build the 25' x 135' riprap and infilled approach to the wharf. About 60 Territorial prisoners were assigned to this duty, which included a macadamized roadway atop the infilled approach.

The filled section of the approach was completed in 1920, as the concrete piles for the remainder of the wharf were started. The filled approach quickly diverted the normal flow of currents in the bay and washed away bottom sand at the area where the piles were to be driven. The overlying sand layer that was washed away



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meant there was no loose material to hold the pile points in place and upright to start driving them. This necessitated drilling into the hard coral to form a pocket to accept the pile points. Construction was delayed by this and by a lack of fresh water at the site, which was needed for mixing concrete and for soaking burlap used to cover the poured concrete while curing. It was "necessary to both grant liberal extension of time to the contractor and to authorize the performance of 'cost plus services' drilling for piles, as an extra under the provisions of specifications to cover work not provided for by the contract" (Annual Report, Board of Harbor Commissioners, 1920. P. 18).

At the end of the filled approach, contractor Agassiz's work consisted of the driven piles and the concrete decking for the entire wharf. This is a 27'-3" wide x 145'-6" long approach extension off the end of the infilled approach which connected to the 42'-9' wide x 251'-6" long wharf, also on piles, to form a "T" shaped plan.

Although extensive soundings of the area of the new wharf were taken in 1917, when the wharf was finished in 1921 it was discovered that there were several large boulders near the outboard side of the wharf that had only about 19 feet of water over them at low tide. J.B. Agassiz was awarded an additional \$1,000 to remove these boulders (Annual Report, Board of Harbor Commissioners, 1921. P. 14).

As the 1921 wharf was completed, a contract for \$12,534.67 was let to E.C. Mellor for the construction of a passenger shed, warehouse, and railroad tracks on the new wharf. Also included in Mellor's contract was removing the derrick from the former wharf and reconstructing it on the 1921 wharf with a house for the gasoline hoisting engine. The wooden parts of the former wharf were dismantled and sold for firewood (Annual Report, Board of Harbor Commissioners, 1922. P. 13). A large mooring buoy formerly used at Hilo was purchased from Matson Navigation Co. and installed in the bay off the new wharf as a head line mooring.

Both the 75' x 24' warehouse and the 37'-6" x 24' shed were wood framed with corrugated panel siding and were about 20' high to the ridge of their gable roofs. The warehouse had wide (approx. 12'-6") sliding doors, and the shed had a small interior office and a toilet that was supplied with fresh water from a feeder line but dropped its waste into the sea. The warehouse was near the east end of the wharf and the shed was just west of where the approach extension joins the main wharf. At the west end of the wharf was a small shed for the engine for the derrick, also at the west end. This derrick, relocated from the former wharf, was a stiff-leg crane with a 30' boom on a 20' mast supported on the pier deck by a concrete pile underneath the deck below the mast. The mast was steadied by two, 26' diagonal legs. The double-track railway running the length of the main wharf connected to the plantation railway system of Kaeleku Plantation Co.

In 1926 a survey of the bay by A.H. Hobart was completed to locate and remove any pinnacles (by blasting) that could threaten ships using the wharf. A clear, 300' wide channel with 30' depth of water was created, and a range installed to guide ships along it. Even at this early date, plans were afoot to lengthen the 250' wharf. Hobart also made several borings into the bottom of the bay for this future extension (Annual Report, Board of Harbor Commissioners, 1926. P. 15).



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The 1938 Territorial Legislature appropriated \$40,000 for an extension of the Hana Wharf and about two years later a contract for the work was let to James W. Glover for \$39,999.50 (Annual Report, Board of Harbor Commissioners, 1941. P. 10). Construction of the extension occurred between November 1940 and May 1941, when an 83'-3" long section on seven new bents was added at the east end. This gave the main portion of the wharf overall measurements of about 339' x 42'-9." The double railroad track along the main wharf was changed to a single track and this was also extended to the new finished end of the wharf. The centerline of the new single track was about 10'-8" from the outboard edge of the main portion of the wharf. This was approximately between the locations of the former double tracks. For the new single track, the inboard rail of the outboard track was retained in position and it served as the outboard rail of the new single track.

During the 1940-41 construction, the 75' warehouse was relocated about 12' east of its original site to allow a flatter curve of the railroad track as it ran onto the main portion of the wharf from the approach extension. Also at this time, the original 37'-6" wharf shed was removed and in its place a toilet building with a rectangular footprint about 11'-6" x 10'-0" was constructed.

A tsunami struck Hawaii at about 6:30 am on April 1, 1946, and took its greatest toll in lives along the Hana Coast. Although the Hana Bay waterfront was inundated, swept with debris, and structures destroyed, the wharf apparently received little damage. Its warehouse and toilet building were still in place after the tsunami subsided. By 1963 all structures on the main wharf had been removed: the warehouse (removed in April 1961), toilet building, derrick and hoist engine housing.

Sugar and other Goods

At the time of the Hana Wharf's construction in 1921, sugar had been commercially grown in Hana for about 70 years, starting with the Hana Plantation Co. in 1851. In 1905, Hana Plantation became the Kaeleku Plantation Co. By 1921, Kaeleku was the only plantation operating in the vicinity of Hana. Their sugar lands and plantation railroad reached from near Honomaele (northwest of Hana) to Hamoa and Waihoi Valley (south of Hana). Other former plantations south of Hana, Reciprocity Sugar Co. (1883-1898) and Hamoa Plantation (1900-1902), had been combined and then taken over by Hana Plantation, and then Kaeleku Plantation Co., well before the wharf was built.

Bagged sugar from the Kaeleku mill was transported to the Hana Wharf via the plantation railway system. This railway line ran from the mill to a small railyard near the present-day Hasegawa Store, where a dead end spur diverted it back northward and down the hill to the wharf. From the wharf the bagged sugar would often be lightered out to a waiting transport ship anchored a short way off the wharf. The gasoline-powered stiff leg crane at the west end of the wharf was used to hoist a sling-load of sugar bags into the lighter which took it to the ship (Sugar Trains Pictorial. P. 47).

During the time that bagged sugar was shipped out of Hana Wharf (1922-1945), it handled all of Kaeleku Plantation Co.'s output, about 5,000 tons in 1935 and between 7,000 – 7,500 tons during the years just before World War II. Although a significant amount, this was small in comparison to other Hawaii sugar ports. In 1935



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Honuapo (Big Island) shipped 45,000 tons, Mahukona (Big Island) 30,000 tons, and Port Allen (Kauai) 100,000 tons. With the 1945-46 sale of Kaeleku Plantation Co. to Paul Fagan and his decision to end sugar production in favor of cattle ranching, the Board of Harbor Commissioners reported "the Board owns a wharf [in Hana] which cost approximately \$156,000. So far as can be determined there will be but little revenue derived from the use of this structure after the plantation closes down. What the board can do to relieve the situation is not now apparent" (Annual Report, Board of Harbor Commissioners, 1945. P. 13-14). The shipping figures to accompany this dim view of the future of Hana Wharf show its accuracy.

In 1952 the wharf only shipped in 132 head of cattle, horses, or mules and shipped out 149 head of same, along with shipping in 7 tons of general merchandise. The livestock seems to correspond with Fagen's cattle operation at former Kaeleku Plantation. By the late 1950s the only commodity passing over the Hana Wharf was liquid fuel (either diesel, gasoline or kerosene). In 1957, 1,225 tons were shipped in; 1958 had 1,396 tons, 1959 had 662 tons, 1960 had 821 tons, and 1961 had 2,455 tons. No goods were shipped out over Hana Wharf during that time (Annual Report, Board of Harbor Commissioners, various years).

Passenger Service

Matson Navigation Company operated three 2,500-ton ships during the 1920s that typically served the small sugar ports, such as Hana, Mahukona, Kawaihae, and Kukuihaele. These 261' long ships were the *Mahukona*, *Makaweli*, and the *Makena*. They were built in 1919 as Great Lakes freighters in Ashtabula, Ohio, and were acquired by Matson in 1922. These ships each had a crew of 33 and operated as sugar transports until 1937-1940. Kaeleku Plantation Co. ceased operations in 1945. Several other Matson ships are known to have visited Hana. One that called at the Hana Wharf in 1921 (ca. July) was the 212' *Annie Johnson*, a 13-crew cargo ship that could also carry 6 passengers. (This four-masted schooner had auxiliary diesel engines installed in 1916. It was sold to an owner in Tahiti in 1926.) Ca. 1936, the *Enterprise*, a 318', 37-crew, oil-fired steamer that could carry 22 passengers stopped at Hana. The *Enterprise* was the regular ship on the West Coast – Hilo route for Matson from 1902 to 1937.

Inter-Island Steam Navigation Co. (Inter-Island) operated ships that called at 47 Hawaiian ports and landings ca. 1914, including Hana. After the 1921 Hana Wharf was built, Inter-Island's smaller vessels that typically serviced most of these landings were able to land passengers and cargo directly on shore, at the new wharf, instead of relying on lighters. By that time, most of Inter-Island's vessels were showing their age, and the company was struggling. In 1925, Matson Navigation Co. acquired controlling interest in Inter-Island. The 1926 opening of the Hana Highway allowed travelers and small cargo to be economically carried overland from Kahului. This increasingly relegated the Hana Wharf to shipping bulk goods only.

In June 1929 regular weekly passenger service to Hana was discontinued by Inter-Island. As of that year, the company made a freight stop in Hana every two months while Maston Navigation Co. and Standard Oil Co. made freight stops there on special arrangement. Inter-Island's rate between Honolulu and Hana was \$4.20 per ton for freight. In 1930 the principle exports over the Hana Wharf were sugar, molasses, hides, and cattle. Principle



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imports were foodstuffs, building materials, fertilizer, fuel oil, gasoline, kerosene, and diesel oil ("Maui Chamber Acts to Assist Harbor of Hana," Maui News. Sept. 13, 1930. P. 1).

Repairs and Modifications

In May 1955 as the U.S. Coast Guard cutter *Planetree* was alongside the Hana Wharf, the ship damaged areas of the wood fender and the concrete outboard edge of the wharf. The 180' long *Planetree* was stationed at Honolulu from October 1, 1954, to August 7, 1974, and was likely at Hana performing Aids to Navigation (ATON) services, its principle task in the western Pacific. In addition to ATON, which included tending buoys and other navigation devices, the *Planetree* was a multi-purpose ship that was available for search and rescue and law enforcement missions.

In the 1970s and late 1980s, the DLNR DOBOR concrete boat ramp and fixed piers were added, which are separate from the Hana Pier itself, and both at the west side of the approach. The ramp is located near the base (south end) of the infilled approach with the fixed pier adjacent to it. Since 1991, the pier has been closed to vehicular traffic, and the large steel bollards were likely installed around that time to prevent vehicular access. In 2002, DOBOR Engineering inspected the Hana Pier and recommended that it should be restricted from public access. In 2003, a concrete slab section of the boat ramp dislodged by strong surf was repositioned back in place. Waves have also knocked holes in areas of the concrete deck of the wharf and approach. The metal fence between the steel bollards was erected sometime between 2002 and 2004, to prevent access to the pier.

Significance

The Hana Pier is eligible under Criterion A for its association with the economic growth of Hana. It served as the only shipping point for local sugar from the Kaeleku Plantation Co. from 1921 until 1947 when the plantation closed down. In addition, until the 1926 construction of the Hana Highway, shipping over the pier was the source of most all of the goods consumed in Hana. The pier also served Hana's personal transportation needs with weekly passenger service until 1929.

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Historic Photographs

Historic photographs are available at Bishop Museum Archives, folder: Geography, Maui, Hana Bay.



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Gail Renard

From: Rossetter, Sandra C <sandra.c.rossetter@hawaii.gov>
Sent: Wednesday, June 07, 2017 3:11 PM
To: DLNR.Intake.SHPD
Cc: Puff, Jessica L; Gail Renard
Subject: FW: 6E Review_RLS Hana Pier; Northeast of TMK (2) 1-4-004:036
Attachments: 2017.05.23_6E Review Submittal_RLS Hana Pier.pdf; 2015_HanaWharf_1_photo1.JPG; 2015_HanaWharf_1_photo2.jpg; Hana Pier.cpg; Hana Pier.dbf; Hana Pier.prj; Hana Pier.sbn; Hana Pier.sbx; Hana Pier.shp; Hana Pier.shx; Hana Wharf SHPD 2015 _SURVEY_SPREADSHEET.xlsx

Apologies for the inconvenience. The attachments were not included in the first submittal (see below). Please update the file to include the attachments. Thanks.

Mahalo

Sandra Rossetter

Harbors Division | Planning Office
79 S. Nimitz Highway
Honolulu, Hawaii 96813
(808) 587- 1886

From: Shen, Celia Y
Sent: Tuesday, May 23, 2017 10:00 AM
To: DLNR.Intake.SHPD <dlnr.intake.shpd@hawaii.gov>
Cc: Puff, Jessica L <jessica.l.puff@hawaii.gov>; Rossetter, Sandra C <sandra.c.rossetter@hawaii.gov>
Subject: 6E Review_RLS Hana Pier; Northeast of TMK (2) 1-4-004:036

Please see attached requesting HRS 6E review of Reconnaissance Level Survey of Hana Pier.

Thank you.

Celia Shen
Planner
Department of Transportation Harbors Division
79 S. Nimitz Highway
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PH: (808) 587-2013

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Gail Renard

From: DLNR.Intake.SHPD <dlnr.intake.shpd@hawaii.gov>
Sent: Wednesday, June 07, 2017 3:22 PM
To: Rossetter, Sandra C; DLNR.Intake.SHPD
Cc: Puff, Jessica L; Gail Renard
Subject: MORE INFORMATION RECEIVED *****RE: 6E Review_RLS Hana Pier; Northeast of TMK (2) 1-4-004:036

Aloha, your email with more information on the Hana Pier is forwarded to the Architecture Branch to include with the initial submittal. Mahalo.

From: Rossetter, Sandra C
Sent: Wednesday, June 07, 2017 3:11 PM
To: DLNR.Intake.SHPD <dlnr.intake.shpd@hawaii.gov>
Cc: Puff, Jessica L <jessica.l.puff@hawaii.gov>; Gail Renard (grenard@hhf.com) <grenard@hhf.com>
Subject: FW: 6E Review_RLS Hana Pier; Northeast of TMK (2) 1-4-004:036

Apologies for the inconvenience. The attachments were not included in the first submittal (see below). Please update the file to include the attachments. Thanks.

Mahalo

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Thank you.

Celia Shen
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Department of Transportation Harbors Division
79 S. Nimitz Highway
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F

Cultural Impact Assessment
Kaimipono Consulting Services, LLC

FINAL

**Cultural Impact Assessment for the
Hāna Pier Deck Removal
Ahupua‘a of Wananalua
Hāna, Maui**



Prepared for

**State of Hawai‘i
Department of Transportation, Harbors Division
Honolulu, HI 96813**

Cultural Impact Assessment for the Hāna Bay Pier Deck Removal Ahupua‘a of Wananalua Hāna, Maui

Prepared for

HHF Planners Inc. DBA Helber Hastert & Fee, Planners, Inc.
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And

State of Hawai‘i
Department of Transportation, Harbors Division
Honolulu, HI 96813

By
Maria Orr, MA - Kaimipono Consulting Services LLC
March, 2017 (revised)

Cover Page

Photo 1. View of Hāna Pier from Akule Hale.

(All photos were taken by author unless otherwise specified)

EXECUTIVE SUMMARY

This Cultural Impact Assessment (CIA) is in response to a request from HHF Planners, Inc. for the *Hāna Pier Deck Removal* Hāna, Maui [changed from *Improvements* by the State of Hawai‘i Department of Transportation, Harbors Division [DOT-H] [2016]]. This study is part of a larger project that includes an Environmental Impact Statement (EIS) [JOB H.C. 30108] prepared by *HHF Planners, Inc.* in compliance with federal and state requirements to identify and evaluate possible impacts to cultural resources, cultural practices and access to resources and/or practices in advance of construction activities for the Hāna Pier Deck Removal project.

Purpose. The purpose of a CIA is to gather information about traditional cultural practices, ethnic cultural practices and pre-historic and historic cultural resources that may be affected by the implementation of this project or undertaking in accordance with the State of Hawaii Environmental Council *Guidelines for Assessing Cultural Impacts* (Adopted on November 19, 1997) [Appendix B]. The *level of effort* for this CIA included ethnographic research (10 oral histories) of people who are connected to these lands in various ways and an archival cultural/historical background review of the literature (including internet research).

The original basis for generating this EIS and CIA is explained in the following:

In 2008, Governor Linda Lingle signed into law SB 3227 (Act 200, SLH 2008), which addressed the aging condition of harbor facilities statewide. It expanded the formal partnership for the development of Honolulu Harbor between the former Aloha Tower Development Corporation (ATDC) and the Department of Transportation Harbors Division (DOT Harbors) to a statewide jurisdiction for the implementation of the Harbors Modernization Plan (HMP). Through the efforts of State Senator J. Kalani English, the measure also appropriated \$842 million for harbor expansion, improvements, and upgrades for seven commercial harbors statewide, including Hāna Harbor. \$20 million in revenue bonds would be dedicated to the improvement of Hāna Harbor.... Senator English advocated for the funding because Hāna is at risk of being isolated in a natural disaster, and that subsistence and commercial fishermen deserve a better pier (G70I 2011:1-2).

Project and CIA Chronology. The initial undertaking presented to the Hāna Community included two scenarios for evaluation for cultural impacts 1) the restoration for commercial use - including for emergency use or 2) complete removal of the Hāna Bay Pier. People were selected from the Hāna community to be interviewed for the CIA. The criteria for selecting these interviewees were that they lived/worked in the Hāna community, were knowledgeable practitioners (i.e. fishing, cultural, boaters) and/or were knowledgeable about the history of Hāna, especially the Hāna Bay/Kau‘iki area.

Ethnographic interviews with 10 individuals were initially held in 2013 and focused on the impacts of the original proposal to repair and improve Hāna Pier. The pier would then have been made available for both emergency and commercial use, as required by DOT-H’s mission. This original project would have involved demolition of the pier deck and superstructure prior to construction of the pier improvements. However, in early 2016, based primarily on public concerns expressed at several public community meetings and a community-wide survey, DOT-H changed the project to removal of the deteriorated pier superstructure. The removal is necessary to protect public safety. In order to avoid any commercial use of the pier (as would be required to fulfill DOT-H’s mission), the revised project, described below, does not include replacement of the pier.

The proposed action is to remove the superstructure of Hāna Pier and access trestle at Hāna Harbor Maui, Hawai‘i. The concrete pier and its access trestle are currently

condemned due to the deteriorated condition of its superstructure (i.e., deck, beams, pile caps, and trestle guardrails). The existing piles would remain in place to avoid adversely impacting corals that have colonized on the piles.

A second round of ethnographic interviews in support of this CIA was held in 2016 to address the current pier deck removal project (i.e., without subsequent improvements). The original 2013 interviewees were invited to participate in the 2016 interviews; unfortunately one consultant was recently deceased (May 2016), but her business partner offered to share his *mana'o*. A total of three individuals were able to participate in the September 2016 follow up interviews and a fourth responded in writing. However, most interviewees in the 2013 interviews had also commented on concerns/impacts of pier removal. These comments are included in this report (see Table 11). Both rounds of interviews contributed to the CIA conclusions.

Potential Impacts. The CIA (2013 and 2016) results suggest that the pier deck removal activities may create short- and long-term impacts to cultural practices and resources. The potential impacts are summarized here:

Short-Term Impacts (Demolition Period)

- Fishing (boat ramp access limitations from shore and ocean; parking restrictions at boat ramp)
- Water quality impacts on marine resources
- In-water activities and noise impacts on fisheries;
- Limitation of gathering practices;
- Limitation of swimming access;
- Potential Pu'u Ka'uiki cinder slides due to demolition activities
- Access restrictions of landside areas for Ka'ahumanu Benevolent Society ceremonies due to demolition equipment and activities

Long-Term Impacts (Post-Demolition Period)

- Perceived surge protection issues (removal of the deck thought to intensify the surge for boat launchers);
- Permanent loss of line-of-sight access for the Ka'ahumanu ceremony;
- No subsistence pole fishing from pier (primarily families, seniors with no access to boats);
- No canoe paddling coaching from the pier;
- No jumping off the pier into the ocean;
- Beneficial impact: Improved lighting in water column will improve fishery habitat

(Note: In light of the potential impacts identified, the interviewees expressed a strong desire not to completely remove the pier structure in order to continue the recreational, fishing, cultural, and perceived wave protection benefits it has provided the Hāna community. They would like to see a 'usable structure,' but not the pier styles that were originally proposed to the community, for a number of reasons. The interviewees suggested a breakwater style structure that would obstruct and redirect the northeast surge thereby protecting boaters who launch from the pier ramp and protect swimmers on the bay side of the pier. Their breakwater design would include a docking segment for emergency access (e.g. evacuation, supply, etc), pole fishing, and cultural ceremonies.

It was initially [CIA 2013] recommended that more meetings take place with the Hāna fishermen and boaters especially regarding their suggested pier structure re-design and that mitigation and contingency plans be developed to alleviate any impacts.)

Recommendations. Recommendations to address adverse impacts to cultural resources and practices are summarized below.

- The interviewees thought the pier deck structure provides surge protection to launching/docking boaters and swimmers. They also feel that by reusing the deck pieces by dropping them between the remaining pillars will provide even more protection should the deck be removed. This would also provide additional habitat opportunities for the traditional marine resources of Hāna Bay. Therefore, a study to explore the feasibility and validity of this suggested mitigation action is recommended.
- Monitoring of the northwest face of Pu‘u Ka‘uiki for cinder slides should be conducted during all phases of the deck removal. Pu‘u Ka‘uiki is a wahi pana or traditional sacred place for the ancient gods, demi-gods and ali‘i and their descendants - some who currently still reside in Hāna or the Hāna district;
- Monitoring of the two huge boulders adjacent to the boat ramp should be conducted during all phases of the deck removal – these boulders have cultural significance for the Hāna community;
- Monitoring the concrete debris during deck removal and for a period of time after to check for concrete sediment, especially on the coral reef and other areas where crabs, lobster, *opihī*, and *limu* inhabit;
- Provide a safety device on the remaining pillars so that outside boaters will avoid the area;
- Consult with community and fishermen to avoid or minimize impacts related to ramp access during deck removal; and
- Transfer pier jurisdiction to an agency that does not have a requirement to allow use by commercial vessels and would be repaired to be utilized for cultural practices.

ACKNOWLEDGEMENTS

Without the ethnographic consultants this Cultural Impact Assessment could not have been done, therefore **Mahalo Nui Loa** goes out to Ms. Coila Eade, Mr. Legario “Hank” Eharis, Jr., Mr. John Kahalehoe, Sr., Mr. Joseph “Blondy” Kaina, Mr. Roback “Boise” Kawaiaea, Ms. Nani Lay, Mr. Bruce Lind, Sr., Ms. Giovanna “Gina” Lind, Mr. Greg Lind, Jr. and Captain Gale Notestone. They are all knowledgeable about the pier, ocean and its many resources.

A big Mahalo also goes out to Ms. Coila Eade for her hospitality; and to Ms. Esse Sinenci for all her *kokua* in 2013, but especially in 2016.

An additional *mahalo* also goes to transcriber Seanna Piilani Ah Kee, Gail and Scott (HHF) and Sandra (DOT).

DEDICATION

This report is dedicated to my Hana Ancestors....

IN MEMORIUM

**Ms. Coila Young Eade
(1923 – 2016)**

An amazing lady, kind, and gifted in so many ways;
a wonderful friend to me and the Hāna Community
whom she loved very much. She is missed.



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INTRODUCTION

At the request of HHF Planners, Inc. a Cultural Impact Assessment (CIA) for the *Hāna Pier Deck Removal* project in the *ahupua'a* of Wananalua was conducted in four periods: the archival and ethnographic research from February through June 2013; the cultural-historical background report write-up in November 2014 and February 2015 as part of a larger Environmental Impact Statement (EIS); the impact of deck removal presentation/interviews in September 2016; the CIA revisions; and Final Report September-October 2016. This CIA is in compliance with federal and state requirements to identify and evaluate possible cultural impacts in advance of construction activities for DOT-Harbors Division *Hāna Pier Deck Removal*. Act 50 SLH 2000 (HB 28 H.D.1) [Appendix A] as it amends the State of Hawai'i Environmental Impact Statement law [Chapter 343, HRS] includes “effects on the cultural practices of the community and State. [It] also amends the definition of ‘significant effect’ to include adverse effects on cultural practices.”

Basis for Generating CIA.

This Cultural Impact Assessment was prepared in compliance with Act 50 SLH 2000 (HB 28 H.D.1), as described above. The State of Hawai'i Environmental Impact Statement law [Chapter 343, HRS] includes preparation of an Environmental Assessment. An Environmental Assessment (EA) is an informational document that provides an evaluation of environmental effects of a proposed action, effects of a proposed action on the economic [and] welfare, social welfare, and cultural practices of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects and includes adverse effects on cultural practices. The proposed action was generated by the following:

In 2008, Governor Linda Lingle signed into law SB 3227 (Act 200, SLH 2008), which addressed the aging condition of harbor facilities statewide. It expanded the formal partnership for the development of Honolulu Harbor between the former Aloha Tower Development Corporation (ATDC) and the Department of Transportation Harbors Division (DOT Harbors) to a statewide jurisdiction for the implementation of the Harbors Modernization Plan (HMP). Through the efforts of State Senator J. Kalani English, who represents the community of Hāna, the measure also appropriated \$842 million for harbor expansion, improvements, and upgrades for seven commercial harbors statewide, including Hāna Harbor. \$20 million in revenue bonds would be dedicated to the improvement of Hāna Harbor. Finally, Act 200 transferred the administrative authority of Hāna Harbor from the State Department of Land and Natural Resources (DLNR), Division of Boating and Ocean Recreation (DOBOR) to DOT Harbors.... Senator English advocated for the funding because Hāna is at risk of being isolated in a natural disaster, and that subsistence and commercial fishermen deserve a better pier (G70I 2011:1-2).

DOT Harbors held several informational scoping meetings on the original proposed action, which included repair and improvements to Hāna Pier. During these meetings, the community provided input clearly communicating that they did not want commercial use of the pier, which would be required as part of DOT Harbor's mission. Left with the liability presented by the deteriorated pier, DOT Harbors changed the proposed action to removal of the pier deck in early 2016, based primarily on public concerns expressed at several public community meetings and a community-wide survey. This change of action occurred after the interviews had been completed in 2013 for construction of the pier improvements. In order to avoid any commercial use of the pier (as would be required to fulfill DOT-H's mission), the revised project does not include replacement of the pier. After the proposed action was changed, the original participants interviewed in 2013 were contacted and the CIA was updated to analyze the potential impacts of removal of the pier deck.

An EIS Prep Notice (JOB H.C. 30108) was disbursed August 28, 2016 by DOT-H Director Fuchigami:

Under the provisions of Act 172, Session Laws of Hawai'i 2012, the Department of Transportation, Harbors Division has determined that an environmental impact statement (EIS) is required for the removal of Hana Pier deck located north of TMK: (2) 1-4-004:036.

Project Summary

The proposed action is to remove the superstructure of Hana Pier and access trestle at Hāna Harbor, Maui, Hawai'i. The concrete pier and its access trestle are currently condemned due to the deteriorated condition of its superstructure (i.e., deck, beams, pile caps, and trestle guardrails). The existing piles would remain in place to avoid adversely impacting corals that have colonized on the piles.

The purpose of the action is to remove the public safety hazard presented by the deteriorated pier. A second purpose of the action is to respect the community's opposition to commercial use that would be required under DOT-H's mission if the pier were to be repaired instead of demolished.

The action is needed because individuals continue to access the deteriorated pier and place themselves at risk, despite barrier fencing and warning signage that are repeatedly installed, repaired, and replaced by DOT-H. In its current condition, the pier serves as an attractive nuisance—a facility that attracts use by community members despite its condemned status, the hazards posed by its unsafe condition, and the physical barriers and warning signs installed by DOT-H. Continued unauthorized use of the pier places community members at risk of injury and presents DOT with ongoing exposure to liability.

The purpose of a CIA is to gather information about traditional cultural practices, ethnic cultural practices and pre-historic and historic cultural resources that may be affected by the implementation of this project or undertaking in accordance with the State of Hawaii Environmental Council *Guidelines for Assessing Cultural Impacts* (Adopted on November 19, 1997) [Appendix B]. The *level of effort* for this CIA included ethnographic research (10 oral histories) of people who are connected to these lands in various ways and an archival cultural/historical background review of the literature (including internet research).

This report is organized into five parts or chapters. Chapter 1 describes the project area in terms of location, in the context of *ahupua'a* (land division), *moku'āina* (district) and *mokupuni* (island), as well as a generalized description of the natural environment (e.g. geology, flora and fauna) and built environment (e.g. any current features). Chapter 2 explains the methods and constraints of this study. Chapter 3 summarizes a review of the historical and traditional (cultural) literature in the context of the general history of Hawai'i, the island of Maui, the traditional districts or *moku* of Hāna and local histories of the *ahupua'a* of Wananalua (as defined by Sterling 1998). Chapter 4 presents the ethnographic analysis based on the supporting raw ethnographic data (oral history transcripts) as it pertains to land, water and cultural resources and use in the project area and vicinity and background data about the ethnographic consultants. It also includes the additional ethnographic research specifically about impacts of the deck removal. Chapter 5 summarizes the findings of this study based on supporting data from Chapters 1 through 4 and presents a cultural impact assessment and recommendations.

SCOPE OF WORK (SOW)

The CIA scope-of-work (SOW) was based on the Environmental Council *Guidelines for Assessing Cultural Impacts* (1997) and focuses on three cultural resource areas (traditional, historical and ethnographic), conducted on two levels: archival research (literature/document review) and ethnographic data (oral history).

1. conduct historical and other culturally related documentary research;
2. identify individuals with knowledge of the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or *ahupua'a*; or with knowledge of the area potentially affected by the proposed action e.g. past/current oral histories;
3. identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
4. assess the impact of the proposed action on the cultural resources, practices and beliefs identified.

Traditional resources research entailed a review of Hawaiian *mo'olelo* (stories, legends or oral histories) of late 19th and early 20th century ethnographic works. Historic research focused on the literature compiled. Ethnographic research focused on current interviews with knowledgeable individuals who meet the following criteria:

- ❖ Had/has Ties to Project Location(s)
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Known Hawaiian Traditional Practitioner
- ❖ Referred By Other Cultural Resource People

PROJECT LOCATION, AREA AND PHYSICAL ENVIRONMENT

Hāna Pier is located in the district of Hāna on the eastern coast of the island of Maui, in the *ahupua'a* of Wananalua (Figure 1 and 2), in the town of Hāna on State Highway 360, better known as Hāna Highway, in the southeastern section of Hāna Bay (Kapueokahi) (Figure 3). The District of Hāna or East Maui, is made up of five *moku'āina* or *okana* (Kahikinui, Kaupō, Kīpahulu, Hāna, and Ko'olau) each radiating from a large rock called Palaha (see Figure 1), on the northeast brim of the crater of Haleakalā (Alexander 1891).



Photo 3. Hāna Pier in SE section of Hāna Bay (HaleWaikoloa)

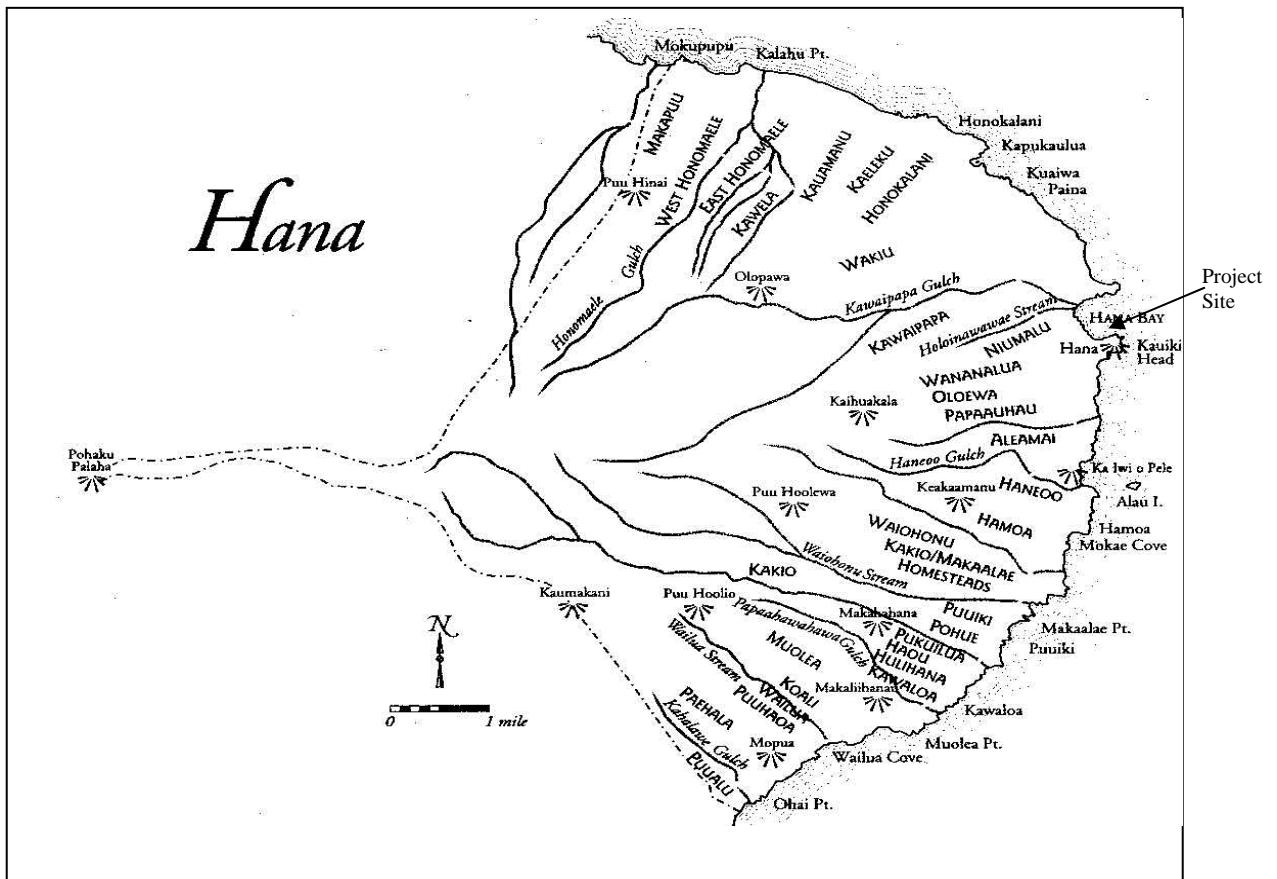


Figure 1. Project area in Ahupua'a of Wananalua, Moku of Hāna (adapted from Sterling 1998)

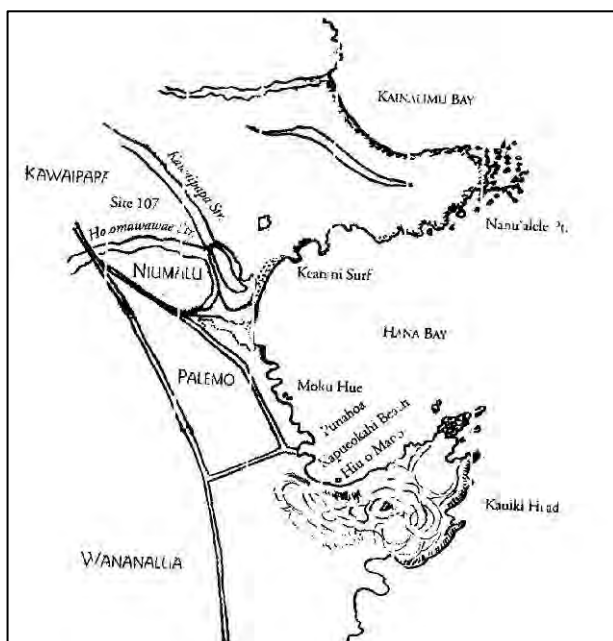


Figure 2. Map of Coastline of Hāna Bay (Sterling 1969) (In Sterling 1998:129).

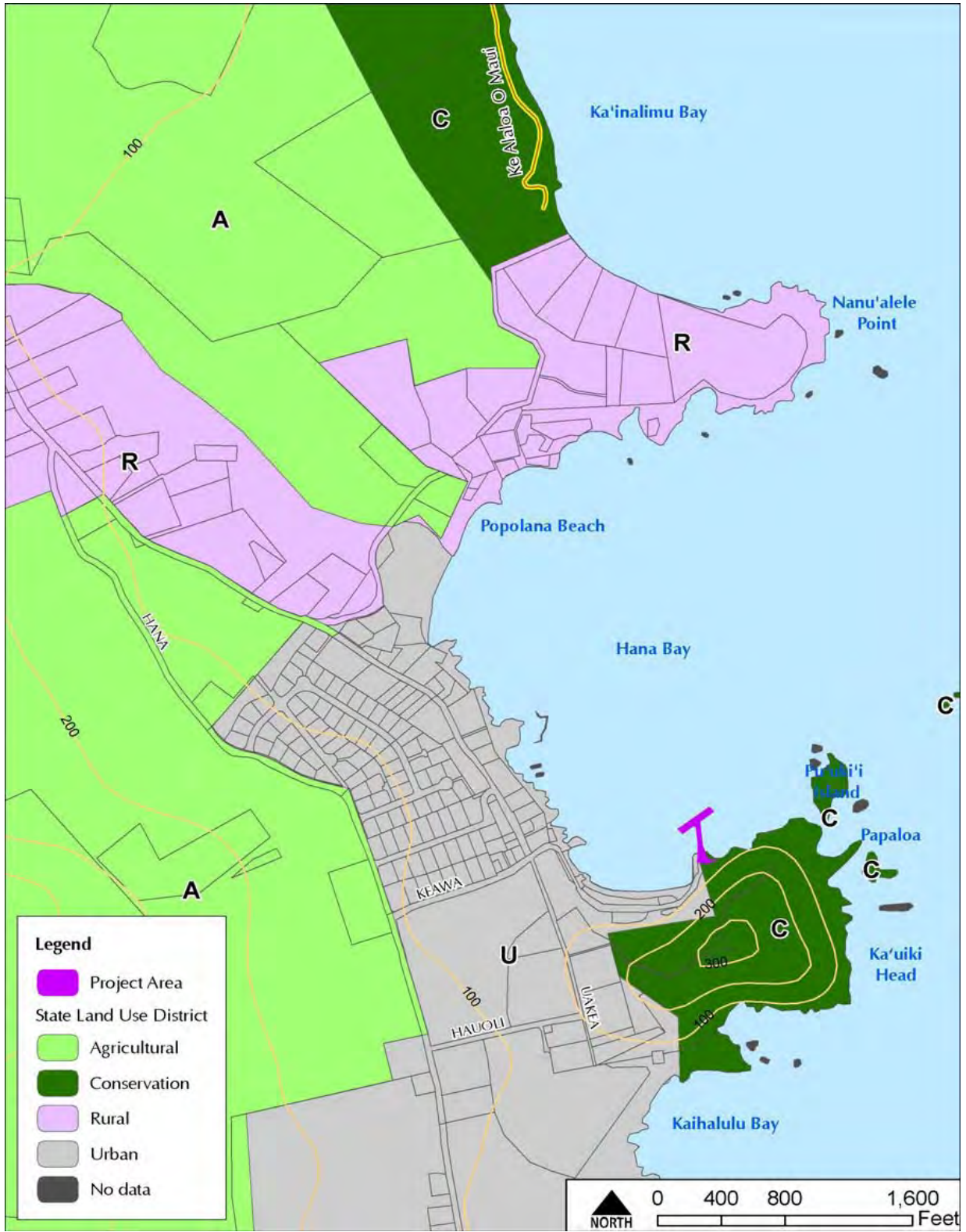


Figure 3. State Land Use District Classifications (G70I, 2011:12)

Natural Environment: Geology and Soils

The island of Maui is 77 kilometers long and 42 kilometers wide, 1,902 square kilometers, with 240 kilometers of shoreline. The highest points on the island is Mt. Haleakalā (Red Hill) at 3,055 meters or 10,023 feet above sea level and Pu'u Kukui of Mauna Kahalawai or the West Maui mountains at 1,764 meters or 5,788 feet above sea level (Macdonald et al 1983:3; Juvik and Juvik 1998:308). The island of Maui consists of two major volcanoes; the older Mauna Kahalawai (1.3 million years) and younger Haleakalā or East Maui (.75 million years).

Haleakalā Volcano in its rejuvenated stage is considered an active volcano that last erupted in 1790 above La Perouse Bay. However, its frequency of activity is not well established and eruptions could occur every several hundred years. Haleakalā's three rift zones extend northwest, east and southwest. Its rejuvenated stage lava is less than 400,000 years old. The shield-stage lava is 1.1 Ma-900,000 years ago and its postshield-stage lava is 860-410,000 years ago. Haleakalā is a potentially dangerous volcano that could erupt in the next hundred years (Clague In Juvik and Juvik 1998:43-44). The last lava flow in the Hāna District occurred in 1750 AD (Figure 4) (Macdonald, Abbot and Peterson, 1983:383).

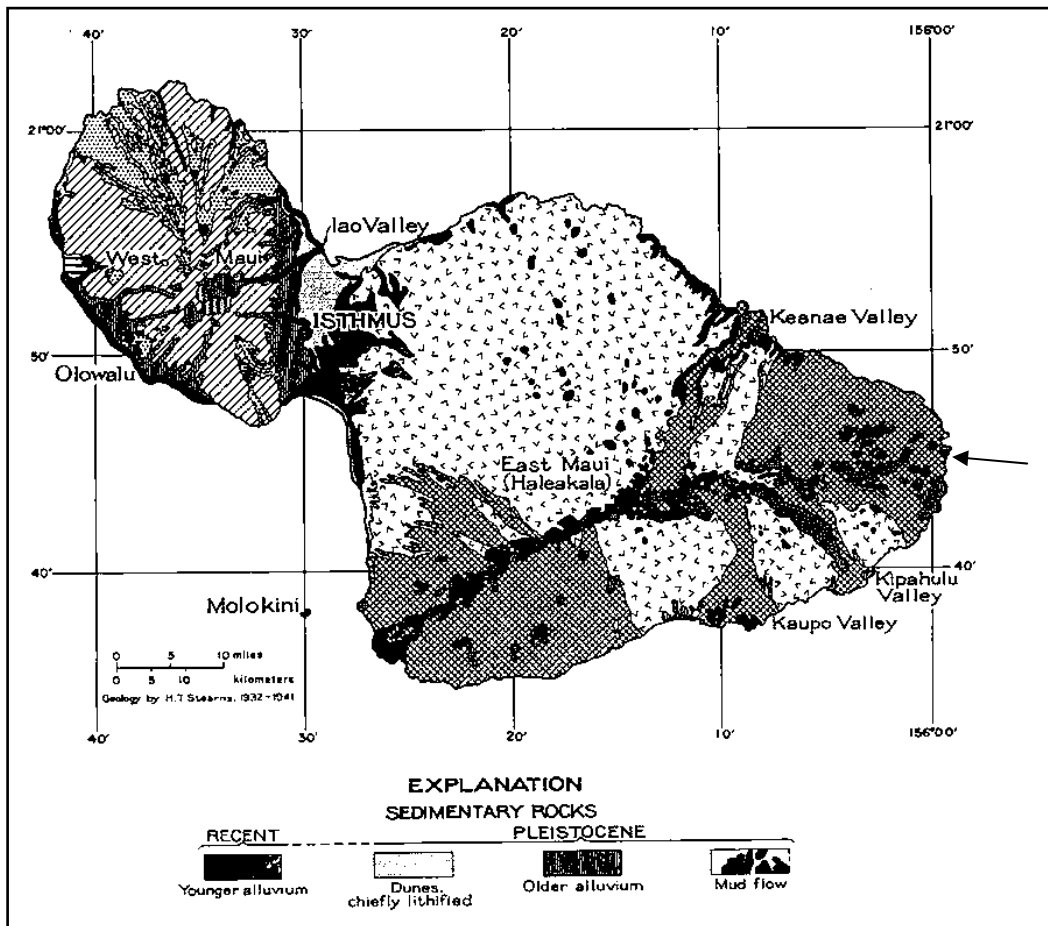


Figure 4. Lava flows in the Hāna District. Last flow circa AD 1750 (Macdonald et. al., 1983:394).

The most important soils for traditional agriculture were the alluvial deposits along permanent streams that extended from the mountains to the coast (Earle 1978:25). The District of Hāna, from Ko‘olau to Kahikinui, is made up of early Ho‘omanu, Kula, and later Hāna Series lava flows of Mount Haleakalā. The major soils of this district are the Hāna-Maka‘alaie-Kailua Association (30%-25%-20%) evolving from weathered volcanic ash. It is well drained and found near sea level to 2,500 feet (USDA-SCS 1972:10). The Hāna Soil and Water Conservation District is from Ko‘olau to Kaupō and comprises 114,600 acres or approximately 15% of Maui County, which includes the islands of Maui, Lāna‘i, Moloka‘i and Kaho‘olawe. The significance of the area is its rainfall, averaging from 50-300 inches a year, the wettest area in the “cloud belt” from 2,000-5,000 feet elevation (HSWCD 1970:32). Data from the HSWCD 1978 Resource Inventory shows that 77% or 87,656 acres of this district is forest reserve and watershed. Approximately 22% or 25,469 acres are pasturelands (HSWCD 1978:1, 5). About 79% of the 114,600 acres comprise the Hāna Community District, from Maliko Gulch to Kaupō Gap.

For clarification, in the Hawai‘i Session Laws of 1909, it was determined that the *Hāna District* would include Kahikinui, Kaupō, Kīpahulu, Hāna and Ko‘olau [Sterling, (1998:4); taken from R. D. King *Districts in the Hawaiian Islands*, In J.W. Coulter, *Gazetteer*, p. 219]. According to Sterling (1998:118, 128) the Hāna Bay pier is located within the ahupua‘a of Wananalua. The cultural and historical section of this report will follow these boundaries and delineation.

Natural Environment: Flora and Fauna

In *Hawaii a Natural History*,² Carlquist divides each island into six regions: Coast, Dry Forest, Wet Forest, Epiphytic Vegetation, Bog and Alpine. Within the 0-500’ elevation the only native tree is the *hala* (*Pandanus odoratissimus*). Humans have introduced other coastal trees in this zone (Carlquist 1980:267). The Hāna coast has a moderately large pocket of *hala* forest from the ‘Ula‘ino area to Kawaipapa-Waikoloa. A few of the Polynesian-introduced trees grow in sparse areas along the Hāna coast, such as the *noni* (*Morinda citrifolia*), ‘ulu (*Artocarpus altilis*), *hau* (*Hibiscus tiliceus*), banana (*Musa sp*), coconut (*Cocos nucifera*) and *kukui* (*Aleurites moluccana*). Many non-Polynesian introduced trees now grow in abundance along the Hāna coastal region as well, such as ironwood (*Casuarina equisetifolia*) and false *kamani* (*Terminalia catappa*). Most of the native coastal plants consisted of shrubs and herbaceous vegetation such as *naupaka kai* (*Scaevola taccada*), ‘ilima (*Sida fallax*) and various ferns (Carlquist 1980:269).

The Dry Forest Region has suffered the most impact by man. This is the area the early settlers modified extensively in slash and burn cultivation to expand their subsistence level, intensifying food production with complex irrigated agricultural systems of various crops (Kirch 1985:217). Kamakau (1974/1992) mentions a reference in *Ruling Chiefs of Hawaii*, to the “fertile land of Hāna, where taro, sweet potatoes, bananas, sugar cane and wild fruits grew in abundance” (Kamakau 1974/1992:25). The early Polynesian settlers introduced all of those food plants.

Some of the Dry Forest vegetation that may have been affected by early Hawaiian cultivation practices are the *naio* (*Myoporum sandwicense*), *wiliwili* (*Erythrina sandwicensis*), ‘*ohe* (*Reynoldsia sandwicensis*), ‘*iliahi* (*Santalum sp*), ‘*ōhi‘a* (*Metrosideros sp*), *koa* (*Acacia koa*), as well as several species of shrubs, vines and ground cover (Carlquist 1980: 275-300). One of the most predominant and insidious introduced species today in Hāna proper is the African tulip tree (*Spathodea campbulata*). Its bright red-orange flowers can be seen dotting several elevation levels.

The distinction of a Hawaiian Wet Forest is that it gets more than 70 inches of rain per year, and its most predominant native plant is the ‘*ōhi‘a*. Other native species of this region are the *loulou* palm (*Pritchardia macdanielsii*), *uluhe* (*Dicranopteris*), *hāpu‘u* (*Cibotium*), *maile* (*Alyxia oliviformis*) and an abundant variety of fern, mosses, liverworts, fungi and lichens. The significance of the ‘*ohia* or wet forest is that it

is the most bio-diverse region of the islands. It is here that the greatest evolution and diversification of plants and animals take place, and it was a region relatively unoccupied at first [by early Hawaiians] on the islands (Carlquist 1980:301, 306). Today, there is a long list of historically introduced species found in many pockets of this region along the Hāna highway, such as strawberry guava (*Psidium cattleianum*), mountain apple (*Syzyguim jambos*) and Brazilian pepper (*Schinus terebinthifolius*). In 1988, Holt reported in *The Maui Forest Trouble*, about 'ōhi'a forest dieback, a historical problem of East Maui first noticed and studied by Dr. Harold L. Lyons in 1909 (Holt 1988:2-3).

Epiphytes of the Hawaiian wet forests are limited to the many species of mosses, liverworts, lichens, ferns, about 50 species of Peperomia, and 'ie'ie (*Freycinetia arborea*), a plant of early Hawaiian ethnobotanical significance that displays qualities of an epiphyte and a climber (Carlquist 1980: 333-5). Bogs are usually found at higher elevations where rainfall exceeds the porosity level of the soil, and on old volcanic domes with steep slopes and natural damming. They usually consist of mud, very small pockets of standing water and tussocks of sedge (*Oreobolus sp*) or grass (*Panicum sp*). Plants that grow in the bog are usually dwarfed. The only Maui bog Carlquist mentions is in West Maui at Pu'u Kukui Summit (Carlquist 1980: 347-9). However, there is a bog in the Hāna district, located in a basin on the slopes of Haleakalā, in the Kakio *ahupua'a*. Hāna residents know of ancient *ko'a* (shrine) sites located there (Kalalau 1992). Hawaiian alpenes are located above the six thousand feet level. Early Hawaiians went through the Kaupō Gap to get to and from the Haleakalā Crater and came in contact with alpine flora.

In the 1930s E.S.C. Handy and Elizabeth Handy did a horticultural study of the islands. In their subsequent works, *Native Planters in Old Hawaii* (1978), Handy & Handy reported the following regarding Hāna.

Further eastward and southward along the windward coast line is the district of Hāna, the fifth great center [of Maui]. It is a region famous in legend and history although it was supported chiefly by fields mulched (dry) taro cultivation and sweet potato (Handy & Handy 1978:272).

This farthest part of Maui on the very eastern end of Haleakala is one of the wettest and most verdant coastal areas in the Hawaiian Islands. It has no flatlands along streams; in the upper reaches there is much boggy land. Yet a great deal of upland taro was grown there, as well as bananas, yams, *wauke* and *olonā*. Hāna is famous for its 'awa.... There are rich level lands lying between the shore and gently sloping *kula* land, which was, in the 1930's, planted with sugar cane, then later sold as ranch land (Handy & Handy 1978:502).

North Hāna is a gently sloping land covered by a recent rugged lava flow; hence there are no constantly flowing streams and no terraces. Dry taro flourishes, however, in the rich soil composed of a mixture of humus and decomposed lava, which is plenteously watered by rain except during occasional periods of drought. Above the sea cliffs and the fresh-water lava caves of Wai'anapanapa is Honokalani, a sizable native settlement, where some dry taro is grown. On the moderately sloping forest land called Helani, inland from the road just north of Hāna town, a number of Hawaiians have patches of dry taro. In the forest zone above Hāna town, at an elevation of about 1,500 feet, is a small valley below Olopawa Peak where taro was formerly cultivated during the dry season (Handy & Handy 1978: 504-505; Sterling 1998:120).

In Hāna, at Helani, there are a number of Hawaiian plantations in rich soil of decomposed lava and humus. Here dry taro and sweet potato appear to grow equally well. Before the era of sugar plantations there must have been many localities over this whole rich country where sweet potatoes were planted with other Hawaiian crops. There are today a few potato patches at Honokalani and in the neighborhood of Hāna town (Handy 1940 in Sterling 1998:120).

The following excerpt from Handy in *Hawaiian Planter III* describes the extent of the *hala* or pandanus forest in Hāna (Sterling, 1998:115).

Eastward from Nahiku there are no large streams or gulches in Ko'olau. The shore is low and the terrain gently sloping and jungle-like. From Ula'ino to Hāna extends a *hala* forest, growing upon recent lava flows [the last flow in Hāna was in 1750 A.D.] which cover the coast from Ula'ino to Hāna Bay (Handy 1940).

According to Pratt & Gon (1998:122, 128-129) the project area is in a part of Hāna that was once a coastal terrestrial ecosystem, now totally transformed by human activity. The following describes a typical pre-contact terrestrial ecosystem in this part of the Hāna district.

Coastal: Seashore.

Climate/Substrate. Windward annual rainfall up to 120 inches with strong winds. Substrates include sandy beaches basalt cliffs, and littoral cones or tuff (consolidated ash).

Biota. Vegetation - greatly influenced by proximity to ocean; many salt-tolerant species. Dwarf shrublands of *naupaka-kahakai* (*Scaevola sericea*) most common; *'ilima* (*Sida fallax*), *naio* (*Myoporum sandwicense*), and *hinahina* (*Heliotropium anomalum*) are not as common. Simple communities of *'ākulikuli* (*Sesuvium portulacastrum*), *'aki'aki* grass (*Sporobolus virginicus*), or the sedge *Fimbristylis cymosa* were widespread. Also *'ōhai* (*Sesbania tomentosa*) and dwarf *naupaka* (*Scaevola coriacea*). Coastal forests of *hala* (*Pandanus tectorius*) in a few windward sites [Hāna has one of the largest remaining *hala* forests].

Fauna. Green sea turtle on some island beaches along with shorebirds such as wandering tattler (*'ūlili*, *Heteroscelus incanus*), and ruddy turnstone (*'akekeke*, *Arenaria interpres*) common in winter. Several seabird species breed on offshore islets e.g., wedgetailed shearwaters (*Puffinus pacificus*) and sooty terns (*Sterna fuscata oahuensis*). Great frigate bird (*'iwa*, *Fregata minor palmerstoni*) [seen a lot in Hāna today], brown booby (*'ā*, *Sula leucogaster plotus*) and brown and black noddies (*naio*, *Anous stolidus pileatus* and *A. minutes melanogenys*) can be seen along shores of main islands.

Threats. Feral pigs, mongoose, dogs, feral cats; black and Polynesian rats; alien slugs; introduced plants, clearing for agriculture and grazing, suburbanization.

Cultural Significance. Coastal areas were the most densely populated lands in ancient times and continue to be important in traditional Hawaiian culture, providing medicines, *lei* materials and other resources.

Approximately 9,800 acres of the Hāna Community District was zoned agriculture (EDAW 1981:21). Although there are commercial ventures such as tropical floral nurseries, taro, tree crops (e. g., papaya, and macadamia nuts), *'ulu* (breadfruit), private botanical gardens, and agricultural residences with private gardens, most of this agricultural zone is now undeveloped. The *ahupua'a* of Wananalua, as well as neighboring *ahupua'a* have sparse remnants of what was once an extensive native *hala* stand, as well as some coconut (*Cocos nucifera*). The majority of the other vegetation includes Polynesian introduced *noni* (*Morinda citrifolia*), *'ulu* (*Artocarpus communis*) and *hau* (*Hibiscus tiliaceus*); but mostly exotic or historically introduced wild plants [i.e., mango (*Manifera indica* L.), ink berry, Christmas berry, false *kamani* (*Terminalia catappa*), guava (*Psidium cattleianum f. lucidum* Degener), ironwood, and grasses] and a plethora of exotic plants in gardens throughout Hāna. The majority of these types of flora are outside the borders of the project site as the project site is primarily in the bay.



Photos 4-6. Various alien species in vicinity of Hāna Pier especially ironwood and false *kamani*.

The primary fauna in the vicinity of Hāna Bay are the cattle and horses of Hāna Ranch, that graze periodically on alien grasses that replaced the prior sugar cane fields, that replaced the ancient sweet potato terraces and other pre-contact sites. Other fauna of include domestic pets (dogs and cats), mongoose, occasional feral pigs, a variety of birds, and other vermin and insects.



Photo 7. Hāna Ranch cattle

Natural Environment: Marine

Several studies have been conducted in Hāna Bay particularly around Hāna Pier and Ramp as reported by Group 70 International (G70I) 2011. According to Water Quality Standards, Hāna Bay is classified as Class AA open coastal marine waters (HDOH 2004 In G70I 2011:22). In 2006, biologists from AECOS, Inc. conducted a marine reconnaissance survey (snorkeling) around the boat ramp area of Hāna Bay, which they divided into four survey areas: 1) boat ramp and dock; 2) west reef; 3) east revetment; and 4) east reef and wharf pilings. A variety of macroalgae, coral (rice, lobe, and Duerden's), herbivorous surgeonfish, and carnivorous saddle wrasse were present in the study area, however, no endangered or threatened species were encountered during this marine survey (G70I 2011:22).



Photo 8. Hāna Pier Ramp Area



Photo 9. West side of Hāna Pier



Photo 10. East side of Hāna Pier



Photo 11. East cove area of Hāna Pier

In 2010 Marine Research Consultants were commissioned to conduct a baseline coral study of the general vicinity of the pier. The report, entitled *Preliminary Baseline Assessment of Reef Coral Community Structure in the Vicinity of the Wharf in Hāna Bay*, was completed in June of that year. Fifty-eight calibration/validation sites were evaluated using digital photography, which proved to be a highly reliable assessment of coral community structure with an overall accuracy of about 94% (G70I 2011:22).



Photo 12. Hāna Bay coral (AECOS 2013)

Coral communities in direct proximity to the wharf were of particular interest. Large coral mounds are interspersed with sand channels and patches on the inner side of the wharf. The reef fronting the outer, northern side of the wharf consists of a narrow limestone ledge that extends to the sand channel, and is colonized with numerous flat circular plates of coral (*Montipora*). On the reef floor adjacent to the wharf there is also an abundance of remnant dead and eroding plates of *Montipora*. On the outer edge of the wharf a substantial portion of the vertical surfaces of the pilings are colonized with extensive overlapping plates of *Montipora capitata* (G70I 2011:23)

While coral is of great concern during improvement activities, other species that could possibly be encountered around Hāna Pier include the green sea turtle (*Chelonia midas*), listed as threatened in Hawaiian waters, the hawksbill turtle (*Eretmochelys imbricata*), listed as endangered (Federal Register 1999 a, b), and the Hawaiian monk seal, listed as endangered (Federal Register, 2001) (G70I 2011:24). The following is from the *Hāna Akule Hale* Report (Feb 19, 2010) by Kawika McKeague of Grp 70 listing concerns of Hāna fishermen about Hāna Pier:

- Malama “first” and “second” stone and the plaque for the *Sarah Joe*. Rocks are a place that everyone growing up in Hāna learned how to swim. These *pohaku* are a cultural site.
- For Hāna fishermen, this portion of the island is their livelihood and means of subsistence.
- Kids use the wharf for recreation. This is Hāna’s playground. Although State or City may have issue with liability concern, a new wharf should accommodate the fact that kids will still jump off the wharf.
- We should also coordinate with Hāna Canoe Club to see what their needs are and what they feel is important for the harbor.
- Concern of surge and possible extension of *makai* revetment. Protecting the pier from surge is important but need to make sure that anything blocking the wave energy doesn’t stop the flow of the water within the harbor.

Additional primary concerns of other community members (Hāna Community/Kupuna Report - February 19, 2010) noting that Hāna Bay is their harvest zone and Keanini is a major surf break in the Bay. The following photos are courtesy of Hāna Cultural Center Museum & Archives; these photos were taken of original archival photos on September 28-29, 2012 and March 1, 2013; they illustrate a long tradition of *akule* and other fishing in Hāna Bay.



Photos 13-14. Akule fishing in Hāna Bay (1905) prior to current pier's existence [Photos of originals in HCC Archives].



Photos 15-18. Akule - hukilau fishing (1921) after Hāna Pier constructed (HCC Archives).



METHODS

The Cultural Impact Assessment (CIA) consisted of three phases: (1) cultural and historical archival literature review; (2) ethnographic survey (oral history interview), analysis of ethnographic data (past and current oral histories) and (3) report writing. The research was conducted February 2013 to June 2013 while analysis and report writing was continued in late 2014 and early 2015 due to unforeseen delays.

Personnel. The personnel consisted of the author (ethnographer) who has a master's degree in Anthropology, with a graduate curriculum background in the archaeology track as well as anthropology theory, cultural resource management, ethnographic research methods, and public archaeology; an undergraduate curriculum background that included Hawaiian History, Hawaiian Language, Hawaiian Archaeology, Pacific Islands Religion, Pacific Islands Archaeology, Cultural Anthropology, as well as a core archaeology track, Geology, and Tropical Plant Botany; and ethnographic field experience that includes over 400 interviews to date.

Level of Effort. The level of effort for this study included a broad archival research literature review and an ethnographic review and analysis [10 current oral histories (2013); additional surveys (2016)].

Theoretical Approach. This CIA is loosely based on *Grounded Theory*, a qualitative research approach in which “raw data” [transcripts and literature] are analyzed for concepts, categories and propositions. Categories were pre-selected as part of the overall research design. However, it is not always the case that these research categories are supported in the data. Categories were generated by forming general groupings such as “Land Resources and Use,” “Water Resources and Use,” and “Cultural Resources and Use.” Conceptual labels or codes are generated by topic indicators [i.e., flora, fauna]. In the *Grounded Theory* approach, theories about the social process are developed from the data analysis and interpretation process (Haig 1995; Pandit 1996). This step was not part of this cultural impact assessment as the research sample was too small.

Archival Research. The majority of the archival research was done by the principal investigator and included a broad but limited background literature review. Compiling data took several weeks of intermittent archival research (primary and secondary sources) from the Hawaiian, Pacific and Map Collections of the University of Hawai'i-Manoa (UHM) Hamilton Library Hawaiian Collections; State Historic Preservation Division (SHPD); and other repositories such as the State of Hawai'i Archives, Bishop Museum Archives, Hāna Cultural Center Archives, Bailey House Museum Archives, State Survey Department, and a private library. Primary source material included land records, maps, oral histories and other studies. Secondary source material included translations of 19th century ethnographic works, historical texts, indexes, archaeological reports, and Hawaiian language resources (i.e., proverbs, place names and dictionary) and internet research.

Consultant Selection (Oral Histories). The selection of the ethnographic consultant was based on the following criteria:

- ❖ Had/has Ties to Project Location(s)
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Known Hawaiian Traditional Practitioner
- ❖ Referred By Another Cultural Practitioner

Interview Processes. The formal interview process included a brief verbal overview of the study. Then the ethnographic consultant was provided with a consent or ‘agreement to participate’ form to review and sign [Appendix C]. An ethnographic research instrument [Appendix D] was designed to facilitate the

interview; a semi-structured and open-ended method of questioning based on the person's response ('talk-story' style). Each interview was conducted at the convenience (date, place and time) of each consultant. The interview was conducted using a cassette tape recorder. The interviewees were allowed to choose where they wanted to have their interview conducted. Notes were also taken, but more attention was given to listening intently to the consultant. A *makana* or gift was given to the consultant in keeping with traditional reciprocal protocol.

Transcribing-Editing Process. The taped interview was transcribed by a hired transcriber. After the interviews were transcribed, each transcript was edited and corrected by the principal investigator before mailing. Each ethnographic consultant was sent a *mahalo* letter that explained the transcript review process, along with two hard copies of the interview transcripts, two *Release of Information* forms, and a self-addressed, stamped envelope for return of a signed release form and a copy of the revised transcripts. This process allows each consultant to make corrections (i.e., spelling of names, places), as well as have a chance to delete any part of the information if so desired or to make any stipulations if desired. The consultants were also informed of the two-week time limit for their review and return revised transcripts and signed release forms after which it will be assumed that the raw data can be selectively used. Only three returned revised transcripts and one person emailed to say the transcript was okay to use; six did not send revised copies back although a couple said they were working on it.

Ethnographic Analysis Process. The analysis process followed a more traditional method, as a qualitative analysis software program (i.e., TALLY) was not necessary. Each interview was considered a separate file, and the first name was used to identify the consultant (several had the same last name). Each transcript was electronically coded for research thematic indicators or categories (e. g., personal information; land, water, marine resources and use; site information-traditional and/or historical; and anecdotal stories). For the purpose of this CIA, it was also not necessary to go beyond the first level of content and thematic analysis, as this was a more focused study. However, sub-themes or sub-categories were developed from the content or threads of each interview [e. g., plantation, ranching or fishing].

Summary of Findings and Cultural Impact Assessment. The Summary of Findings section is based on both archival and ethnographic data: Summary of Significant People and Events (e.g. Legendary Entities, *Ali'i Nui*), Summary of Historic People and Events, and Significant Practices Pre-Contact and Post-Contact. This section also includes 'Environmental Council Guidelines Criteria in Relation to Project Lands' and the Cultural Impact Assessment and recommendations or mitigation if any are made.

Report. The report includes the description of the project area; the explanation of methods; a review of the historical and traditional (cultural) literature; the ethnographic analysis; summary of findings and cultural impact assessment.

Site Visit. Several site visits were made by the principal investigator including one with an ethnographic consultant. [See end of Historic References]

Ethnographic Research Constraints.

- It was difficult making initial contact with people; methods utilized (e.g. telephone, email, letters);
- The interviewer had a vertigo episode the first day of interviews, which had to be re-scheduled;
- There were a few "no shows" and/or last-minute cancellations due to illnesses or appointments;
- Ethnographic surveys were emailed out, however no one responded although several were interested in participating in the survey;
- DOT requested follow-up survey re: *impact of deck removal*. A Hāna resident was hired to contact the interviewees and determine the best date for an update presentation and interviews. September 11, 2016 was selected, but only three people attended. Letters were mailed out-one responded.

CULTURAL AND HISTORICAL BACKGROUND REVIEW

The Cultural and Historical Background Review entailed a review of previous reports that included primary and secondary source literature. Examples of primary source material include maps, Land Court records, newspaper articles, genealogies, oral histories and other studies. Secondary source material includes translations of 19th and 20th century ethnographic works, historical texts, indexes, archaeological reports, internet research and Hawaiian language resources (i.e., proverbs, place names and Hawaiian language dictionary). A review of selected archival material is presented in this section.

Chronology of Human Impact, Settlement and Development in Greater Hawai‘i and the District of Hāna – an overview.

Colonization Period. First voyager dating is scanty at best, however, based on early site dates from Bellows, O‘ahu and Ka Lae/South Point, Hawaii, Kirch (1985) estimated that the Colonization Period of the Hawaiian Islands by Polynesians from the south, was somewhere between AD 300-600 [this has been recently refuted with a new estimated settlement period beginning ca 1100AD (SAA 2013)]. A couple of *mo‘ōlelo* about Hawai‘i Loa the navigator, have the islands being settled much earlier than this. It is believed that the first Polynesian voyagers to Hawaii followed the flight paths of migratory birds, and navigated by the stars. A voyage of migration would have included sixty to a hundred persons who could exist for weeks on a large canoe, which may have been a hundred feet in length (Day 1992:3). This feat was “remarkable in that it was done in canoes carved with tools of stone, bone, and coral; lashed with handmade fiber; and navigated without instruments” (Teruia 1995: vii). The earliest date for an area near Hāna is around AD 800, from sites of the Haleakalā Crater (Kirch 1985:298).

Reconstructing the cultural sequence for the Hāna district and other places in Hawai‘i during the colonization period would involve the ‘founder effect’ and time necessary to adjust and adapt to a new environment. The colonizers were not able to bring all of the gene pool or crop plants from their homeland, so their new culture consisted of what survived the journey, what was remembered and what could be applied to the new environment (Kirch 1985:285-6). Although early Hawaiians were farmers and felt spiritually tied to the ‘*āina* (land) in many ways (Waters, n.d.), when they first arrived they had to modify both their subsistence practices and the land. Faunal remains analyses indicate that early Hawaiian subsistence depended on fishing, gathering, bird hunting [extinct fossil remains, see Olson and James, 1982], as it took time to clear the forests, plant their crop cultigens, breed their animals, and construct suitable living quarters. Creation chants such as the *Kumulipo* depict a very deep philosophical bond with the land and nature and “the respectable person was bound affectionately to the land by which he was sustained” (Charlot 1983: 45, 55). Ancient sites of various *ko‘a* (fishing and bird shrines) also imply a spiritual respect for their sustenance.

As the founding groups grew, they fissioned into subgroups anthropologists refer to as *ramages*, with the senior male of the original ramage as chief of the conical clan, although hierarchical ranking was not just relegated through the patrilineal line of descent (Kirch 1985:31). Bellwood refers to these groups as tribal and related by blood (Bellwood 1978:31). Chiefly ranking probably did not occur until late in the Developmental Period.

Developmental Period. According to Fornander (1969) certain practices were universal Polynesian customs which the Polynesian-Hawaiians brought from their homeland; such as the major gods *Kāne*, *Ku*, *Kanaloa* and *Lono*; the *kapu* system of law and order; *pu‘uhonua* (place of refuge); ‘*aumakua* (ancestral guardian) concept; and the concept of *mana* (supernatural or divine power) (Fornander 1969:61, 113,118,127-8). The early culture evolved as the population grew, and many of the changes were related

to significant socio-economic changes. The evidence indicates that the “ancestral pattern of corporate descent groups” were still in place (Kirch 1985:302-3). However, this was changing as well.

During the Developmental Period, changes occurred bringing about a uniquely Hawaiian culture, documented by the material culture found in archaeological sites. The adze (*ko‘i*) evolved from the typical Polynesian variations of plano-convex, trapezoidal and reverse-triangular cross section to a very standard Hawaiian quadrangular-tanged adze. A few areas in Hawaii produced high quality basalt for adze production. Mauna Kea on the island of Hawai‘i was a well-known adze quarry of very high quality basalt. Other areas included Maunaloa, west Molokai, Kapa‘a in windward O‘ahu, Kaho‘olawe and Honolua-Honokohau and Haleakalā on Maui. The two-piece fish hook and the octopus lure breadloaf sinker are also Hawaiian inventions of this period, as are the ‘ulu *maika* stones and the *lei niho palaoa* (whale-tooth adornment). The latter was a status item worn by those of high rank, indicating a trend toward greater stratification (Kirch 1985:184,204,306).

Expansion Period. The Expansion Period is significant in that most of the “ecologically favorable zones,” the windward and coastal areas of all major islands, were now settled [most of the Hāna district], and the more marginal leeward areas were being developed. Leeward Kahikinui, the southern extension of the Hāna District, was occupied in the middle of this period. This was also the period of the greatest population growth, the development of large irrigation field system projects, and dryland farming. The uniquely Hawaiian invention, the *loko* or fishpond aquaculture, was developed in the fifteenth century or the later half of this period (Kirch 1985: 303). In Thrum’s *Hawaiian Annual* he recounts the legend of Ku‘ula in which the first *loko* was invented and constructed in Hāna at Leho‘ula (Thrum 1901:115) below Pu‘u Ka‘iwi-o-Pele. Hāna has several other fishponds in the vicinity of the project area; some mentioned in the oral histories.

Between the 12th to 13th centuries another migration to Hawai‘i brought the “priest” Pa‘ao and a ruling chief, Pilika‘aiea, from central Polynesia (some say Tahiti, others say Samoa). This created a major shift in “religion” and socio-political patterns. Pa‘ao brought with him the Kū practice of human sacrifice, used in monumental *luakini heiau* or war temples. Pili started a line of *ali‘i nui* that would continue through the Kamehameha “dynasty.” The evolution of the *luakini heiau* is difficult to place archaeologically, and although the arrival of Pa‘ao may have been a real event the uniqueness and complexity of *heiau* were most likely a local [Hawaiian] development (Kolb 1989:3).

Hāna’s history becomes more visible in the literature during this period with the legends of the infamous King Hua and the activities of the famous Pi‘ilani line of chiefs (Youngblood 1983:35-7). Monumental *heiau* building flourished in this Period, as “religion” became more complex and embedded in a socio-political climate of territorial competition between related *ali‘i*. Monumental architecture such as *heiau* “played a key role as visual markers of chiefly dominance” (Kirch 1990:206). The Wananalua Ahupua‘a had at least three *luakini* constructed during the time of King Hua – one was where the old school is located at the western foot of Ka‘uiki; one where the Wananalua Church is located and one where St. Mary’s Catholic Church is located. Because these *heiau* were destroyed as early as the 1800s, there is little information about them other than one was constructed prior to Hua going to battle on Hawai‘i Island and one after his victorious return.

The dating of charcoal from the central terrace of Hāna’s famous Hale O Pi‘ilani Heiau (in Honoma‘ele) to AD 1270-1440 (Kolb 1990) corroborates this and infers that Hāna was quite developed and had a sizable population, enough to accomplish the monumental project of building this *heiau* complex. During the last 200 years of the Expansion Period, the concept of *ahupua‘a* was established, as well as class stratification, territorial groupings, powerful chiefs and “*mo‘i*” or king (Kirch 1985:303-6).

The *ali‘i* and the *maka‘āinana* (those who looked after the land) were not confined to the boundaries of

the *ahupua'a*. Not only did the *ma kai* (ocean direction) and *ma uka* (mountain direction) people share seafood and produce by lighting a fire when there was a need, they also shared with their neighbor *ahupua'a ohana* (Hono-ko-hou 1974:14, 15). The *ahupua'a* was further divided into smaller sections such as the *'ili, mo'oa 'aina, paukū 'aina, kihapai, kō'ele, haku one* and *kuakua* (Hommon 1976:15; Pogue 1978:10). The chiefs of these land units gave their allegiance to a territorial chief (*ali'i nui* or *mo'i* - king). One of Maui's most famous *ali'i nui* during this period was Pi'ilani (ca. Late 1500s to Early 1600s) whose ancestors made Hāna their home. As a ruler, Pi'ilani spent time at both Hāna and Lele or Lāhainā. He was well known for his peaceful rule of Maui, Moloka'i and Lāna'i. While he ruled there were no wars between chiefdoms and island polities. Several *mele, 'ōlelo no'eau, and mo'olelo* mention that Maui, Molokai and Lāna'i and all the bays of West Maui that begin with 'Hono' were in the realm of Pi'ilani.

According to *mo'olelo*, Pi'ilani met his second son Kiha-a-Pi'ilani in Lele (now Lāhainā). Kiha (ca. Early 1600s) was raised on O'ahu (Waikīkī) with his mother's family. However, as a young adult he grew tired of listening to his uncles and wanted to meet his father. The *mo'olelo* indicates that from the moment he met his father, Kiha was never satisfied with being a junior son to his older brother, Lono-a-Pi'ilani. After the death of Pi'ilani in Lele, friction between the brothers escalated. Kiha eventually went to Hawai'i Island to solicit the help of his sister Pi'ikea and her husband, Hawai'i *ali'i nui* Umi-a-Liloa, but not before he spent some time living in Hāna. After a year of building an army to challenge Lono-a-Pi'ilani, Kiha and Umi traveled to Maui to find that Lono had recently died, presumably from fear of doing battle with his brother and brother-in-law. Kiha-a-Pi'ilani eventually took control of the Maui domain. He is credited with many public works, one of which was to finish the Hono-a-Pi'ilani highway that his father started. Remnants of this monumental feature (King's Trail) can still be seen today in various parts of Maui, including the coastal zone of Hāna.

Mo'olelo about events that took place in the early to mid 1600s revealed that many of the battles of this period were relatively quickly contained by the opposing *ali'i*. These stories also illustrate the on-going inter-relationships between the people of the various islands. In the *History of Kūali'i*, the exploits of Kūali'i (great-great grandson of Kākūhihewa, *ali'i nui* of O'ahu) take him to every island and he eventually unites all the islands "from Hawaii to Ni'ihau" (Fornander 1917:IV: II: 406). Kūali'i lives in the time of Maui *ali'i nui* Kamalalawalu and Kauhiokalani, sons of Kiha-a-Pi'ilani by each of his two wives [Kumaka and Koleamoku] and Kauhiakama, son of Kamalalawalu (Kamakau 1992:56; McKenzie 1986).

Proto-Historic Period. The Proto-Historic Period appears to be marked with both intensification and stress. However, it was during this period that the *Royal Kolowalu Statute* or Kūali'i's Law was enforced. Kūali'i Kunia'akea Kūikealaikauaokalani lived for a very long time, was said to sometimes have supernatural powers, and was the first to "unite" all the islands. This *ali'i nui* of O'ahu died at Kailua in Ko'olaupoko in AD 1730, supposedly at the age of one hundred and seventy five (Kamakau 1992:369).

It (Kūali'i's Law) was strict, unvarying and always just. It was for the care and preservation of life; it was for the aged men and women to lie down in the road with safety; it was to help the husbandmen and the fishermen; to entertain (morally) strangers, and feed the hungry with food. If a man says, "I am hungry for food," feed (him) with food, lest he hungers and claims his rights by swearing the *Kolowalu* law by his mouth, whereby that food becomes free, so that the owner thereof cannot withhold it; it is forfeited by law. It is better to compensate.... A transgressor, or one who is about to die, is, under the application of this law exonerated of his death or other penalty...(Fornander 1917:IV:II:432).

Many wars took place during this time between intra-island chiefdoms and inter-island kingdoms; the majority of these *ali'i nui* were related in various ways. In 1736, Maui *ali'i nui* Kekaulike died. He chose his *nī'aupi'o* son Kamehameha-nui to be his heir; although Kauhi-'aimoku-a-Kama was the oldest son,

his mother was of a slightly lower rank than Kamehameha-nui's mother [his parents were ½ siblings], making Ka'uhi whose parents were first cousins slightly lower rank than his younger half-brother. Kamehameha-nui was the full brother of Kalola, Kahekili, and Ku-ho'ohēihei-pahu. In 1737 and 1738 Kauhi-'aimoku-a-Kama (Kauhi), oldest son of Ke-kau-like rebelled against his younger brother, Kamehameha-nui. Many of the warriors of Kamehameha-nui were slaughtered. This prompted Kamehameha-nui to flee to his uncle, Hawai'i Island *ali'i nui* Alapa'i-nui-a-Ka-uaua (Alapa'i), who took him to Hawai'i Island where they spent a year preparing for war. Alapa'i-nui was the half-brother of Kamehameha-nui's mother (Kamakau 1992:73-74).

When Kauhi heard that Alapa'i was heading back to Maui, Kauhi enlisted the help of his uncle, Pele-io-holani, Kaua'i *ali'i nui* who was also ruling chief of O'ahu and the son of Kūali'i; Pele-io-holani was also the first cousin of Alapa'i and said to be the father of Ke'eaumoku (McKenzie 1986:23). Alapa'i attacked Maui (1738), drying up the streams of Kaua'ula, Kanahā and Kahoma near Lahaina Luna, destroying the taro patches. His men kept guard over the streams of Olowalu, Ukumehame, Wailuku and "Honokawai" (sic). "When Pele-io-holani heard that Alapa'i was in Lāhainā he gathered all his forces at Honokahua and at Honolulu. At Honokawai (sic) an engagement took place between the two armies, and the forces of Alapa'i were slaughtered and fled to Keawawa." Pele-io-holani had 640 men to Alapa'i's 8,440. However, the cousins once again came face to face in Pu'unēnē and decided to once more opt for peace between the families. Kamehameha-nui ruled Maui in peace; Pele-io-holani retired to Moloka'i for a while, and Alapa'i went back to rule Hawai'i Island (Kamakau 1992:74). Kauhi, nephew of Pele-io-holani reportedly ruled east Maui before being killed in Kaupō.

The inter-relatedness of these chiefs and the connection of Pele-io-holani to Hāna are further expanded upon by Kamakau (1992:75):

Perhaps the reason for this friendliness on the part of the two chiefs [Alapa'i and Pele-io-holani] was the close relationship that existed between them. Alapa'i's mother belonged to Oahu. She was Ka-lani-kau-lele-ia-iwi-nui, a daughter of Kane-i-ka-ua-iwi-lani, who was the child of Ka-ua-kahi-a-kua'ana-au-a-kane, the daughter of Ka-'ihi-kapu-a-Ku'ihewa. Moreover Ka-lani-'opu'u and Keoua were own sons of Pele-io-holani through their mother Ka-maka'i-moku. While Kualii was still ruling Oahu, she had come to visit her mother 'Umi-'ula-i-ka-'ahu-manu, who was living at Waikele with her younger brothers, and it was at the water of Alele just above Waipahu in Waikele, 'Ewa, that Ka-lani-'opu'u was begotten by Pele-io-holani. The ruling chiefs of Oahu wore as a neck ornament an ivory whale's tooth shaped like a bud (*'opu'u*); the royal neck ornament of Hawaii was a tongue-shaped hook, like a tortoise-shell fishhook. Pele-io-holani named the child Ka-lei-'opu'u after the bud-shaped neck ornament of his father Kualii. Thus he begot Ka-lei-'opu'u.* Keoua he probably begot after he became ruling chief. (* *Ka Nupepa Ku'oko'a*, Nov. 3. 1866). At the end of the war Kamehameha-nui became ruling chief of Maui. Pele-io-holani retired to Ko'olau on Molokai with his adviser Na'ili and his chiefs and fighting men. The counselors of both Hawaii and Maui boasted, "Pele-io-holani, the son of Ku, belongs to Hāna!"

Around A. D. 1759, High Chief Kalani'opu'u from the Island of Hawai'i made war on East Maui and conquered Hāna from *ali'inui* Kamehameha-nui, brother of Kalola, Kalani'opu'u's wife. Kalani'opu'u [father of Kiwala'ō and grandfather of Ke'ōpūolani, sacred wife of Kamehameha I] took control of Hāna's prominent Pu'u Ka'uiki as his fortress. He appointed one of his chiefs, Puna, as "governor" of Hāna and Kīpahulu. Puna was later tricked by Mahihelelima into going back to Hawai'i Island, thereby leaving Mahihelelima in control of Hāna. Mahihelelima was an independent chief of Hāna, Kīpahulu and Kaupō, whose ancestors, grandparents, and parents had been chiefs of the districts (Kamakau 1992:81-82).

Kamehameha-nui relinquished Hāna and lived in peace in west Maui. In 1766 the peaceful Maui *ali'i nui* died. After ruling Maui for 29 years, Kamehameha-nui was taken ill at Kawaipapa on a journey about the

island. There in Hāna he ceded his lands to his younger brother Kahekilinui‘ahumanu (Kahekili), a fierce warrior and “manipulator” [and supposed biological father of Kamehameha I] (Kamakau, 1992:82-84, 188; Kame‘eleihiwa 1992:47). During this period, Ka‘ahumanu, daughter of Ke‘eaumoku and Namahana [½ sister of Kahekili], was born at Mapuwena, Pali‘uli, in a cave at the base of Pu‘u Ka‘uiki, (she would later become queen and favorite wife of Kamehameha I, nephew of Kalani‘opu‘u and possible nephew of Kamehameha-nui and Kalola; and possible son of Kahekili). “Her afterbirth was taken and buried at Kani-a-mako in Kawaipapa above Pihele” (Kamakau 1992:309).

[Ka‘ahumanu’s] mother was Na-mahana-I-ka-lele-o-na-lani who had already borne two children to her...[half-brother] Kamehameha-nui; Pele-io-holani [probably named after the chief of O‘ahu] the first borne, and Kua-kini-o-ka-lani the second. When both her husband and her older son died Na-mahana was taken to wife by Ke‘e-au-moku, son of Ku-ma‘ai-ku and Keawe-poepoe.... [Ka‘ahumanu] was therefore...cousin to Kamehameha through their common grandfather Ha‘ae.... She was brought up in the land of Kawaipapa and was a great favorite of her father Ke‘e-au-moku and the beloved child of her aunts, uncles, and grandmother.... At Cook’s arrival Ka‘-ahu-manu was a little girl of eleven (Kamakau 1992:309-310).

Between 1775 and 1779 fighting continued between Kalani‘opu‘u, son of Ka-lani-nui-I-a-mamao [whom the *Kumulipo* was composed for] and his brother-in-law, Kahekili. In 1775 Kalani‘opu‘u and his Hāna forces raided and severely destroyed the neighboring Kaupō district, before continuing several more raids on Molokai, Lāna‘i, Kaho‘olawe and parts of West Maui. It was at the battle of *Kalaeoka‘ilio* that Kamehameha, nephew and favorite warrior of Kalani‘opu‘u, was first recognized as a great warrior and given the name of Pai‘ea (hard-shelled crab) by the Maui chiefs and warriors (Kamakau 1992:84).

In 1776 Kalani‘opu‘u and his chiefs returned to wage war on Maui again, but were again defeated. Kalani‘opu‘u was forced to sue for peace and sent his young son Ka-lani-kau-i-ke-aouli Kiwala‘o and with his twin brother’s-in-law Ka-me‘e-ia-moku and Ka-manawa, who were also younger half-brothers of Kahekili. Kahekili called for a cease and sent fish and vegetables to his sister Kalola and her husband Kalani‘opu‘u. This too was short-lived as a few years later Kalani‘opu‘u waged war on Maui again then ravaged Lāna‘i slaughtering the chiefs and soldiers there leaving only one survivor to tell the tale. Kalani‘opu‘u then went back to Maui to wage many battles from 1778 to 1779 (Kamakau 1992:88-91). In 1777 when very young, Ka‘ahumanu’s parents took Ka‘ahumanu and their whole family to Hawai‘i to get away from the war between Kalani‘opu‘u and Kahekili (Silverman, 1987:iii, 5-6; Kamakau, 1992:310).

In January 1778 Cook landed in Waimea, Kaua‘i and the culture of old Hawai‘i began its spiraling change (see Day 1992). Cook left Hawai‘i for several months, but returned later in the year. Kalani‘opu‘u was fighting Kahekili’s forces in Wailua, Maui on November 19, 1778 when Cook’s ship was sighted on his return trip to the islands. Kalani‘opu‘u visited Cook on the *Resolution*, while Kahekili visited Clerke on the *Discovery* (Kuykendall and Day 1976:16). When Cook sailed into Kealakekua Bay on January 17, 1779, Kalani‘opu‘u was still fighting Kahekili on Maui. At this time Kaeo, younger brother of Kahekili was the ruling chief of Kaua‘i; Ka-hahana, nephew of Kahekili was the ruling chief of O‘ahu and Molokai; Kahekili of western Maui, Lāna‘i and Kaho‘olawe; and Kalani‘opu‘u of Hawai‘i Island and Hāna (Kamakau, 1992:84-86, 92, 97-98). On January 25th Kalaniopu‘u visited Cook again at Kealakekua Bay, presenting him with several feather cloaks. By February Cook’s scheme to kidnap Kalani‘opu‘u as a hostage were thwarted and Cook was killed following a skirmish over a stolen cutter (Kuykendall and Day 1976:18).

The warring between the Hawai‘i and Maui forces continued. When Kahekili heard about the death of Kalani‘opu‘u, he was determined to retake East Maui [Hāna District]. The chiefs of Hāna, bastioned at the fortress of Ka‘uiki, were Mahi-hele-lima, Kaloku-o-ka-maile, Nae‘ole, Malua-lani, Kaloku, a grandson of Keawe and other chiefs of Hawai‘i who “liked to live there” [in Hāna] as well as some native

Hāna chiefs “who with some commoners, took the side of Hawaii” (Kamakau 1992:115). Kahekili, split his forces and sent them through the southeastern Kaupō Gap and the northeastern Ko‘olau Gap into Hāna in 1781. After being thwarted Kahekili sent for Ku-la‘a-hola who advised him.

The fortress of Ka‘uiki depends upon its water supply. Cut that off and Ka‘uiki will surrender for want of water.... Let the chiefs, guards, and fighting men cut off the springs of Punahoa, Waka‘akihi, Waikoloa [Kawaipapa], and the ponds from Kawaipapa to Honokalani on the Ko‘olau side of the hill.... When the people are dying of thirst and can get no water, then they may be slaughtered (Kamakau 1992:116).

After damming and diverting the supply of spring water to Pu‘u Ka‘uiki, the Hawai‘i chiefs were finally defeated, and the Maui *ali‘i nui* regained control of Hāna in 1782. The corpses of the defeated Hawai‘i forces were burned at two *luakini heiau* (war/human sacrifice temple), Kuawalu and Honuuala; *heiau* that King Hua was supposed to have built during his infamous reign in Hāna (Kamakau, 1992:84-86; 115-116; Fornander 1900: Vol II 146-7, 150, 216). Both *heiau* were destroyed during the sugar plantation era and on their sites, Catholic and Protestant churches now stand (Walker 1931:186; see also Sterling, 1998:133). Kahekili reclaimed Hāna, then through war and trickery went on to gain control of all the islands except Hawai‘i Island (Kamakau 1992:116, 128-141).

By 1790 Kamehameha I had gained enough control of the island of Hawai‘i that he could leave to join the war parties on Maui. Their canoe fleet “beached at Hāna and extended from Hamoa to Kawaipapa” to battle Kalanikupule, son of Kahekili, and ruling chief of Maui while his father ruled O‘ahu. After several battles along the East Maui coast, Kamehameha’s force reached Wailuku where the “great battle” took place. This would be the beginning of the end of independent ruling chiefs because of the inequity of battle strategy. Kamehameha had brought a cannon from the *Eleanora* along with her captain, Isaac Davis, and crewmember John Young, now his *aikane punahele* (favorites) and advisors (Kamakau 1992:147-148) [Day, 1992:24 says that Isaac Davis was the lone survivor of the *Fair American*].

Demographic trends during the Proto-Historic Period indicate a population reduction in some areas, yet show increases in others, with relatively little change in material culture. However, there was a continued trend in craft and status material, intensification of agriculture, *ali‘i* (chief/land managers) controlled aquaculture, upland residential sites, and oral records that were rich in information. The Kū cult, *luakini heiau*, and the *kapu* (restriction or regulation) system were at their peak, although western influence was already altering the cultural fabric of the islands (Kirch 1985:308, Kent 1983:13). By 1794 at least eleven foreigners were living on the island of Hawai‘i, including American, English, Irish, Portuguese, Genoese, and Chinese (Day 1992:23-25) [may have been connected to the sandalwood trade]. When Kamehameha I conquered O‘ahu and Maui in 1795 (with western advice and technology), subsequently unifying the Island Kingdom (Kent 1983:16), it marked the end of the Proto-Historic Period.

Early Historic Period. The Early Historic Period (AD 1795-1899) is marked by very significant events. After Kamehameha I conquered Maui in 1795, he went to Moloka‘i where the sacred women of Maui (Kalola Pupuka and her daughters Kalanikauīōkikilokalaniakua and Keku‘iapoiwa Liliha and her daughter Kalanikauia‘alaneo), were in hiding. Kamehameha took Keku‘iapoiwa Liliha and Kalanikauia‘alaneo to O‘ahu to witness the Battle of Nu‘uanu Pali and the defeat of O‘ahu. It was during this trip that Kalanikauia‘alaneo was given the name Ke‘ōpūolani (Kleiger 1998:21).

Hawai‘i’s culture and economy continued to change radically as capitalism and industry established a firm foothold. In 1810, Kaua‘i *ali‘i nui* Kaumuali‘i ceded under duress his kingdom of Kaua‘i, Ni‘ihau, Lehua and Ka‘ula to Kamehameha I. At this time the sandalwood trade in Hawai‘i was still flourishing; the Fijian and Marquesan supply of sandalwood was exhausted, so Hawai‘i became known as the “sandalwood mountains” to entrepreneurs of Southern China. Sandalwood came under the personal

control of Kamehameha I, who had become “a fervent consumer of high-priced western goods.” The sandalwood industry was thriving to the point where the subsistence levels declined, as farmers and fishermen spent most of their time logging, causing famine to set in (Kent 1983:17-20).

On October 1819, Protestant missionaries set sail from Boston to Hawai‘i. Earlier that year, on May 8, 1819, Kamehameha I died. Following his death, his son and heir Liholiho banished the *kapu* system at the advice of his queen mother Ke‘ōpūolani and queen regent Ka‘ahumanu [the queens were second cousins] (Kamakau, 1992:210, 222). The missionaries arrived in Kailua-Kona on March 30, 1820, to a markedly changed culture; one with a “religious” void, and a growing appetite for western products. They quickly started missions on all of the islands (Day 1992:25).

In 1828 a group of Protestant missionaries made a trip to Hāna where they “found nearly a thousand scholars” on the plain of Hāna (Forster 1959:18). By the 1830s there were three stations in East Maui; one station in Hāna proper.



Photo19. Hāna Mission Station ca. 1840 with Pu‘u Ka‘uiki on the right (Hāna Museum & Archives).

Also in 1828, two Chinese merchants established the Hungtai sugar works at Wailuku. Many of the earliest Chinese residents in Hawai‘i were knowledgeable in sugar production (the *tong see* or sugar masters), and established successful plantations on Maui and Hawai‘i (Speakman 2001:90).

During this period, “between one hundred and two hundred foreigners lived among the Islands...(Day 1992:25). Hardly a ship touched without leaving a deserter or two behind.... A white man automatically ranked as a chief, although he could not own land in fee simple or build a permanent house...[and] they took Hawaiian wives” (Day 1992:25). Kamakau comments on the influence of the missionaries on Maui in the following excerpt:

The island of Maui, the “haven of Pi‘ilani,” is famous as the place where the word of God was first accepted as the guide to good conduct.... At the haven of Pi‘ilani was the word of God first used to protect the laws and to punish wrongdoing and law breaking. At the haven of Pi‘ilani laws were proclaimed and enforced against adultery, prostitution, liquor drinking, stealing, taking life and other misdeeds.... There were too many petty laws made at this time at the haven of Pi‘ilani, such as laws against smoking, tattooing, knocking out teeth (Kamakau, 1992:353).

In 1831, the Sandwich Islands Mission set up a “high school” on a hill above Lāhainā, Maui, “to educate young Hawaiians as teachers and preachers” (Day 1992:47). In 1837 Rev. Conde brought his wife and baby to Hāna, establishing its first permanent mission station--they were the “first European woman and baby ever seen by the local inhabitants.” Conde estimated there were about 6,000 Hawaiians living in the district at that time. Later a missionary report of 1839 stated that “31 schools existed in the [Hāna] district with 1,523 pupils” (Forster 1959:17-19, see also McGregor 1989:355).

In the 1830's other industries such as whaling, and merchandising crept into Hawai'i. In 1836 the first sugar plantation was established on Kaua'i (Kent 1983:23, 29). The first sugar venture in Hāna was established in 1849 when 60 acres of land in the heart of Hāna was cleared and planted by a refugee of the whaling industry (Youngblood 1992:44). This activity not only destroyed Hawaiian ethnobotanical lands in Hāna, but cultural and historical features too. The Hāna Plantation, later called the Ka'elekū Sugar Company, was first established in 1851. "The acquisition of lands by the plantations created a new population distribution in the district. For the first time, dwellings were moved to the sea coast and the hinterland was completely given over to the raising of sugar" (Forster 1959:22).

In the 1840s a political act of the Hawaiian Kingdom government would change forever, the land tenure system in Hawai'i and have far-reaching effects. The historic land transformation process was an evolution of concepts brought about by fear, growing concerns of takeovers, and western influence regarding land possession. King Kamehameha III, in his mid-thirties, was persuaded by his *kuhina nui* and other advisors to take a course that would assure personal rights to land. One-third of all lands in the kingdom would be retained by the king; another one-third would go to *ali'i* (chiefs/*konohiki*) as designated by the king; and the last one-third would be set aside for the *maka'āinana* or the people who looked after the land. In 1846 Kamehameha III appointed a Board of Commissioners, commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10th day of December, AD 1845." Notices were frequently posted in *The Polynesian* (Moffat and Fitzpatrick, 1995). However, the Legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Fitzpatrick 1995:48-49), known today as *The Great Mahele*.

The 1840s also heralded other changes as well. The Hawaiian government, with the aid of the missionaries, encouraged the sugar industry as well as other enterprises such coffee, cotton, rice, potatoes, and silk worms (Speakman 2001: 93), *pulu*, goat skins, fungus, wheat, other vegetables, sugar syrup and molasses (MacLennan 1995:35). The constitutional monarchy was established during this period and in a speech to the legislature in 1847 Kamehameha III promoted the agricultural industry:

I recommend to your most serious consideration, to devise means to promote the agriculture of the islands, and profitable industry.... What my native subjects are greatly in want of, to become farmers, is capital, with which to buy cattle, fence in the land and cultivate it properly (In MacLennan 1995:34).

Between 1837 and 1850, there were seven mills and plantations on Maui (MacLennan 1995:41, 45); all of the Hāna operations were owned and operated by foreigners:

King's Mill	Wailuku. Started by Kamehameha III in 1939. Ceased operation circa 1844
King's Plantation	Honua'ula. Mill of Michael Nowlein built in 1841 on leased land. L. L. Torbert became owner in 1846. Sold to James Makee in 1859. Continued sugar operations until 1870s. [By 1851 three mills were operating in Honua'ula]
Lahaina Planters and Mills	Lahaina. Hawaiians grew sugar cane and ran small mills as early as 1837. Continued to the early 1850s.
Miner & McLane Plantation	Makawao. Started in 1838 by Edwin Miner and William McLane under agreement with Hoapili. John T. Gower [he was also a Maui land agent] became a partner in 1849. The partnership ended in 1850s. [By 1851 seven plantations were in Makawao.]

A. B. Howe Plantation	Hāna. Howe bought land in 1850 and set up an iron mill in 1852. G. B. Judd bought in 1852. The mill burned in 1854 and plantation closed. Land sold to Needham, Cook and Unna in 1861. Revived as Hāna Plantation. [By 1851 three mills were located in Hāna.]
Hāli'imaile Plantation	Hāli'imaile. Started in 1849 by W. A. Parsons and Stephen Reynolds on leased land. New mill set up in 1852. Reynolds died in 1857, and Charles Brewer II bought and renamed it Brewer Plantation. Sold to Judd, Wilder and Judd in 1863. Mill burned in 1864, and machinery was sent to O'ahu.
East Maui Plantation	Makawao. Started in 1850 by Robert Wood and A. H. Spencer. Eventually bought by C. Brewer & Co. and closed in 1885. Land sold to Haiku Sugar Co.

Disease had a devastating affect on the population and the landscape, killing *ali'i* and *maka'āinana* alike; measles epidemics in 1848 and 1849, were followed by the horrendous smallpox epidemic in 1853. “The whole population was wiped out from Wākiu, the uplands of Kawaipapa, Palemo, and mauka of Waika'akihi in the Hāna district, and so for Kīpahulu and Kaupō...ten thousand [all toll] of the population are said to have died of this disease in Hawaii” (Kamakau, 1992:411, 418). John Papa 'I'i in *Fragments of Hawaiian History* (1984) talks about the impact of this disease and as *kahu* or guardian of several young *ali'i*, he had to take several of them off of O'ahu island. They just kept sailing from island to island and usually were not allowed to land as O'ahu was thought to be the source of the smallpox.

In 1850, the Kingdom government passed laws allowing foreigners to purchase fee simple lands (Speakman 2001:91), many were retired whaling captains or merchants. G.B. Judd applied to the Privy Council to purchase all the unsold Hāna lands belonging to the Government; S. O. Spaulding, Robert P. Bracy, William G. Needham and E. J. Relk also applied for Hāna lands. This increasing pressure to buy lands resulted in the King and Privy Council passing a resolution in 1850 stating that no land in Hāna should be sold until the native land claims are surveyed by W. P. Alexander [former missionary]. However, Judd was able to purchase 223 acres of Hāna government lands in 1851 even though the surveys were not completed. Judd went on to purchase 4 more parcels for a total of 641 acres for \$436 by 1860; he turned around and sold them all to Wm. Needham, Thomas Cook and August Unna for \$2,500 (MacLennan 1995:48, 52).

By 1858 at least 2,119 foreigners lived in Hawai'i. Many were merchants who traded with whalers, while the missionaries lived in various locations throughout the islands. “Foreigners engaged in agricultural pursuits with the idea of reaping a profit from the land, in contrast with the Hawaiians, who carried on...subsistence agriculture” (Coulter 1931/1971:11). By 1878, the Hāna plains were “dotted with native and European-style dwellings” and fields of sugar cane (Davis 1988:19). The cultural and socio-economic fabric of Hāna would continue to change radically as New Hebrideans, Gilbertese, Chinese, and then Japanese laborers were brought in to work the plantations, which, by 1883 totaled six in Hāna, destroying even more farmland and cultural features.

The following photos were taken of original archival photos in Hāna Cultural Center (HCC) Archives on September 28-29, 2012 and March 1, 2013 and in Wananalua Church on July 12, 2013; they document land changes over time in Hāna.



Photo 20. 1883 Ka‘uiki Hill, Sugar cane fields where Hāna Town is today (Wananalua Church)



Photo 21. Unna’s house with Royal visitors ca. late 1800s (HCC Archives]



Photo 22. Hāna Bay and sugar cane fields ca. late 1800s (HCC Archives)



Photo 23. Close-up of warehouses where Helene Hall is today (HCC Archives)



Photo 24. Hāna mill, Wananalua Church, sugar cane fields in 1904 (Wananalua Church).



Photo 25. Hāna plantation houses 1941 (Wananalua Church).

Later Portuguese, Puerto Rican, Spanish and Filipino laborers were brought in and supervised by managers from Denmark, Scotland, Germany and the United States. However, by necessity, the plantation workers adopted the subsistence patterns of the Hāna Hawaiians - fishing, hunting, gathering and raising their own food (Davis 1988: 21, 49, 50, 53; Youngblood 1992:45-47). Most of the crop productions (e.g., taro and sweet potatoes) in rural areas were primarily “for use and not export” (MacLennan 1995:36).

Territorial History (AD 1900-1949). This period saw Native Hawaiians running for Congress (Daws 1974 297); and much of the lands being sold in fee simple. Between 1899 and 1905 three rubber plantations were established in Nāhiku, but by 1912 their failure to thrive was accepted and they were shut down (Hāna Ranch Newsletter; Youngblood 1992:96-7). In 1927 a 55-mile highway to Hāna built by prisoners - compliments of the Territorial Government, was completed allowing easier access to Hāna. Until then, “the settlements along the Hāna Coast were only accessible by ocean or along rugged horse and mule trails.”

Throughout the nineteenth century and until the Hāna road was built in 1927 ...between Ke‘anae and Hāna, was practically inaccessible by land. Travelers entering the district from Wailuku, usually rode on horseback to Ke‘anae, and then journeyed by canoe to Hāna, generally taking two days. However, if one traveled entirely by canoe from Wailuku, the trip took only five and a half hours (McGregor 2007:67).

However, by 1930, in the Hāna District - from Ke‘anae to Kahikinui - there were only “2,436 people living in this area, out of whom 1,117 or 48 per cent were Hawaiian” (McGregor 1989:353-354). Hāna’s sugar industry was declining by the 1930’s, yet Paul Fagan bought the Ka‘elekū Sugar Company. In the 1940s as World War II ended Fagan decided to convert his sugar holdings to a long-time dream of cattle ranching and the visitor industry (Youngblood 1992:67). The Ka‘elekū Sugar Company (previously known as Hāna Plantation), the last sugar plantation in Hāna, shut down operations in August, 1945 at the “high noon” whistle, signifying “death” of the Company, and the “end of plantation life of about 400-500 employees and their families (Okano, nd:16). Many of the plantation laborers were relocated to other parts of Maui (Youngblood 1992:60, 67-70). The plantation town of Hāna changed again to become the *paniolo* or “cowboy” town of Hāna, with first-class accommodations for visitors who could afford to fly in to the grassy runway of Hāmoa. The gentle Hāna slopes were modified once again as sugar cane was cleared and alien grasses planted to accommodate the newly converted grazing lands.



Photo 26. Hamoa Airfield ca 1940s (HCC Archives)

Modern History (Post AD 1950). Post World War II brought about an influx of people and industries to Hawai‘i, allowing the tourism, offshoot enterprises and military to flourish. Along with the rise of the tourism industry, and competing sugar markets abroad, the sugar companies saw a sharpening decline in business (the Sugar Acts of 1934 and 1937, and ILWU Strike of 1946 didn’t help). The 1950s and 1960s were the bleakest years for the sugar industry and it was becoming apparent that the sugar industry was beyond salvage (Kent 1983:107-108). More changes were soon to take place on the landscapes of Hawai‘i. Hāna’s population declined to about 500 people in the 1950’s, but started to increase again after the State re-paved the Hāna highway in the 1960s, making Hāna more accessible (Youngblood 1992:70-7). The economy picked up as visitors “discovered” Hāna’s beauty and charm, and wealthy people from the continental U.S. invested in hideaway properties.

1950 also marked the introduction of radiocarbon analysis which shifted the focus of study in archaeology from relative dating excavated material or cultural remains to carbon dating; this was followed by a focus on settlement and subsistence patterns, land and marine use. However, the recent Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) and its implementing regulations (43 CFR Part 10), and Hawai‘i’s Act 50 (2000) has shifted the focus of study to include a greater interaction with indigenous people, and a lesser focus on invasive methods of study. Hāna remains one of the relatively untapped areas of study with a tremendous potential to yield a plethora of information due to the continuous “Hawaiian” lifestyle of its residents, and the large quantity of sites still relatively well preserved.

Traditional Literature

The ethnographic works of the late 19th and early 20th century contribute a wealth of information that comprise the traditional literature - the *mo‘olelo*, *oli*, and *mele* - as well as glimpses into snippets of time, and a part of the Hawaiian culture relatively forgotten. The genealogies handed down by oral tradition and later recorded for posterity, not only give a glimpse into the depth of the Hawaiian culture of old, they provide a permanent record of the links of notable Hawaiian family lines. The *mo‘olelo* or legends allow *ka po‘e kahiko*, the people of old, the *kupuna* or ancestor, to come alive, as their personalities, loves, and struggles are revealed. The *oli* (chants) and the *mele* (songs) not only give clues about the past, special people, and *wahi pana* or legendary places, they substantiate the magnitude of the language skills of *na kupuna kahiko* (the people of old). Several excerpts of the *mo‘olelo* and *mele* have already been used as references or chronology markers in the ‘Overview of Human Impact, Settlement and Socio-economic Development...’ above. The following sections give a little more detail and explanation of the traditional literature.

Genealogies. *Po‘e kū‘auhau* or genealogy *kahuna* were very important people in the days of old. They not only kept the genealogical histories of chiefs “but of *kahunas*, seers, land experts, diviners, and the ancestry of commoners and slaves...an expert genealogists was a favorite with a chief” (Kamakau 1992:242). During the time of ‘Umi genealogies became *kapu* to commoners, which is why there “were few who understood the art; but some genealogists survived to the time of Kamehameha I and even down to the arrival of the missionaries” (ibid).

Surviving genealogies illustrate that the ruling families of each island were interrelated quite extensively. The chiefs of O‘ahu, Kaua‘i, Hawai‘i, Maui and Moloka‘i had one common ancestry. Families branched out, but conjoined several times in succeeding generations. O‘ahu and Hawai‘i’s chiefs were linked as are Hawai‘i and Maui chiefs, and Hawai‘i’s chiefs were linked to Kaua‘i chiefs (Kamakau, 1991:101; McKenzie, 1983:xxv). Not only were the chiefs or *ali‘i* related to each other, they were also related to the commoners. In *Ruling Chiefs*, Kamakau states that “there is no country person who did not have a chiefly ancestor” Kamakau (1992:4). In the following passage Kamakau (1991) explains how some of the *ali‘i* were connected.

It is said that the chiefs of Hawai'i island were from Maui and from O'ahu and Moloka'i between the times of 'Aikanaka and Hanala'anui. Thus 'Aikanaka was the chief of Koali and Mū'olea in Hāna; Hema, the chief of Ka'uiki in Hāna; Kaha'i, the chief of 'Iao in Wailuku; Wahieloa, the chief of Papauluana in Kīpahulu. Laka the chief was born at 'Alae in Kīpahulu, Maui; he ruled in Ko'olaupoko, O'ahu; the site of his house, Hale'ula, was at Waikāne, O'ahu (Kamakau, 1991:101).

Malo (1971) wrote about the connection between the *maka'āinana* and the chiefs; "Commoners and *alii* were all descended from the same ancestor, Wākea and Papa" (Malo, 1971:52). This is evident in the genealogies. Genealogies were very important to the chiefs, because ranking was very important. The genealogies not only indicated rank, they ascertained a link to the gods. The following excerpt explains the idea and importance of rank and the role of genealogies:

Position in old Hawaii, both social and political, depended in the first instance upon rank, and rank upon blood descent—hence the importance of genealogy as proof of high ancestry. Grades of rank were distinguished and divine honors paid to those chiefs alone who could show such an accumulation of inherited sacredness as to class with the gods among men...a child inherited from both parents.... The stories of usurping chiefs show how a successful inferior might seek intermarriage with a chiefess of rank in order that his heir might be in a better position to succeed his parent as ruling chief...a virgin wife must be taken in order to be sure of child's paternity—hence the careful guarding of a highborn girl's virginity (Beckwith 1990: 11).

One could defend and/or prove their rank by knowing or having one's genealogist recite one's genealogy. "To the Hawaiians, genealogies were the indispensable proof of personal status. Chiefs traced their genealogies through the main lines of 'Ulu, Nana'ulu, and Pili, which all converged at Wākea and Papa (Barrere, 1969:24). Two well-known genealogy chants are the *Kumuhonua* and the *Kumulipo*.

Kumuhonua. The *Kumuhonua*, first published by Fornander in 1878, in *The Polynesian Race* Vol. I was based on information from Kamakau and Kepelino. *Kumuhonua*, the man, was of the Nanaulu line, and the older brother of Olopana and Moikeha (McKenzie 1986:14-15). However, the birth chant *Kumuhonua* has been a subject of controversy as noted in following *Preface* by Kenneth P. Emory:

We have become painfully aware that the *Kumuhonua* 'legends' are not ancient Hawaiian legends, nor is the genealogy which accompanies them a totally authentic genealogy.... In his second volume (1880) when he relates events from the period of the arrival in Hawaii of migrant chiefs from Tahiti to the time of Kamehameha, in these writings he is dealing with relatively untampered, authentic Hawaiian traditions and genealogies.... We must ever be on guard against the effects of this impact in what was recorded subsequently about the pre-contact period.... The world of the Polynesian began to be transformed overnight by Western influence." (Barrere, 1969:i)

Barrere (1969) explains that some of the *Kumuhonua* legends were recorded by Kamakau and Kepelino between the years 1865 and 1869, however, the 'genealogy' of the *Kumuhonua*, published by Fornander, was given to him "to provide credibility to the legends...this 'genealogy' [was] constructed from previously existing genealogies--the *Ololo* (*Kumuhonua*) and the *Paliku* (*Hulihonua*) which are found in the *Kumulipo* chant (see Beckwith 1951:230-234) and interpolations of their own invention" (Barrere, 1969:1).

Kumulipo. A better example is the famous Creation Chant *The Kumulipo*. Feher (1969) had several notable Hawaiian scholars write passages in his *Kumulipo: Hawaiian Hymn of Creation-Visual Perspectives* by Joseph Feher. In the *Introduction* Momi Naughton states "The *Kumulipo* belongs to a category of sacred chants known as *pule ho'ola'a ali'i*, 'prayer to sanctify the chief,' which was recited to

honor a new-born chief (Feher, 1969:1). In her passage, Edith McKenzie states:

“The *Kumulipo* is a historical genealogical chant that was composed by the court historians of King Keaweikekahiali‘iokamoku of the island of Hawai‘i about 1700 AD in honor of his first born son Ka-lani-nui-‘I-a-mamao. This important chant honors his birth and shows the genealogical descent of both the *ali‘i* (chiefs) and the *maka‘ainana* (commoners) from the gods, in particular Wākea...” (Feher, 1969:1).

The Kumulipo was an *inoa* or name chant for Ka-lani-nui-‘I-a-mamao, first born son of Keawe, who later became the father of Kalaiopu‘u [Kalani‘opu‘u], ruling chief of Hawai‘i (Beckwith, 1990:9). However, Johnson comments that “Malo remarks that the *Kumulipo* is important to both *ali‘i* (chiefly) and *maka‘ainana* (commoner) groups. It is also a means by which Polynesians as a whole may corroborate lineal ties to the Hawaiian people” (Feher, 1969:2).

In a passage by Roger T. Ames, he corroborates this idea and states, “what is of particular humanistic interest is the way in which the *Kumulipo* as a repository of cultural authority served Hawaiian society in transmitting its cultural legacy and organizing its community. In doing so it combines both a linear sense of temporal development and the richness of one particular moment in time” (Feher, 1969:3).

We see prominent Hāna *ali‘i nui* in the last verse of the *Sixteenth Era*, in Campbell’s (1997) *The Kumulipo: An Hawaiian Creation Myth*, a reproduction of Queen Lili‘uokalani’s translation.

Kawaukaohēle was born, also **Keleanuinohoanaapiapi**,
The woman that lived at [with] Kalamakua,
From whence **Laielohelohe** was born and who married **Piilani**.
Piikea was born and married Umi;
Kumamaenui Umi, who owned those precipices from whence slaves were held.
Kumalaenui of Umi was the husband of Kunuunui puawalau.
Their son, Makua, was the only high chief (*wohi* Kukahi) of the island.
Kapohelemai, his wife, whose rank as sacred *wohi* Alii and Honor.
So their heir I, the I of the Kingdom,
Whose power and right to execute,
And lord of the famed lands of Pakini,
Of the sliding Ohia and the weaving of the islands of Hawaii,
To Ahu—to Ahu of I, of Lono, of Lonoikamakahiki (Campbell, 1997:78)

Youngblood (1992) found that he could draw on both Fornander and Beckwith’s translations of *The Kumulipo* to sketch a socio-political history of Hawai‘i, specifically the Hāna Coast (Youngblood, 1992:34). In his re-creation he found that stemming from Wākea and Papa are two major Hawaiian genealogies: the *Nana‘ulu* and the ‘*Ulu* [brothers]. The *Nana‘ulu* was the wellspring for the *ali‘i* of O‘ahu and Kaua‘i, while the ‘*Ulu* line supplied the chiefs of Maui and the Big Island.

Hawaiian Genealogies. In 1983 Edith McKenzie completed the first volume of *Hawaiian Genealogies*, translated from genealogy articles in 19th Century Hawaiian newspapers; these articles were in response to a call to preserve the Hawaiian heritage. The descent of Hāna’s *ali‘i nui* and their connection to other ruling families can be illustrated by piecing these genealogies together. Some of McKenzie’s genealogies were from feature articles published in Hawaiian newspapers such as *Ka Nonanona* and *Ka Nupepe Kuokoa* in the late 19th century and early 20th century. Some of the information was also in Malo’s (1838) *Hawaiian History*, and in Fornander’s (1880), *The Polynesian Race* (Book I) (McKenzie, 1983:1).

The following excerpt is from Kamakau’s article in *Ka Nupepe Kuokoa* October 7, 1865, and was translated by McKenzie (1986). It illustrates some of the mid-19th century sentiment regarding

genealogies:

I na makaainana, he mea waiwai ole, no ka mea ua papa ko lakou mau makua o hoohalikelike, a hoohanau keiki o ke kuaaina a pii aku i na li'i. Nolaila ia ao ole ia ai na keili a na makaainana, ma kahi makuakane a makuahine, a kupuna aku no.... Ia kakou i ka poe o keia wa, aole waiwai o keia mea he mooolii aole a kakou mau kuleana nui iloko. Aka, ma ko kakou noonoo iho he waiwai nui. Ua komo kakaou iloko, ua waiwai na'lii i na kupuna; a ua waiwai pu kakou i koo kakou ike ana. No ka mea, ua kapu i ka makaainana aole e ike i keai mea. Aka, no ka pii ana i ka naauao a me ke akamai o na keiki a na makaainana; nolali, ua noa na wahi kapu, ua pii waleia. O ke koeana mai o na kupuna oia kahi waiwai.

To the commoners, a genealogy was of no value because their parents forbade (sic) it lest comparisons should occur and country children be born and rise up as chiefs. Therefore, the children of the commoners were not taught beyond father, mother, and perhaps grandparents.... To us, the people of this time, there is no value of this thing of a chiefly lineage; we have no great interest in it. But in our thoughts it is of great value. We have entered into discussion of it; the chiefs valued the chiefs and ancestors; and we also value our knowledge of it. Because it was forbidden to the commoners, they were not to know this. However, due to the rise of wisdom and skill of the children of the commoners, therefore, all of the ranking privileges were no longer restricted; it was only lifted. What remains of the ancestors is something of value (McKenzie 1986:18-19).

Using thirty years to account for one generation, McKenzie determined that Wākea was born in AD 190; Umi-a-Liloa in 1450; Keawekehahialiiokamoku in 1650, Kalanihuiikupuapaikalanui Keoua in 1710; and Kamehameha I in 1740” (McKenzie, 1983:12). Volume Two of *Hawaiian Genealogies* was published in 1986 and consists of information extracted from genealogical lists published in thirteen newspapers from 1858 to 1920. It compliments genealogies found in other works, such as Fornander’s (1880) *An Account of the Polynesian Race...* and David Malo’s *Hawaiian Antiquities* (McKenzie, 1986:v).

Maui Royal Genealogy. The following is the genealogy of the Maui Royal Line extracted from several works. They illustrate the various family connections with all the island kingdoms or royal lines. The ruling chiefs of the various islands come from combinations of genealogies or branches. Most of the people in the Table below are in a loose chronological order, however, the multiple unions of a particular person is not necessarily in a chronological order, as much of that information was not provided in most cases.

Table 1 below illustrates how interconnected the royal lines were, especially between Maui and O’ahu and Maui and Hawai’i Island kingdoms based on the works of McKenzie (1983, 1986); Kamakau (1992); Fornander (1969); Peleioholani (2012); MauiCulture (MC) (2013); and Wikipedia-Maui Kings 2013).

Table 1. Annotated Genealogy of Maui Royal Line [Many diacriticals were not used].

Kane	Wahine	Keiki
Kahai	Hina-ulu-ohia	Wahieola (Kipahulu Chief b/Punalu’u, Ka’u)
Wahieola	Ko’olaukahili	Laka (built heiau in Punalu’u to honor father)
Laka	Hikāwaelena	Luanu’u I
Luanu’u (Kauai ruling chief)	Kapokulaiula	Kamea
Kamea	Popomaili	Pohukaina
Pohukaina	Huahuakapalei	Hua (Lahaina/Hāna chief)
Hua	Hikimolulolea	Pau (born in Waianae, Oahu)
Pau	Kapohaakia	Huanuikalalailai (born at Kawelo, Oahu)
Huanuikalalailai	Kapoea	Paumakua (Chief of Ko’olau/Mokapu, Oahu)
“	Moleai	Kuhelani
“	Ho’ohokukalani 2	Manokalililani (w)
Paumakua (½ sibs)	Manokalililani	Haho (born in Waialua, Oahu)

[Paumakua became the first “Mo’i” or king of Maui – he was 31 generations after Wākea (Wiki-Maui)]		
Haho (Ali’inui of Hawaii)	Kaulaiianapa	Palena-a-Haho (born on Pu’u Ka’uiki, Hāna)
Limaloa-Lailea	“	Hikawai-nui
Palena-a-Haho (<i>ali’i nui</i>) ½ sibs	Hikawai-nui (twin)	Hanala’anui (born at Mokae, Hāna, Maui)
[Hana-la’a-nui is the ancestor of Hawaii Island chiefs: La’au, Pili, Kalapana, Kuaiwa, Kiha, Liloa, Hakau, Umi, Keawenuiaumi]		
Palena-a-Haho	Hikawainui (twin)	Hanala’aiki (born at Mokae, Hāna, Maui)
Hanala’anui	Mahuia	Lanakawai
Lanakawai	Kukamolimolialoha	Pilika’aiea (Samoa?)
Hanala’aiki	Kapukapu	Maui Loa (b/Kaupo)
Maui Loa	Kauhua	Alo/Alau
(Mauiloa organized the chiefs of Maui under one rule with help of his uncle, Haho of Hawaii Island, but “ceded” Hāna to Hawai’i as the district was more connected to Hawaii Island chiefs – Mauiloa moved his Court from Hāna to Lāhainā)		
Alo /Alau	? Moe-I-ekana/Moe-I-kaeaea (twin)	Kuhimana
“	“	(twin) Kaumana I (w)
According to another online genealogy Maui-Loa was succeeded by his son, Alau and the generation of Maui kings passed as follows: Maui-Loa wed Moe-I-Kaeaea and had Kanemo-ku-Heali’i, who wed Keakauhale and had Lono-Mai-Kalewa, who wed Kolu-Ku’i-Mulia and had Waka-Alana, who wed Kauai-Kapu and had Alo-I-Kahakau, who wed Puhia and had Kahekahoku, who established on Maui the worship of the Lizard-God La’a. Kahekahoku wed Maia-o-Ula and had Ma-pule-o-Ula, who wed Kamai-o-Kalani and had the warlike Paukei, who conquered the Kingdom of O’ahu and then wed the Princess Painalea of O’ahu and had Luakoa who lost the Kingdom of O’ahu, Luakoa wed the chiefess Hina-Apeape of Kona and had the twin brother and sister, Kuhimana and Kaumana; Chiefess Hina was the sister of Queen Hapae of Hawai’i and half-sister of Ali’i Nui Kalapana, ruling chief of Hawai’i Island.		
Kuhimana	sibs	Kaumana/Ka’ana
“	“	Kamalo’ohua
(When Kuhimana was killed at Battle of Kaeleiki a distraught Kaumana killed herself falling onto his corpse; they were buried together at ‘Iao, Maui).		
Kamalo’ohua	Kapu-I-Kaheke (sib of Hawaii Queen)	Loe -Ua-Kane
(Legends are connected to Kamalo’ohua (1) he was kidnapped by Kauai Mo’i Kalaunuihua (2) arrival of fair-skin people.)		
Loe-Ua-Kane	Waha’akuna/Waoha’akuna	Kahokuohua (<i>ali’i nui</i> of Molokai)
“	Wao-Haapuna (Kaupo)	Kahaoku-Ohua
Kahokuohua (Molokai <i>ali’i nui</i>)	Hikakaiula (Hawaii chfs)	Kapohanaupuni (w) (became Hilo chiefess)
“	“	Kaulaheanuiokamoku I
(According to Kamakau, Kaulaheanuiokamoku I was born at Kūkaniloko , Lihue, O’ahu; according to MC he later invaded and conquered O’ahu.)		
Kaulaheanuiokamoku I (sibs)	Kapohanaupuni (Hilo chiefess)	Kakae (gdf of Pi’ilani)
“	(sibs)	“ Kaka’alaneo
(Kaka’alaneo and Kakae later ruled Maui jointly-Kakae’s descendants ruled Maui; Kaka’alaneo’s →O’ahu)		
Kaka’alaneo (court in Lahaina)	Kauaia	Kaihiwalua
(Kaka’alaneo was famous for first planting breadfruit in Lāhainā; he later banished his 2 nd son Ka’ulula’au to Lāna’i for destroying the breadfruit trees; Ka’ulula’au rids Lāna’i of all the E’epa making it safe to live there)		
“	Kanikaniaula	Ka’ulula’au (banished to Lanai)
“	?	Wao (w) (had Auwai-a-wao dug in Lahaina)
Kaihiwalua	Kahekilimanuahanu	Luaia (grandson of Kaka’alaneo)
Piliwale (Ewa--O’ahu <i>ali’i nui</i>)	Paakanilea (Lihue, Kaua’i)	Kūkaniloko (O’ahu Ruling Chiefess)
“	“	Kohepalaoa (Pi’ilani’s mother)
Luaia (Maui chief)	Kūkaniloko (O’ahu ruling chief)	Kalanimanuia (w) (O’ahu Mo’i)
(Kalanimanuia was also great granddaughter of Kaka’alaneo; she became O’ahu ruling chiefess after her mother Kūkaniloko dies; she is famous for building fishponds in Pearl Harbor; her son is also famous for building monumental fishponds in the now Hickam/Honolulu Airport area)		
Kakae (‘Iao /Olowalu-Maui <i>ali’i nui</i>)	Kapohauola (maternal aunt)	Kahekilinuiahamanu I
(Kapohauola was also wife of Ehu, who was son of Hawaii Mo’i Kuaiwa, whose father was Kalaunuihua and Kamanawa) (Kahekilinui I waged many wars on Maui and was said to have impoverished his kingdom because of it (MC); he was 1 st cousin of Luaia who married O’ahu ruling chiefess Kūkaniloko)		
Kahekilinui I (Kāne-Hekili)	Haukanuimakamaka (Kauai)	Kawaukaohale (Pi’ilani’s father)
(According to MC his name was Kawaokanele which meant <i>Our-Days-of-Poverty</i> to commemorate this time; Kawao was 1 st cousin of O’ahu ruling chiefess Kalanimanuia who ruled after her mother Kūkaniloko died)		
Kahekilinui I (Kāne-Hekili)	Haukanuimakamaka (Kauai)	Keleanuino’ana’api’api (Pi’ilani’s wf ma)
(Kelea was a famous Maui surfer who was “kidnapped” by warriors of O’ahu <i>ali’i nui</i> Lolale, son of ruling chief Kalonaiki;		

she had three children with him before leaving him to go surfing again where she met up with Kalamakua son of Kalonanui, brother of Kalonaiki; they had Laielohelohe who was betrothed in her youth to cousin Pi'ilani – they are progenitors of the famous Maui royal dynasty.)		
Kawaukaohelo (Kawaokaohelo)	Kepalaoa/Kapalaoa (O'ahu)	Pi'ilani (2 nd cousin of Kalanimanui of Oahu)
[Pi'ilani <i>The Great</i> was the most renowned ruling chief of Maui which is often called <i>Na-Hono-A-Pi'ilani</i> ; he was the 130 th generation from Wākea; when his mother was being prepared for her nuptials her screams brought her attendants who saw a giant dragon lizard, a form of Kū, mating with her – they were all struck blind and the subsequent child was named Pi'ilani <i>The Assent to Heaven</i> – this gave his descendants the tradition of divine descent and protection from being conquered except by a descendant of Kāne e.g. Kamehameha's birth of comet etc. signified the god Kāne (MC)]		
Kalonanui (Waikiki, b/Kūkaniloko)	Kaipuholua	Kalamakua-a-Kaipūhōlua
(Kalonanui was son of O'ahu <i>ali'i nui</i> Ma'ilikūkahi & Kanepukoa; and brother of Kalonaiki, Lo Ali'i of Kūkaniloko, O'ahu)		
Kalamakua (Halawa/Waikiki Chf)	Keleanuinohoanaapiapi (Maui Chfs)	Laielohelohe (b/r on O'ahu)
(Kalamakua was famous for building the <i>auwai</i> in Waikīkī and Manoa; he was also <i>ali'i nui</i> of Halawa Ahupua'a)		
Pi'ilani	Mokuahualeikea	Kauhiilulaapiilani
Pi'ilani (1 st Cousins)	Laielohelohe (O'ahu/Maui lines)	Lonoapiilani
“	“	Pi'ikea (married 'Umi-a-Liloa - Hawaii chief)
“	“	Kalaaheana II-De Fries Family [Kihawahine]
“	“	Kihapiilani
“	Kumunuikapokii	Nihokela → W.C. Lunalilo
“	Kuamookea	Kauhiilulaapiilani
Lonoapiilani	Kealana'awauli	Ka'akaupē (w)
(Kealana'awauli was the great granddaughter of Kahakuakane, Ali'i aimoku of Kauai)		
“	?	Moihala (w) → Sarai Hiwauli I'i
'Umi-a-Liloa (½ sibs)	Kapukini-a-Liloa (3 rd wife)	Keli'iokalao (eldest son) succeeded/usurped
“	“	Kapulani
“	“	Keawenuia'umi (usurped older brother)
'Umi-a-Liloa (Hawaii ruling chief)	Pi'ikea (Maui chiefess)	Aihakoko
“	“	Kumalaenuiaumi (Hilo <i>ali'i</i>) → Lili'uokalani
'Umi-a-Liloa (Hawaii Is)	Ku'i-hewa-maka-walu	Papaikaniau I
Ho'olae (Kauiki, Hāna Chief)	Kaululena (Waiakea Chfs)	Koleamoku
Nihokela (uncle/niece)	Ka'akaupē (dau/Lonoapiilani)	Pi'ilaniwahine (granddaughter of Lonoapiilani)
(According to MC Piilani-wahine is the daughter of Kihapiilani and Kumaka-Kui-Kalani)		
Kihapiilani	Kumaka-Kui-Kalani (Hāna)	Kamalalawalu (Maui Chief)
“	Koleamoku (Waimea)	Kauhiokalani → Aea family p 89
“	Umahauuleiohua	Kapuiholani Kuaimanu → Luahine Family
“	Hilima	Keaweau
“	“	Moemoe → Heleluhe family
(Kumalaenuiaumi - Hilo chief)	Kunuunuiwala'au	Makua – Hilo chief)
Kauhiokalani	Kauamanu	Makaku
Kamalalawalu	Kapu-kini-akua (father/Kona chief)	Kauhiakama (k) [Kamakau 1992:60]
Kamalalawalu (cousins)	Pi'ilaniwahine (Maui/Hilo/Oahu)	Kauhiakama (k) [McKenzie 1986:12]
(Kamakau and McKenzie differ as to who the mother of Kauhiakama is—the children are grandchildren of the bothers Lono-a-Pi'ilani and Kiha-a-Pi'ilani according to McKenzie and secure the Royal Line of Maui; according to MC the couple are siblings and children of Kiha-a-Piilani and Kamaka-Kui-Kalani.)		
“	“	'Umikalakauhuakama (k) → Kawaihae line
“	“	Paikalākauakama (k)
“	“	Piilanikapu/Piilanikapokulaniokama (w)
“	“	Ka'unohohoikapelapuokakae (w)
“	“	Kekaikuihalaokeku'imanano (w)
Kauhiakama	Kapukini-II (Kapukinia-a-Liloa/HI)	Kalanikaumakaowakea (Maui king)
[Kapukinia-a-Liloa was the granddaughter of Liloa and daughter of Hawaii ruling chief Hakau and Kini-Laukapu; her first husband was Ruling Chief Umi-a-Liloa (also son of Liloa) and their children were ancestors of Hawaii Island ruling chiefs]		
“	“	Kanea-Kauhi (w)
Kalanikaumakaowakea	sibs Kaneakauhi	Lonohouakini
“	“	Pi'ilani II (w)
“	“	Umi-a-Liloa (w) [according to MC]
“	Makakuwahine	Umialiloo-II (w) [according to McKenzie]

Lonohonuakini	Kalanikauanakinilani (Hāna)	Kaulaheanuikamoku II
“	“	Lono-Maka-Honua (k)
“	“	Kalani-Mai-Heula [Heuila](w)
“	“	Kuhala (w)
[Kuhala was the great-grandmother of high chief Kalahuimoku II of Hāna and Kipahulu; he married Chiefess Kamehameha and had two daughters, Kahikikala and Kalani-Lehua who became wives of cousin Keōua Kalanikupuapa'ikalaninui Ahilapalapa/Keoua Nui who liked to visit Maui; Keoua and Kahikikala had a son Kalokuokamaile who is the eldest half-brother of Kamehameha I; Keoua was ordered back to Hawaii by his father Kalani Kama Ke'eaumoku-nui son of Keawe'ikekahiali'iokamoku and half-sister Kalanikauleleiaiwi - royal daughter of ruling chiefess Keakealaniwahine of Hawaii Island, and had to leave his son and wives on Maui; he then married his cousin Kamakaheukuli daughter of the high chief Haae-a-Mahi of Hawai'i (also father of Kekuipoia II, mother of Kamehameha I) and the chiefess Kalelemaoli-o-Kalani of Maui – they had a son Kaleimamahu who is the ancestor of the Lunalilo <i>ohana</i> (MC)]		
Kaulaheanuikamoku	Papaikaniau II (Hawaii)	Kekaulike (b/Kamani'ula in the <i>ahupua'a</i> of Honolulu, Maui [Orr 2006])
“	Kalani-kau-lele-i-a-iwi (Hawaii Is)	Keku'iapoiwa Nui
Lono-Maka-Honua	Kapoohiwi (Kalae, Moloka'i)	Kauakahiakua-o-Lono
[Kauakahiakua-o-Lono by his first wife, Keku'iapoiwa the Great of Maui was the father of the Kekelaokalani (w) who married Haae-a-Mahi (k) of Hawai'i and had Keku'iapoiwa II (w), mother of the Kamehameha I; Kekelaokalani also married Kamanawa the Great. They were the parents of the Peleuli (w) who married Kamehameha I and had Kahoonuku-Kinau (k), Kaikoolani (k) and Kaleikiliwehi (w); Kauakahiakua-o-Lono by his second wife had High Chiefess Umiaemoku (also called Umiaenaku) of the Hawai'i House of Mahi. They had one daughter, Kānekapolei, who was the favored queen of Kalaniopuu, King of Hawai'i – their children were Keoua-Kuahuula (k) of Hilo, and the Pauli-Kaoleioku (k) ancestor of Princess Ruth Ke'elikolani and her cousin, Princess Bernice Pauahi Bishop (MC)]		
Kekaulike (cousins)	Kahawalu (sis of Pelei'oholani)	Kauhiaimokuakama (Chief of Hāna district)
“	Holau	Manuha'aipo (Queen of 'Ī'ao)
“	“	Ke-kau-hiwa-moku
“	“	Ka'eokulani (Kaua'i mo'i/f/Ka'umu alii)
Kekaulike (1/2 sibs)	Keku'iapoiwa Nui	Kamehameha Nui (Ruling Chief of Maui)
“	“	Kalola (wf of Kalaniopuu)
“	“	Kahekilinui'ahumanu II (Iron king of Maui)
“	“	[Kahekili II was born in near-by Hāli'iimaile]
“	“	Ku-ho'oheihēi-pahu
Kekaulike	Ha'alo'u	Na-mahana-i-kaleo-nalani → Ka'ahumanu
“	“	Ke-kua-manoha (k) father of Boki
(Boki was born Kamā'ule'ule, son of Kekuamanoha and Kamakahuikilani (w); younger brother of William Pitt Kalanimoku; Boki later was appointed governor of O'ahu and chief of the Wai'anae district; he married Kuini Liliha, daughter of Ulumāheihēi Hoapili and Kalilikauoha, daughter of Kahekili II – they both traveled to England [1824] with Kamehameha II and Kamāmalu; he ran a mercantile and shipping business and encouraged Hawaiians to gather sandalwood)		
Kekaulike	?	Ahia
“	?	Nahulanui
“	?	Naaiakalani
“	?	Manuailehua
Kamehameha Nui (sibs)	Kalola (Maui/Hawaii)	Kalaniakuaiokikilo/Kalaniwaiakua (Kapu) w.
“	“	Kuakiniokalani
Kamehameha Nui (1/2 sibs)	Namahana	Pele-io-holani II
“	“	Kua-kini-o-ka-lani
Kamehameha Nui	?	Pe'ape'a-maka-walu (fam at Kauiki, Hāna)
“	?	Kalani-ulu-moku
“	?	Kalani-hele-mai-i-luna
Kalei'o-u'u/Kalani'opu'u (Hawaii)	Kalola (Maui)	Kīwala'ō (Hawaii ruling chief)
Keoua-kalani-kupua-i-kalani-nui	“	Liliha nui (Maui chiefess)
Kīwala'ō (1/2 sibs)	Liliha nui	Kalani-kau-i-Ka'alaneo/ Ke'opu-o-lani
Kahekili II ?	Keku'iapoiwa II	Kamehameha I (b1736/d1819)
Kahekili II	Kau-wahine	Kalani-ku-pule
“	“	Ko'alaukani (k.)
“	“	Kalola II
“	“	Kau-lili-kauoha
“	“	Kalilipakauoha

Kahekili II	Luahiwa (Molokai)	Manono Ka-ua-kapeku-lani
Kalanikupule	‘Ualapu‘e (Molokai)	Kau-peka-moku
Ke‘eaumoku (son of Keawepoepoe)	Namahana (Maui)	Kuakini
[Ke‘eaumoku’s sister was Kekela; their mother was Kalani-kau-lele-ia-iwi ½ s sister of Keawe of Hawai‘i Is]		
Ke‘eaumoku	“	Ka‘ahumanu
“	“	Opiia (Lydia Piia Namahana)
“	“	Kaheihimalie
“	“	Kahekili Ke‘eaumoku III
Kamehameha I	Ke‘ōpū-o-lani (Maui/Hawaii)	Liholiho/Kamehameha II
“	“	Kauikeuoli/Kamehameha III
“	“	Nahi‘en‘ena
k = kāne; w = wahine; gdf = grandfather		

Hāna Chiefs. The following information comes from internet research and gives a brief overview of Hāna chiefs and history (Buyers 2009 In Wikipedia-Maui Kings 2013).

During the early years of the Kingdom of Maui the island was divided in half. The much larger western side was under the rule of the descendants of Paumakua-a-Huanuikalalailai, and East Maui, comprising the districts of Ko‘olau, Hāna, Kīpahulu, and Kaupō, was at times under independent rulers. The monarchs of Hāna, like those of the other Hawaiian chiefdoms, probably claimed descent from Wākea and Pāpa. These monarchs were in some sense district chiefs and vassals of the Western rulers of Maui. From Eleio to Ho‘olae the king of Hāna remained mostly free from West Maui under Kaka‘alaneo to Kawaokaohele. The sixth *Ali‘i Nui* of Hāna, Ho‘olae, became a subject of Pi‘ilani of Maui and even allowed his daughter to marry him [his daughter Koleamoku married his son Kiha-a-Piilani]. The Kings of Hāna's allegiance to the West Maui *Mō‘ī* were always precarious, even in later times after Pi‘ilani’s conquest. The main strategic advantage of the Kings of Hāna was their command of the fortress of Kauwīki (sic) [Ka‘uiki], considered impregnable.

Hāna chiefs

- Ali‘i nui Eleio of Hāna during the reign of Kaka‘alaneo/Kakae
- Ali‘i nui Kalahaeha
- Ali‘i nui Lei
- Ali‘i nui Kamohohalii
- Ali‘i nui Kalaehina
- Ali‘i nui Ho‘olae
- Lesser chief Kalaikini (who plugged up the blow hole with kauila spears ca. early 1700s - Thrum 1923:68-69)

Mo‘olelo. Legends or *mo‘olelo* are a great resource as well as entertaining. Leib and Day (1979) state in their annotated bibliography of Hawaiian legends, that legends “are a kind of rough history.” They noted “Luomala’s idea of the value of myth and legend in the serious study of a culture” and her following quote. “To a specialist in mythology, a myth incident or episode is as objective a unit as an axe, and the differences and similarities of these units can be observed equally clearly and scientifically.” They also expressed concern about authenticity, and sometimes found it difficult to determine if a legend was a primary or secondary source. The following definitions of terminology, including the Hawaiian classification of prose tales--*mo‘olelo* or *ka‘ao*, come from their work (Leib and Day 1979:xii, 1):

<i>Tradition</i>	used to refer to that which is handed down orally in the way of folklore
<i>Folklore</i>	a rather inclusive term, covering the beliefs, proverbs, customs, and literature (both prose and poetry) of a people
<i>Myth</i>	a story of the doings of godlike beings
<i>Legend</i>	deals with human beings and used interchangeably with ‘myth’ ... because the collectors and translators of the tales often failed to make the strict distinction themselves

<i>Ka'ao</i>	“pure fiction”
<i>Mo'olelo</i>	deals with historical matters and somewhat didactic in purpose... included tales of the gods, as well as tales of historical personages... many have recurring patterns, plots, and types of characters

History of *Mo'olelo* Collecting. According to Leib and Day (1979) a substantial number of legends were collected and written in Hawaiian during the century following Cook's arrival in Hawai'i. A few accounts of the mythology were printed in the journals of missionaries and travelers, and a few of the Hawaiian lore were printed in languages other than English. The following synopses are excerpts from the works of Leib and Day's (1979) and give an overview of the first collectors and compilers of Hawaiian myths and legends.

About 1836 a movement was started under the influence of Reverend Sheldon Dibble, to write down in Hawaiian some of the material dealing with the native legendary history, customs, and other lore. Results of the research were published at the Lahainaluna press in 1838. A partial translation made by Rev. Reuben Tinker was issued serially in 1839 and 1840---the first four installments appearing in *The Hawaiian Spectator* and the last four in *The Polynesian*. In 1841 the Royal Hawaiian Historical Society was formed at Lahainaluna. Some of their research and the earlier *Ka Moolelo Hawaii* were incorporated into Dibble's *History of the Sandwich Islands* (1843). After his death in 1843 his work was carried on principally by two of his outstanding native pupils, David Malo and Samuel M. Kamakau. Malo wrote his own *Moolelo Hawaii* about 1840 at the request of Rev. Lorrin Andrews, which was later translated by Emerson as *Hawaiian Antiquities*. In 1858 the Rev. John F. Pogue of Lahainaluna printed a third *Moolelo Hawaii*, based on the 1838 history, but including additional material. Kamakau did not print any of his material for thirty years (Leib and Day 1979:7, 8, 9).

The increase in the amount of Hawaiian lore appearing in the native press in the 1860's and thereafter was at least in part the result of an organized effort to collect and preserve such material. At Kamakau's instigation a Hawaiian society was formed in 1863 to collect material for publication in the native press at the time, and also to aid Fornander's research. Fornander was the greatest collector of Hawaiian lore. He credits as sources, several natives whom he sent on tours of the Hawaiian Islands to collect all available Hawaiian lore, as well as Kalakaua, Lorrin Andrews, Malo, Dibble, Dr. John Rae, Kamakau, Naihe, S.N. Hakuole [Haleole], Kepelino, and Remy. The culmination of this effort was Fornander's (1880) *An Account of the Polynesian Race: Its Origin and Migrations and the Ancient History of the Hawaiian People to the Times of Kamehameha I*. Fornander's collection remains the most important single source of Hawaiian legends (Leib and Day 1979:9-13).

In June 1865 Kamakau began publishing in *Ka Nupepa Kuokoa*, articles on traditions and legends. His series of articles dealing with Hawaiian history, particularly from the late eighteenth century on, and especially of Kamehameha, appeared weekly in the same publication in October 1866. When the newspaper ceased in 1869, this series continued in *Ke Au Okoa* for nine months. Kamakau then wrote a series on ancient Hawaiian religion, customs, and legendary history in *Ke Au Okoa* until February 1871. All of his writings were in Hawaiian (Leib and Day 1979:8, 9).

Very little work was done in translating Hawaiian mythology into English until late in the nineteenth century. It wasn't until 1888, over a hundred years after the discovery of the Hawaiian Islands, that the first book in English dealing exclusively with Hawaiian mythology was printed; *The Legends and Myths of Hawaii* by King Kalākaua. However, it was more likely authored by former United States Minister to the Hawaiian Islands, R.M. Daggett (Leib and Day 1979:5, 7).

Thrum is one of the most frequently cited authorities on Hawaiian lore. He was born in Australia in 1842 and arrived in Honolulu in 1853. In 1875 he began publication of the *Hawaiian Almanac and Annual*, later known as *The Hawaiian Annual* or *Thrum's Annual*, which appeared yearly under his editorship until his death in 1932. Thrum's contribution is as editor, compiler, and

publisher of translations, not translator. By providing in his *Annual* a place for the publication of such material, and perhaps by persuading authors to provide him with translations, he was instrumental in much legendary matter appearing in printed form. Thrum wrote or rewrote a large portion of his own material (Leib and Day 1979: 17).

Thrum's first book *Hawaiian Folk Tales* was published in 1907 and consisted largely of tales that had previously been published in *Thrum's Annual*. Only 35 of the 260 pages were translated by Thrum, the rest were credited to Rev. A.O. Forbes, Rev. C.M. Hyde, William Ellis, J.S. Emerson, Mrs. E.N. Haley, N.B. Emerson, Mrs. E.M. Nakuina, Walter M. Gibson, Joseph M. Poepoe, and M.K. Nakuina. His second book *More Hawaiian Folk Tales*, published in 1923 was similar. A number were translations from Hawaiian language newspapers of half a century earlier, often with no translator cited. Translators credited were A. F. Knudsen, Henry M. Lyman, W. D. Westervelt, J. H. Boyd, and Lahilahi Webb. Some of the chapters were reprinted or abridged from the Bishop Museum translations of the *Fornander Collection*, of which Thrum was editor. His greatest work, *Fornander's Collection of Hawaiian Antiquities and Folklore*, was published by Bishop Museum in 1916 and 1920 in three volumes. The original editor was W. D. Alexander and most of the work completed under his supervision. However, he died in 1913 and Thrum was appointed to complete the production. Beckwith credits John Wise with the original translation of that work. In 1920 or 1921 Thrum completed another work "Ancient Hawaiian Mythology" which was never published (Leib and Day 1979: 18-19).

A great resurgence of interest in Hawaiian folklore began in the early twentieth century, in part caused by the annexation to the United States. People on the mainland wanted to know more about 'their new island possessions.' The funds of the Bureau of American Ethnology were made available for Hawaiian studies i.e., Emerson's *Unwritten Literature* and Beckwith's *Laielikawai*. The most important twentieth-century translators of Hawaiian legends have been N. B. Emerson, Thomas G. Thrum, William D. Westervelt, William Hyde Rice, Laura C. S. Green, Martha Warren Beckwith, and Mary Kawena Wiggins Pukui. Emerson's extensive notes were a major contribution to Hawaiian scholarship. Most of them explain the meanings of Hawaiian words. In many, Emerson alludes to legends, giving a number of them briefly and relating a few in some detail. Some of these probably do not exist anywhere else in print (Leib and Day 1979:14).

Mo'olelo of Ali'i nui of Hāna and Maui. From the legends or *mo'olelo* collected by Fornander, Kamakau, and others, we can get a glimpse into the lives of some of these people listed in the genealogies. To reproduce any legend completely would take too long, therefore only excerpts [paraphrases] are generally used. One descendant of the 'Ulu line, King Hua, had a particularly notorious place in the history of the Hāna Coast as explained in the following synopsis of Youngblood's (1992) story.

Legend of Hua. This powerful 12th century Mo'i [sic] of East Maui is reputed to have brought about a three-year scourge of drought and famine that ravaged not only Maui but also half of the Big Island and, to lesser extents, the other islands. During that period there were two separate kingdoms on Maui, and it wasn't until nearly three centuries later, under Pi'ilani, that the Hāna Coast was united politically with the central and west-end portions of the island. During the 300 years between Hua and Pi'ilani in the mid-15th century, it seems that a family of the Nana'ula line was in control of the Hāna Coast. The rest of the island was ruled by descendants of the Maui 'Ulu line. It wasn't a stable time for *maka'āinana*, the common Hawaiian, due to persistent efforts of each ruler to become *mo'i* of all Maui (Youngblood, 1992:35, 38).

Hua lived in eastern Maui around AD 1170, and was known as the "robber baron that was censored by high priest Luahomoe" (Musick 1897:324). In *Tales and Traditions of the People of Old*, Kamakau (1991) discusses the infamous king Hua, but also clarifies the different Hua, their descendants and their relationships to Hāna and Maui. In spite of his infamy, most of his descendants turned out to be commendable chiefs. The following excerpt from Kamakau (1991) about Hua and his 'ohana, also illustrates that *ali'i nui* often went by different names. "According to ancient custom it was very common

for high chiefs to be known by several names” (Fornander, 1880:80).

Hua was from Lahaina, Maui. This is not the Hua whose *heiau* was Apahu‘a in Waiane‘e next to Puako; this is Hua the son of Kapua‘imanaku [Pohukaina] whose *heiau* was Luakona, near to Kapo‘ulu. Huanuiikalala‘ila‘i was born at Kewalo in Honolulu (Kamakau, 1991:101).... Hua-a-Pohukaina also known as Hua-a-Kapua‘i-manaku was born at Lahaina/who built *heiau* of Honua‘ula and Kuawalu at Ka‘uiki...includes a chant. He was a war-loving chief. He lived at Wananalua in Hāna...Pau-a-Hua born, also Pau-nui-i-ke-anaina, at Wai‘anae, Hua’s son--he ruled Ohikilolo to Keawaula on Oahu...Hua-a-Pau also known as Hua-nui-i-ka-la-la‘ila‘i born at Kewalo. He was known as a good chief. His government was called *he aupuni la‘i*, a peaceful government. He was chief of Honolulu and Waikiki (Kamakau, 1991:148, 149; see also Sterling, 1998:133).

Hanala‘anui and Hanala‘aiki. According to legends, two of Hua’s descendants, Hanala‘anui and Hanala‘aiki, became the progenitors of the Hawai‘i and Maui lines. These were twin children of Hikawainui (w) and Palena-a-Haho. They were born in Kahinihiniula in Mokae and Hāmoa, and certain districts of Maui were named after these children. The following excerpt is from Kamakau (1991).

Paumakua, chief of Ko‘olau and Mokapu was the son of Hua-nui. He married his sister Manokapili-lani and they had a son Haho who was born in Wai‘alua, Oahu. Haho’s child was Palena-a-Haho...Palena [a-Haho] was born on the hill of Ka‘uiki [sic], in Hāna, Maui at the site Hananaiku; he ruled and died on O‘ahu...his grave is Kalua-o-Palena in Kalihi, Oahu...Palena-a-Haho who with Hi-ka-wai-nui had the twins Hanala‘anui and Hanala‘aiki who were born at Kahinihini‘ula, at Mokae and Hāmoa, [Hāna] and a certain *moku‘aina* land was named after these boys...The twins were progenitors of Hāna people...and because of their good deeds...their descendants gave the land their names. This was after the division of the island into *ahupua‘a*, *‘okana*, and *moku‘aina* – at the time when the island was divided by Kalai-haohia during the reign of Kaka‘alaneo... Hanala‘anui was the ancestral chief for those of Hawai‘i and Hanala‘aiki for those of Maui.... [However] there is a dispute...Hanala‘anui really belonged to Maui.... In the division and separation of the Maui ancestral genealogies, the line of succession of Maui chiefs was made clear. It can be found in the genealogy of Hanala‘aiki to the time of Kahekili by turning to the ancient traditions of deeply versed persons. Here are made plain the places in which the chiefs were born, their deeds, and places in which their corpses were laid (Kamakau 1991:101, 150-152).

Beckwith’s (1970) version is as follows:

Hanala‘anui and Hanala‘aiki. Maui chief Haho, son of Paumakua and grandson of Hua-nui-ka-la‘ila‘i [Haho was grandfather of the twins], was the traditional founder of the *Aha‘ali‘i* or ranking body of chiefs whom were distinguished by the use of the sacred cord called *aha*. They cultivated a metaphorical form of speech to conceal their words from the uninitiated... Between the periods of Hua and Pi‘ilani, that is, between Moikeha’s time and that of Umi on Hawaii, the twins were born at Kahinihini in Mokae, Hāmoa [sons of Palena, son of Haho]. ‘Little and big sacred one of Hāna’ called Hana-la‘a-nui and Hana-la‘a-iki, from who respectively the chiefs of Hawaii and Maui are descended. From Kiha and his wife Koleamoku are descended the great Kaupō families of Ko‘o and Kaiuli. From them, Kahekili’s wife Kauwahine, mother of Kanlanikūpule, the last ruling chief of Maui, and of a daughter, Kailikaouha, who became the wife of the Maui chief Ulumehe‘ihe‘i Hoapili and mother of Liliha, beloved wife of Boki of sandalwood fame (Beckwith, 1970:387, 389).

The following synopsis consists of excerpts from Fornander’s (1880) *An Account of the Polynesian Race: Its Origins and Migrations*, and give an overview of the various *ali‘inui* (ruling chiefs) of Hāna and Maui, which Fornander refers to as “Moi”:

Independent Hāna Mo‘i. Among the Maui chiefs from the close of the migratory period, say La‘amaikahiki to Pi‘ilani, the contemporary of Umi and his father Liloa, not many names arrest the attention of the antiquarian student. The position of ‘Moi’ of Maui appears to have descended in the line of Haho, the son of Paumakua-a-Huanuikalalailai, though, judging from the tenor of the legends, East Maui, comprising the districts of Ko‘olau, Hāna, Kīpahulu, and Kaupō, was at times under independent Mo‘is [sic]. The legends mention six by name, from Eleio to Hoolae,² the latter of whom was contemporary with Pi‘ilani, and whose daughter [Koleamoku] married Pi‘ilani’s son, Kiha-a-Piilani. Their allegiance to the West Maui Mo‘is was always precarious, even in later times (Fornander, 1880).

[Fornander’s Note: ²] Maui Mo‘i names were Eleio, Kalaehaeha, Lei, Kamohohalii, Kalaehina, and Ho‘olae, each one succeeding the other. They generally resided at Hāna, where the fortified hill of Kauiki was considered an impregnable fortress. I have a legend, which mentions some transactions between Eleio and Kaka‘alaneo, the son of Kaulahea I., but, if the legend may be trusted, Eleio must have been very old at the time. Whether this Eleio of Hāna family descended from some of the southern [Tahiti] immigrant chiefs or from the ancient Nanaulu line, I have not been able fully to ascertain. The ever more or less uncertain state of allegiance of the Hāna chiefs to the Maui sovereign, and their frequently independent political status, would seem to have been born of some radical ancient antagonism. The old legends mention incidentally that Kanaloa and Kalahuimoku, two of the sons of Hualani, the wife of Kanipahu, and fifth in descent from Maweke, settled at Kauwiki [sic] in Hāna. While the Hawaii chiefs retained the pedigree of the younger brother whose granddaughter Kamanawa married Kuaiwa, the Mo‘i of Hawaii, the descendants of the older brother, have dropped out of memory. Kanaloa may have been the great-grandfather of Eleio (Fornander 1880:78).

Kamalo-o-hua and ‘Ohana. While Kamaloohua ruled over the greater part of Maui, a chief who was doubtless a near relation, and who was called Wakalana, ruled over the windward side of the island and resided at Wailuku. During his time tradition records that a vessel called “Mamala” arrived at Wailuku. The captain’s name is said to have been Kaluiki-a-Manu, and the names of the other people on board are given in the tradition as Neleike, Malaea, Haakoa, and Hika. These latter comprised both men and women, and it is said that Neleike became the wife of Wakalana and the mother of his son Alo-o-ia, and that they became the progenitors of a light-colored family, “po‘e ‘ohana Kekeā;” they were white people, with bright, shining eyes, “*Kanaka Keokeo, a ua alohilohi na maka*” (Fornander 1880:80).

After the reign and times of Kamaloohua nothing worthy of note has been recorded of the Maui chiefs until we arrive at the time of Kakae and Kakaalaneo, the sons of Kaulaheanuiokamoku I [Kaulahea I], three generations after Kamaloohua.... Kakae’s brother, Kakaalaneo, appears, from the tenor of the legends, to have ruled jointly with Kakae over the islands of Maui and Lāna‘i. He was renowned for his thrift and energy. The brothers kept their court at Lahaina, which at the time still preserved its ancient name of Lele, and tradition has gratefully remembered him [Kaka‘alaneo] as the one who planted the breadfruit trees in Lahaina, for which the place in after times became so famous (Fornander 1880:80).

Kaka‘alaneo was a grand uncle of Pi‘ilani. The following synopses about Kaka‘alaneo and Kūkanaloa are excerpts from Beckwith (1970). There appears to be a time-conflict with the arrival of the light-skinned foreigners. Fornander (1880) indicates they arrived during Kamaloohua’s reign, while Beckwith indicates the foreigners arrived four generations later during the time Kaka‘alaneo. Along with the “Legend of Kūkanaloa” is an accompanying *mele* that refers to Pi‘ilani. This *mele* was probably after Kaka‘alaneo’s time because Pi‘ilani was born much later.

Legend of Kaka‘alaneo. Many legends mention the name of Kaka‘alaneo (Kūka‘alaneo, Ka‘alaneo), who lived in the Lāhainā district on the hill Keka‘a [Black Rock of Sheraton Maui]. He also owned fishponds in the Hāna district on the opposite end of the island and planted a famous breadfruit grove in Lāhainā. His wife was the Moloka‘i chiefess whom Eleio found for him and who brought him the first feather cape

ever seen on Maui, and by whom he had the mischievous son Ka‘ulula‘au who killed off the bad spirits [E‘epa] on Lāna‘i. In his day Lāhainā was called Lele. According to tradition, a group of strangers (*haole*) who later played an active part in court life and whose names were (according to Kamakau), kept in memory as late as Captain Cook’s day, arrived on Maui in Kaka‘alaneo’s time. Kūkanaloha and Kaekae (also Kakae) were the leaders of this group. The “last allusion” in this legend is a pun about chief Lolae of O‘ahu who abducted the pretty chiefess of Maui, Kelea [sister of Pi‘ilani’s father], while she was out surfing and carried her away to O‘ahu in the uplands of Lihue. She later deserted him for his cousin Kalamakua of ‘Ewa, by whom she became mother of the high chiefess Laie-lohelohe (The drooping pandanus vine), who became the wife of her Maui cousin Pi‘ilani. All these names appear in the chant linked with the coming of Kū-kanaloha, together with the names of a wife and son of Kaka‘alaneo (Beckwith, 1970:384-385).

Legend of Kūkanaloha. The strangers land first at Ke‘ei in South Kona and then come on to Waihe‘e, Maui, and land at a place called Ke-ala-i-Kahiki (The road to Kahiki). They are exhausted and the natives clothe and feed them. In looks they are light with sparkling eyes. When asked after their homeland and parents they point to the uplands ‘far, far above where our parents dwell’ and show that they are familiar with bananas, breadfruit, mountain apple, and candlenut trees. The two leaders became Kaka‘alaneo’s property. There is no *kapu* place closed to them. They married chiefesses and some of their descendants are living today. Kani-ka-wi and Kani-ka-wa they are called, ‘perhaps because their speech was as unintelligible as that of the *lale* birds that live in the hill’ (Beckwith, 1970:386). Pi‘ilani and some of his family are mentioned in the following *mele* of this *mo‘olelo*:

<i>Puka mai o Kanikawi, Kanikawa</i>	Came Sharp-sound, Loud sound,
<i>O na haole iluna o Halakaipo,</i>	The strangers above Halakaipo
<i>Puka mai nei Kukanaloha,</i>	Came Ku-kanaloha
<i>Kupuna haole mai Kahiki</i>	The stranger forefather from Kahiki
<i>Puka mai nei Kakaalaneo</i>	Came Kakaalaneo,
<i>Me ke leo iki o Kakae,</i>	With the soft-voiced Kakae,
<i>O Kaualua is, o Kaihiwalua</i>	Kaualua (the wife), Kaihiwalua (the son),
<i>O Kelea, o Kalamakua,</i>	Kelea (the wife), Kalamakua (the husband),
<i>O Pi‘ilani ia, o Laielohelohe</i>	Pi‘ilani (the husband), Laielohelohe (the wife).

According to Fornander (1880), Kakae was the son of Kaulaheanuiokamoku I, and the brother of Kaka‘alaneo with whom he co-ruled Maui. He was also the father of Kahekilinuiahumanu I and Kaulaheanuiokamoku II, grandfather of Kawaokaohela and Keleanuino‘ana‘api‘api and great-grandfather of Pi‘ilani of Hāna and Lāhainā. The following excerpts from Fornander (1880) reveal some of their history.

Kakae, Kahekili I, and Kawaokaohela. Kakae’s son was Kahekili I, who is known to have had two children, a son name Kawao Kaohela [Pi‘ilani’s father], who succeeded him as Mo‘i of Maui, and a daughter named Keleano‘ana‘api‘api [Pi‘ilani’s wife’s mother], who was successively the wife of LoLale, son of Kalona-iki, and of Kalamakua, son of Kalona-nui, of the O‘ahu Maweke line.

From the time of Mauiloa, third from Haho and contemporary with La‘amaikahiki, to the time of Kaulahea I [father of Kakae and Kaka‘alaneo] there must have been troublous times on Maui, and much social and dynastic convulsions, to judge from the confusion and interpolations occurring on the royal genealogy of this period. I have shown it to be nearly historically certain that the O‘ahu and Maui Paumakuas were contemporary, and it will be seen in the sequel that it is absolutely certain that Kawaokaohela [Pi‘ilani’s father] on the Paumakua-Haho line was contemporary with Kalamakua, Piliwale and LoLale on the Maweke line of O‘ahu chiefs, as well as on the O‘ahu Paumakua line through Lauili-a-La‘a; and yet the Maui royal genealogy, as recited at the court of Kahekili II at the close of the last century, counts thirteen generations between Mauiloa and

Kaulahea I, or sixteen generations between Maui and Kawaokaohele [Pi'ilani's father], whereas the Maweke and Oahu Paumakua genealogies count only seven from La'amaikahiki to Keleanuinoana'api'api [mother of Pi'ilani's wife La'ielohelohe], the sister of Kawaokaohele [Pi'ilani's father] (Fornander 1880:78-79).

Kawaokaohele. During the reign of Kawaokaohele [Pi'ilani's father], the son of Kahekili I, and grandson of Kakae, the island of Maui appears to have been prosperous and tranquil. No wars with neighboring islands or revolts of turbulent chieftains at home have left their impress on the traditional record. Kawaokaohele's wife was Kepalaoa, whose pedigree is not remembered, but who was probably some Maui chiefess [she was a sacred O'ahu chiefess of Lihue]. Kawaokaohele was succeeded as Moi of Maui by his son Pi'ilani, who, through his good and wise government, and through his connection with the reigning chief families of O'ahu and Hawaii, brought Maui up to a political consideration in the group which it never had enjoyed before, and which it retained until the conquest by Kamehameha I consolidated the whole group under one rule (Fornander 1880:83, 87)

There are several legends of Keleanuino'ana'api'api [Kelea], the sister of Kawaokaohele, aunt of Pi'ilani, and mother of La'ielohelohe, Pi'ilani's wife. Her story is one of intrigue, and romance, but also allegorizes the life and privileges of *ali'i nui* women. It further illustrates the interrelationships between the *ali'i nui* of the various islands. The following *mo'olelo* is extracted from Fornander's (1880) "Story of Keleanui-Nohoanaapiapi."

The Story of Kelea. The Story of Keleanui Nohoanaapiapi, sister of Kawaokaohele, begins in Hāna. The men of Chief LoLale of Lihue, Oahu [now Schofield] were searching for a wife for him.... They went first to Molokai, then to Lāna'i, then sailed for Hāna intending to go to Hawaii. While at Hāna they heard that Kawaokaohele, the Moi of Maui was stopping with his court and his chiefs at Hamakuapoko, regulating the affairs of the country, and enjoying the cool breezes of that district, and the pleasures of surf-bathing, and that with him was his sister Kelea, the most beautiful woman on Maui, and the most accomplished surf-swimmer.

They thought of a plan to win her confidence by going surfing with her, and challenging her to a race. On her third time out, they captured her, and took her into a waiting canoe to O'ahu. They took her to Chief LoLale Lihue, O'ahu, son of O'ahu Moi Kalona-iki, and brother of heir-apparent Piliwale. "And as she did not commit suicide, it may be inferred that she became reconciled to her lot and accepted him as her husband. And as no invasion of Oahu was ever attempted by Kawaokaohele, or vengeance exacted for the abduction of his sister, it is probable, though the legend says nothing about it, that the affair was diplomatically settled to the satisfaction of all parties."

Kelea and Lo-Lale had three children: Kaholi-a-Lale, (who later married Kohipalaoa [Kohepalaoa], sister of Kūkaniloko, Mo'i of O'ahu after her father Piliwale's death), Luliwahine, and Lulikane. After several years and three children she informed LoLale that she was leaving him, as was her privilege due to her rank. He reluctantly gave his consent, but his grief was preserved in a chant. While traveling around O'ahu, Kelea met Kalamakua, chief of Hālawa, son of Kalona-nui and cousin of Lo-Lale. They marry and have a daughter La'ielohelohe, who in her youth was betrothed to her cousin Pi'ilani, son of Kelea's brother Kawaokaohele (Fornander 1880:83-87, 90-91).

There are other versions of that story. The following synopsis corroborates Fornander's (1880) "Story of Kelea." The genealogies indicate how *ali'i nui* from all the islands were related, and the *mo'olelo* also confirm this as indicated in the following story of La'ielohelohe in Kamakau (1991, 1992).

The Story of La'ielohelohe. Kalamakua was a good chief who cultivated large pond fields of Waikīkī. He married [Kelea] Keleanuino'ana'api'api, a beautiful chiefess and sister of Kawaokaohele [children of Kahekili I], [Pi'ilani's father, also spelled Kawaokaohele] the *ali'i nui*

of Maui. She loved to surf at Hamakuapoko, Kekaha, and Wailuku.... The chiefs of Oahu, searching for a wife for Chief Lolale, ruling chief of Lihue, Oahu, when reaching Hāna heard about the beautiful Kelea, they wanted to obtain her for their chief. They found her at Hamakuapoko, and she proved to be an unsurpassed surfer of East Maui. They tricked her and kidnapped her to Waialua, Oahu, where she was taken to Chief Lolale at Lihue. They had three children: Kaholialale, Luliwahine, and Lulikane, ancestral chiefs of Oahu. After ten years she asked her husband if she could go to 'Ewa to go sightseeing and he agreed. On her travels she heard about the surfing of Waikīkī and asked her companions if she could go there and they agreed. She asked the *kama'aina* for a board and she proved to be a very skilled surfer. The people cheered and cheered her. Chief Kalamakua was working in his fields and heard the shouts. He went to check and watched her from the shore. When he saw her skill and beauty he asked if she were Kelea. She said yes. He wrapped his *kihei* around her naked body and took her to a *kapu* place. She married Kalamakua. They had La'ielohelohe, born at Helumoa and raised in Waikīkī. She was betrothed to Pi'ilani, the son of the *ali'i nui* of Maui [Kawaokaohele]. Her *akua* grandmothers Hapu'u and Kalaiohauola took care of her. Later she voyaged to Maui to marry Pi'ilani. They lived at Halehuki and had four children: Lono-a-Pi'ilani, Pi'ikea, Kala'aiheana, and Kihapi'ilani. La'ielohelohe returned to O'ahu for Kiha's birth. He was born at 'Apuakehau in Waikīkī—there is a rock there to mark the place (Kamakau, 1991:45-49, Kamakau, 1992:22).

Pi'ilani. There is no "Story of Pi'ilani" by any of the early compilers of *mo'olelo*. However, Fornander (1880) notes that during Pi'ilani's reign, and perhaps during that of his father, the Hāna chiefs acknowledged the "suzerainty" of the Mo'i of Maui, and Pi'ilani made frequent tours all over his dominions, enforcing order and promoting the industry of the people (Fornander 1880:87). Pi'ilani's is connected to Wai'ānapanapa therefore the legend of Wai'ānapanapa is included below. Beckwith alludes to Ka'uiki being the home of the Pi'ilani 'ohana in the following excerpt:

The island of Hawaii lying over against Kauiki, home of the heaven-high chiefs of the Pi'ilani line, bred meanwhile the offspring of the second of those usurping chiefs [Kihapiilani; the first she refers to is 'Umi] whose final example is found in the well-known history of the first Kamehameha (Beckwith 1970:389).

The following is from HEN I:246-247 in Sterling (1998:118-119) and establishes Piilani in Hāna as well as other significant people and places and illustrates his connection Wananalua and Ka'uiki:

Wananalua was the ahupuaa of Piilani (The house was Kauhi's)
 Blow hole of Kalalau was the shark's tail.
 Kakakeone was the dawning, the place where the high, *kapu* chiefs were born.
 Paliuli, a sacred hill.
 Kawalakii, the place where Piimaiwaa smote his club.
 Kamaalewa, the chief who guarded the hill.
 Kahulili was the spot where the burning occurred.
 Peapea was the person who was burned. Kauhi was the second who dies up there.
 Palenakalani, Kaulahea's village.
 Mapuwena was a house. Hawaii-kuauli was a part of Hawaii.
 Makaokiloia was a woman.
 Kapohakau, a cave.
 Wanakaloa, a birth place. Kapueokahi, a cave.
 Hinalua at Keahomakalii was an ancestor.
 The base of Kauiki has a cave.
 Mokumana, at Kapueokahi, is a port.
 Punahoa, a spring.
 Anini, a surf.
 Waikoloa, a river.
 Nanualelei, is a cape.

Wananalua, a hill.
“Hana of the low sky,” was a saying of Kauwai’s.
Kuakaha, a maika playing field.
Paniu was the village Kamakolu, a woman.
Honuaula was a *heiau*.
Pu’u-o-Kahaula was a famous hill.
Alau, an island in the sea.
Puhele, a surf for chiefs to surf on.
Kumaka, a bathing pool (and the) name of a woman [sister of Kawaipapa chief].

According to Fornander (1880), Pi’ilani’s children with La’ielohelohe were Lono-a-Pii, who succeeded him as Mo’i of Maui; and Kiha-a-Pi’i, who was brought up to the age of manhood among his mother’s relatives on O’ahu. Their daughter Pi’ikea, became the wife of ‘Umi, son of Līloa, Mo’i of Hawai’i, and through her great-grandson, I, became the ancestress of the present sovereign of the Hawaiian group, Kalākaua (Fornander 1880:87). They had another daughter, Kala’aiheana, of who no further mention occurs. With another wife, named Moku-a-Hualeiakea, a Hawai’i chiefess of the Ehu family, Pi’ilani had a daughter, Kauhi’iliula-a-Pi’ilani, who married Laninui-a-Kaihupee, chief of Ko’olau, O’ahu, and lineal descendant of Maweke through his son Kalehenui. And with still another wife, named Kunuunui-a-kapokii, whose pedigree has not been preserved, he had a son, Nihokela, whose eighth descendant was Kauwa, grandmother of the late King Lunalilo on his father’s side (Fornander 1880:87).

There are some modern references to Pi’ilani unifying Maui by warfare (see Speakman, 1978/1984; Kolb, 1991:67). In Youngblood’s (1992) re-creation of Hāna’s history, in *On the Hāna Coast*, we see a peaceful Pi’ilani in the following excerpts:

It is known that Kaka’e established a court at Lahaina about 1360 A. D. and that he was succeeded by a son, Kahekili I, who was in turn, succeeded by his son Kawao-kao-hele then his son and successor, Pi’ilani. The Hāna Coast came under their control, thus unifying Maui under one family of *ali’i*. Pi’ilani’s rule is remembered as a time of unity, peace, prosperity and construction of public works, including at Le’eleku, the largest *heiau* in existence. Although Pi’ilani kept his court “Out There” in Lahaina and Wailuku, he maintained a home in Hāna. Even then it was a place of physical and spiritual refuge.

Pi’ilani ordered the construction of fishponds and irrigation systems for the taro fields, and he undertook the immense task of building a network of stone-paved roads, four to six feet wide, around and across the island. The job was continued by his son Kiha-a-pi’ilani, who extended the ribbon of coastal road first built in Hāna around the West Maui and also up Kaupō Gap through the center. Kiha was followed by his son Kamalalawalu [by Kumaka], who is said to have sent his son to spy on the Big Island.... The Maui line passed to Kauhiakama...to Kalanikaumakao Wākea to Lonohonuakini to Kaulahea to Kekaulike [II] to Kamehamehanui to Kahekili [II], the last of the Maui kings (Youngblood 1992:38).

Pi’ilani was a descendant of Hanala’aiki of the ‘Ulu line as indicated in the genealogies and *mo’olelo*. However, we begin to find out about Pi’ilani, the person, in the following excerpt from the *Legend of Wai’ānapanapa* which takes place in Hāna. [Wai’ānapanapa is a cave system in the *ahupua’a* of Honokalani, a couple of miles north of Kawaipapa/Wananalua Ahupua’a]

Legend of Wai’ānapanapa. A powerful and arrogant warrior chief saw the young and beautiful girl Popoalaea at her father’s home and asked for her as his wife. He took her to his mountain home on the slopes of Kaihuakala [Pu’u across Kauiki] where she was hidden from the eyes of other men. Kakaē [also the name of their great-grandfather, but could have been a namesake] was more than twenty years older than Popoalaea and as time went on he grew more jealous and

suspicious of her and threatened her constantly until she began to fear for her life. Her brother, Pi'ilani, who was of a gentle nature, decided to move near her to keep her company and they would wander through the woods in search of plants and herbs for his house. They were happy in their affection for each other and forgot the jealousy of Kakae. Then Kakae, angered by this affection of the brother and sister, threatened to kill Popoalaea. Fearing for her life, she and her faithful companion, Manona...fled...traveling by the underground passages, for the great mountain [Haleakalā] is honeycombed with caves and caverns, and lava tubes leading to the ocean. At last they reached the sea, the beach of Papaloa [?Pailoa]. There, where the waters have washed the rocks for centuries were to be found wild caves and deep places where only the sunbeams play and here the women thought to hide in safety. In one of the caves they found refuge.... Kakae, searching for his wife, came to the village of Honokalani where he heard strange tales from the fisher folk of spirits wandering on the shore at night.... Suddenly Kakae saw something in the reflection of the pool... With brutal hands Kakae seized Popoalaea...and dashed them to death against the rocks...all nature seemed to cry out against this dastardly thing.... From that day to this the caves in that region have been called Wai'ānapanapa--water flashing rainbow hues--for the death of Popoalaea it is said the place sparkled with rainbow stones which the gods in their pity sent... [As told by Emma Kalelookalani Omstead and printed in the *Paradise of the Pacific* 25 or 30 years ago; from E. P. Sterling, 1998:125. A synopsis of J. R. McKonkey, *County Chirps*, by a Westside Bird, *Maui News* Sept 5 (18), 8 (12), 12 (18), 1962.] [See also Beckwith, 1970:381].

Pi'ilani's parents were Kawaokaohela and Kepalaoa. Kawaokaohela was the son of Kahekili I, *ali'i nui* of Maui, and Kepalaoa [unknown chiefess but a daughter of the famous O'ahu chief, Piliwale (McKenzie, 1983/1986) also had the same name]. During Pi'ilani's life and reign as *ali'i nui* of Maui, he was a contemporary of Big Island *ali'i nui* Liloa and his son 'Umi-a-Liloa. During the reign of Liloa, king of Hawai'i, father of 'Umi, Pi'ilani was king of Maui, Piliwale king of O'ahu, and Mānokalanipō king of Kauai (Thrum, 1916b:128). There are several legends about Liloa, son of Kiha I, and father of Hakau, Kapu-kini and 'Umi-a-Liloa (Rose, 1992:11).

Lono-a-pi'ilani. Like his father, there was no "Story of Lono-a-Pi'ilani" in the *mo'olelo*. However, there are many references to him. The following are extracts from Fornander's (1880) collection of legends.

After Piilani's death, his oldest son, Lono-a-Pii, followed him as Moi of Maui. His character has been severely handled by succeeding generations and the legends they handed down. He is represented as unamicable, surly, avaricious---unpardonable faults in a Hawaiian chieftain. His niggardliness and abuse of his younger brother, Kiha-a-Piilani, drove the latter into exile and brought about his own downfall and death, as already narrated (Fornander 1880:205)

Lono-a-Pii's wives were Kealana-a-waauli, a great granddaughter of Kahakuakane, the sovereign of Kauai, and grandson of Mānokalanipō. With her he [Lono] had a daughter called Kaakaupea, who became the wife of her uncle Nihokela, and mother of Piilaniwahine [granddaughter of Lonoapiilani], the wife of Kamalalawalu [son of Kihapiilani]. Lonoapii had another daughter named Moihala, from who descended Kapuleiolaa, one of the wives of Kanaloauoo and ancestress of Sarai Hiwauli, wife of the late Hon. John Ii (Fornander 1880:205-206).

When 'Umi arrived with his fleet at Hāna, he was informed that Lono-a-Pii had died, and that a son of his named Kalanikupua reigned in his stead, and had charge of the fort of Kauwiki at Hāna; that 'Umi was disposed to spare the young man and allow him to remain on the throne of his father, but Pi'ikea, 'Umi's wife, strongly opposed such clemency, and persuaded her husband to prosecute the war and place Kihapiilani as Mo'i of Maui (Fornander 1880:206).

The next major story in *Ruling Chiefs* (Kamakau, 1992), and also Thrum's *Hawaiian Annuals* was the 'Story of Kiha-a-pi'ilani'---the youngest son of Pi'ilani's royal children. In Thrum's version (1916b) of 'Traditions of Kihapiilani' he notes that there is a different version of the 'Umi/Kihapiilani story found in

the *Polynesian* in 1840 “as told by natives” (Thrum, 1916b:128-135).

The following story is based on Thrum’s version. It gives a glimpse of Kihapi’ilani the man, as well as the conflict between his older brother and heir, Lono-a-Piilani.

The Story of Kihapiilani. Kihapiilani was born and raised on O’ahu with his mother’s family. Kihapiilani lived with his uncle and mother and wanted to know who his “real” father was and was told that his father was on Maui, so he wanted to go there and live with his father. She made ready the canoe, provided the food and said: ‘Go, you will find your father keeping the *‘awa kapu*, and no canoe will be allowed to land...if you reach Keawaiki at Lahaina...land on the beach, let all the men remain on board the canoe...but go yourself ashore to the large man sitting at the door of the house; he is your father, sit on his lap, and if he asks you whose boy you are, tell him you are his, I am Kihapiilani. If he places you at his left hand, that is your place; there is no land on that side; the right side is the place of lands. There will be two cups of *‘awa*, the one in his right hand represents your elder brother Lonoapii, the other ourself. He will drink first the cup in his right hand, then that in his left; then take pieces of potato in his right hand and left hand and eat them in the same succession; then a banana in each hand, eating them in the same order; after which he will eat fish and poi, then the *kapu* will be ended. If he offers you the cup and potato and banana which are in his right hand you will be the heir; if not, you have no inheritance.’

Kiha found everything as his mother said upon his landing...he sat in the big man’s lap...his father kissed him and seated him on his left, but the boy leaped over to the right side. The father said ‘You have taken your elder brother’s place’ and without consent of his father he continued to sit there. The father put out his right hand to take the cup of *‘awa*, but the son snatched it from him as he did with the potato and banana...he constantly conducted himself in this manner during the life of his father. At his death the lands were willed to the elder brother, who was angry with his brother Kiha for his efforts to obtain the birthrights.

After many conflicts and abuses from his brother, Kiha decided to rebel. They fought in the Wailuku valley near the present female seminary and Kiha was beaten--he and his guardian alone escaping. Kiha then returned to Lahaina to dwell. When he had grown a large following he rebelled again, and was again beaten and all his people killed, together with his guardian (Thrum, 1916b:129, 130)

He escaped to Moloka’i and rebelled again. They fought on a hill called Pakui where he escaped again. A friend gave him a canoe and together with his wife he fled to Lāna’i where he stayed two days. His friend said lets go to Maui...They arrived in East Maui and went into the woods where they were seen by some fishermen who reported it to the king on his arrival at Maui. The king sent his runner after him...his friend advised him to go and hide in Kula while he returned to the King. Kiha and his wife lived in Makawao. He stole kapa implements to make kapa, he stole potato tops to plant, but was still befriended by a man from Kīpahulu who invited them to live with him (Thrum, 1916b:131).

Kiha was later told to see a priest in Hamakuapoko who will see if the kingdom will be his. Then was told to go to see Hoko a priest in Keanae who would perform the same ceremony. He was then told to go to Hāna, to the priest Owao...[part of the plan was to take Kolea, Hāna chief Ho’olae’s daughter as his wife—the priest advised his present wife to become their servant until he had gotten the kingdom, which she agreed]. The lands he asked for were: Honokolani [sic], Waipapa [?Kawaipapa] and Wananalua. Her father said “no, if you take those lands you take the two hills which are celebrated in war; you will then be rebels”. He was then advised to leave his new wife, take his old wife and go to Hawaii to see his sister Piikea (Thrum, 1916b:132)

He told his story to ‘Umi who told him we shall lose our labor in fighting with your brother. He will hear of your arrival here and will be taken with fear of me and die trembling. This happened;

he died and left his kingdom to his sons. Kiha lived with 'Umi till the end of the year. (Thrum, 1916b:133)

Then "they sailed to the war and landed at Hāna; all the chiefs and people and canoes of Hawaii, and the women and children. Landing a party at Hamoa, they fought with Holai [Hoolae] who drove them back to their canoes...[but] they took possession of Kauiki and put Holai to flight.... Piimaiwaa soon found him and chased him among the *lauhala* trees until dark, when he killed him...[In Kamakau's (1992) version, Ho'olae-makua was found at Kapipiwai in the back of Nahiku. He was killed and his hands were brought to Kihapi'ilani as confirmation of his death. "Ho'olae-makua was killed because Kiha-a-Pi'ilani bore a grudge against him, his father-in-law, for not helping on his side...revengeful indeed was the haughty Oahuan!" (Kamakau 1992:31)]

The next morning they advanced by land and canoe until they reached Wailuku where they fought with the chiefs of Maui and put them to flight. The priests advised Kiha not to take the kingdom but to give it to the children of 'Umi [and Piikea, his sister].

So Kumalae and Aihakoko were left in charge and 'Umi returned to Hawaii. Aihakoko eventually died after traveling to Lāna'i, and Molokai [on a funerary quest] after his guardian was killed. He ended up in East Maui where he died. After 'Umi died, Kiha sent Kumalae to Oahu, and took possession of Maui. He reigned a long time, oppressed the people, made a road of flat stones all around the island and finally died a natural death (Thrum, 1916b:134-135).

We see a very different view of the brothers, Lonoapiilani and Kihapiilani, and their conflicts in Kamakau's versions (1870, 1991, and 1992). Kamakau presents a brief overview of Kihapiilani in the following excerpt:

Kihapi'ilani was taken by the *kahuna* and raised at the *heiau* of Mau'oki at Kamo'ili'ili [Mo'ili'ili, O'ahu]. He was taught to be an orator and warrior. When he was twenty he was ordered home to become heir apparent, but when he got to Kalae on Moloka'i he found that his father Pi'ilani had died at Lahaina. The first-born Lono-a-Pi'ilani became the *ali'i nui* of Maui (Kamakau, 1991:49; Kamakau, 1992:22).

Kamakau wrote the following *Story of Kiha-a-Pi'ilani* in the newspaper *Ke Au 'Oko'a* on December 1, 1870, as well as in *Ruling Chiefs* (1992). In this story we not only see the conflict between the brothers, and the various place names associated with Kihapiilani, we see their early connection with Hāna where Kiha lived for a while. We also get a glimpse of some of Hāna's history during this period, including place names like Wākiu, Kawaipapa where Kiha went to consult a *kahuna* and stayed with him for a while, and Wananalua, home of the Pi'ilani *ohana* and where the famous fortress Ka'uiki was located.

The Story of Kiha-a-Pi'ilani. Pi'ilani died at Lahaina, Maui, and the kingdom of Maui became Lono-a-Pi'ilani's. He was the oldest son by La'ieloheloheikawai, next came Pi'ikea, Kalai'aiheana then Kiha-a-Pi'ilani. It was said that there were two heirs Lono and Kiha but Kiha wasn't present at his father's death because he was in Oahu where he was born and reared. So it went to Lono. Pi'ilani commanded that Lono have the kingdom and Kiha dwell in peace under him. In the first years his reign was well and people content.

Lonoapiilani took care of Kiha and he cared for the people by giving them food. Then Lonoapii became angry with Kiha. They both farmed in the *ahupua'a* of Waihe'e. Lono's taro patch was smaller while Kiha's was bigger. Lono got angry and abused Kiha and they fought. Lono tried to kill Kiha so he fled in secret to Moloka'i to the fortress of Paku'i then later to Lāna'i...from there he sailed to Kapoli in Ma'alaea, and from thence to the upland of Honua'ula. Someone saw him and it was reported to Lono. Kiha fled to Lahaina where he was hunted, but the gods saved him.

He and his wife went to the gulch of Kuanu'u and round back to the boundary of Honua'ula and Kula to a place named Ke'eke'e. Later to Kula/Makawao--many people went there to play games and to go swimming in a pool called Waimalino as Kula and part of Makawao were waterless lands. During a famine Kiha cleared an immense patch of land for sweet potato...(Kamakau, 1992:22-33).

Kiha went to Hamakuapoko and Hali'imaile to ask for slips...a rainbow revealed his identity. He later went to Pa'ia for help, but was directed to Kaluko in the upland of Ke'anae, then to Lanahu in Wākiu, then by Weua-Lanahu to Kawaipapa to consult Kahu'akole at Waipuna'alaie. Kiha became a ward of Kahu'akole. He dwelt at Kawaipapa at a place called Kinahole. His wife's name was Kumaka whom he made his sister.

Hāna was a fertile land where taro, sweet potatoes, bananas, sugar cane, and wild fruits grew in abundance, and there was always much food to be had. Kawaipapa was rich in fish from the ponds and from the sea.

Hāna had a chief to govern it, Ho'olaemakua. It belonged to the ruling chiefs from ancient days, and the ruler was a descendant of the chiefs of Hāna. He belonged to a family that was noted for strong people, and Ho'olaemakua was numbered among them. He was small in size, but his hands had a very strong grip. Ka'hu'akole felt that if Ho'olaemakua sided with Kiha then war could be fought against Lono to take the kingdom from him. Ka'uiki was the strongest fortress there was.

Ho'olae had a daughter, Koleamoku, and Kahu'akole believed that when she became Kiha's wife her father would aid him.... Kiha's constant bathing reddened his cheeks to the color of a cooked crab and his eyes as bright as those of the *moho'ea* bird. Kolea surfed at Keanini the bay of Kapueokahi (Hāna Bay). Kolea fell for Kiha, but her father was against it because she was betrothed to the ruling chief Lono-a-Pi'ilani. Kiha told her that he was the son of Ka'hu'akole. When Kiha didn't show up at surfing [one day] she went to the upland of Waika'ahiki to Waikalua and to Kawaipapa where she and Kiha got married. When news that Kolea had married the son of Kahumoku (same as Ka'hu'akole) her father became angry and he disowned her.

They had a son named Kauhiokalani and he became ancestor to some chiefs and commoners. Kiha asked Kolea to take their son to Ho'olae to make amends...and to ask for some farm lands... 'If your father should offer you all of Hāna, do not accept. These are the lands for us: Honoma'ele, Ka'eleku, Kawaipapa, and the two Wananalua.' Her father wanted to give her the district of Hāna, extending from Pu'uvalu to 'Ula'ino. She said these are the lands my husband asks for 'Honoma'ele, Ka'eleku, Kawaipapa, the two Wananalua and Koali.'

He said "Your husband is no commoner. He is a chief, Kiha. Your child is a chief. I shall not take Kiha's part. I shall remain loyal to his older brother till these bones perish. Your husband does not want farmlands for the two of you, but is seeking means to rebel against the kingdom. "The lands of Honoma'ele and Ka'eleku supply the *'ohi'a* wood and *'ie'ie* vines of [the forest of] Kealakona to build ladders to the fortress. Kawaipapa supplies the stones of Kanawao that are used in battle, and then the fortress will be well supplied. The Wananalua lands hold the Ka'uiki fortress and the places below it. Koali is the fortress of Kue. I shall not take your husband's side."

Her father said he would give assistance only when Kiha was willing to abide under Lono's rule...then he took his grandson to raise. Kiha was angry when he heard this and wanted vengeance and to rule all of Maui. He decided to go to Hawaii to consult his brother-in-law, 'Umi-a-Liloa. Kiha's first wife [Kumaka] was a chiefess of Hāna and Kipahulu. Kiha took her to Hawaii...they landed at Kohala, then to Maka'eo in Kailua where he told his entourage to wait for him while he visited his sister.

Kiha told 'Umi that his father had commanded that they share the kingdom of Maui, but his brother took it all for himself and wanted to kill him. 'Umi decided to help Kiha who had been

wronged. Lono heard that war canoes were being built in great numbers. The *kauila* wood of Napu'u and Kahuku, the *o'a* and *koai'e* were being made into clubs to be used against Maui--they trembled in fear. After a year they were ready. When the first canoes reached Hāna, the last ones were still on Hawaii.... Ho'olae was at Ka'uiki building a tower and ladders to reach the top.... The first canoes reached Kīpahulu and [were] coming towards Kapueokahi [Hāna Bay].... The Hawaii canoes hardly reached the spring of Punahoa when Ho'olae killed the men who manned the spring. The canoes were forced to land at Waika'ahiki...the men who landed at Kihahale walked to Waikoloa in front of Kawaipapa where they fought with slings.... Ho'olae stayed close to a rock now called Ho'olae Rock...and was victorious over the warriors of Hawaii who fled to open sea... [from] the expert stone-tossers of Wakiu and Honokalani, and the quick slinging lads of Ka'eleku....

The losing warriors of Hawaii sailed for Wailuaiki [sic] at Ko'olau. When the canoes reached Wailuaiki they were dismantled and set upright...then they headed for battle. Upon reaching 'Ula'ino, the fighting commenced at Makaolehua, and in 'Akiala, at La'ahana, at Kawaikau [old name for the Honoma'ele Stream], at Neneuepue, at Kameha'ikana's kukui tree, and all the way along to Honokalani and Wākiu, into the pandanus grove of Kahalaoweke, down to Pihele, to the flats of Kalani and the spring of Punahoa. Ho'olaemakua proved to be a worthy foe...and very clever--he set up the giant image called Kawalaki'i and dressed it in war apparel (Kamakau, 1992:24-30). [In *Ka Hoku o Hawaii* (1909) it also mentions the black stones ('eleku) of Ka'eleku used in this battle between Ho'olaemakua and the Hawaii warriors (Sterling 1998:121)].

Finally a warrior named Pi'imaiwa'a figured out the ruse of the *ki'i* and destroyed it. Ho'olae escaped. Kiha commanded that Ho'olae's daughter Kolea and her son not be hurt [Kolea was his second wife during his stay in Hāna]. Ho'olae was finally found in the back of Nahiku at a place called Kapipiwai and killed ("Revengeful indeed was the haughty Oahuan!") When Lono heard the news he trembled with fear of death and died in Wailuku. Kiha tried to find his body but it had been hidden. They sent for a prophet from Kauai to tell them where the corpse was buried. He said it was in Wailuku in a land called Pa'unui, but Kiha's men could not find it. Kiha divided the lands...'Umi left his son 'Aihako'ko' to remain with Kiha and he went back to Hawaii (Kamakau, 1992:31).

Beckwith (1970) first published her *Hawaiian Mythologies* in 1940. The following are excerpts from her version of the story of Kihapi'ilani.

Legend of Kihapi'ilani. The name of Kiha is preserved locally about the island of Maui in connection with his feats of leaping from a height into a pool of water, called *lelekawa*, and for the famous paved road about the island with the building of which he oppressed the people. Men are said to have stood in line and passed the stones from seashore to upland. Parts of the road are still in place and may be followed where the trail cuts in a straight line up and down the deep gorges that break the windward slope of the island.

Kihapi'ilani was brought up on Oahu, but when his uncle scolds him for wasting food he goes off to Lahaina to find his true father. He is dissatisfied to take the place of a younger son. After their father's death Lono takes pains to humiliate him. The brothers come to blows. Kiha is defeated and saves himself only by leaping off a cliff down the hill Pakui. He hides himself in the Kula district at Kalani-wai in the Makawao region with his wife Kumaka of a Hāna family of chiefs, whom he passes off as his sister....

He consults various *kahunas* as to the course he should pursue to win the rule from his brother. He goes back to Oahu, learns surfing and, returning to Hāna district, surfs with the daughter of Ho'olae [Chief of Hāna]. The couple are repudiated by the father, but after a son is born, a reconciliation is effected and Kiha sends his wife to ask of Ho'olae such lands as will give him control of the fortress Kauiki.

Ho'olae recognizes at once that this is no common man to whom his daughter Kolea-moku has born a child, but the chief Kihapi'ilani. He nevertheless loyally refuses to desert his old chief Lono. Kiha retires to Hawaii and succeeds in winning Umi's cooperation through the influence of his sister Pi'ikea. After the death of Lono, Umi sends an army to establish Kiha in the succession. Ho'olae defends Kauiki for Lono's son and sets up a wooden image so huge as to frighten off Umi's men.... Eventually Pi'imaiwa [one of Umi's warriors] discovers the trick and they defeat Lono's warriors. Kiha has Lono's son put to death and asks that the lands may be made over to Pi'ikea's sons. The two lads come to Maui, but are despised and done to death and Kiha is established as ruler over his father's lands. It is his famous son Kama-lala-walu (son of eight branches) who gives the name Maui-of-Kama to the island (Beckwith 1970:387-388).

Sterling (1998) compiled many stories of Maui between 1960 and 1970. One of them refers to *The Story of Kihapiilani* by Moses Manu, who wrote the story for the Hawaiian newspaper *Ka Nupepa Kuokoa* in July and August 1884. In the following excerpt the forces of Kihapiilani and Umi are coming from Hawaii to attack Maui.

The Story of Kihapiilani. ...it was at this time the first of the canoes landed at Kawaipapa and Waika'akihi. Also at the place called the surf of Keanini as far as Pueokahi [Hāna Bay] it was choked with the canoes of the Hawaii people, and so it was off Mokuhanu and Naniuakane and Kaihalulu. At Aleamai, Haneo'o and Hamoa, these places were completely filled with canoes. At Honokalani and at Honoma'ele and Ula'ino, the boundaries of Hāna and Ko'olau, the canoes were thick. The last of the canoes landed on further at Opikoula, Nahiku, Waiohue, Waluaiki and Wailuanui in Ko'olau. When Ho'olaemakua saw the numbers of canoes and men, he and his men prepared to fight the men of Hawaii when the Hawaii warriors arranged themselves on the plain of Kuakaha (Sterling, 1998:122).

The following excerpt from Manu's (1884) version of *The Story of Kihapiilani*. Umi is instructing Kihapiilani to pave the roads when he finished the *heiau* of Honua'ula - formerly built by the infamous King Hua and located where the Wananalua Church stands today.

After this you will begin to pave the road from Pihele [Kawaipapa] at Hāna as far as Ko'olau at the forest of Oopulua, as well as all the other bad places on the roads of Maui. Perhaps some reader has seen this story pertaining to Kihapiilani's famous deeds in something which was printed in a book at the College of Lahainaluna concerning the first stop of Lono Captain Cook in Hawaii here. In that book it mentions this road which was built by Kihapiilani. Something the person who is writing found are these lines which were printed and which have been memorized also by certain other people who are living now. It is these lines:

The stream at Kawaipapa
The ascent at Pihele
The descent at Kohala'owaka
Continuing over a treacherous rocky wilderness
The road where people walk along Honoma'ele
The forest at Oopulua, -- the ponds of Mauoni
The shell road on Moloka'i

Kihapiilani remembers Umi's words and advice. ...So, the transporting of the hard 'alā stones by the *ali'i* and the commoners was begun. The construction of the road was begun at Kawaipapa and at Pihele where it would start to enter the hala grove of Kahalaowaka. From here to the forest of Akialaa at Honoma'ele the 'ala stone paving was set at intervals on the road and the paving has probably not been moved. At Kīpahulu the paving of 'alā stone was begun, from Alae-iki to Kukui'ula.

Between some of the lands in this locality some of the paving is gone, having been dug out by the plow of T. K. Clarke. The 'alā stones were scattered about and sugar cane planted at this time. It

was thus at Kaupō at the stream of Manawainui as far as Kumunui. When the chief and men finished the work there, the paving was begun in the forest of Oopuloa in Ko'olau, from Kawaihinepee at Kaloa to Papaea to Kaohekanu at Hamakualoa. This was a place made famous by robbers in the olden days. This road was treacherous and difficult for the stranger, but when it was paved by Kihapiilani this road became a fine thing. But in these times the large stones which were set have been dug out again by the road workers of this new era (Sterling, 1998:130).

In Fornander's version of the "Story of Kihapiilani" we see that all the subsequent *ali'i nui* of Maui were descended from Kiha and Kumaka, sister of the Kawaipapa chief, Kahuakole.

Story of Kihapiilani. Kiha, who thus forcibly succeeded his brother as Moi of Maui, had been brought up by his mother's relatives at the court of Kukaniloko of Oahu.... Having, as before related, through the assistance of his brother-in-law Umi obtained the sovereignty, he devoted himself to the improvement of his island. He kept peace and order in the country, encouraged agriculture, and improved and caused to be paved the difficult and often dangerous roads over the Palis of Kaupō, Hāna, and Ko'olau---a stupendous work for those times, the remains of which may still be seen in many places, and are pointed out as the "Kipapa" of Kihapiilani. His reign was eminently peaceful and prosperous, and his name has been reverently and affectionately handed down to posterity.

Kiha had two wives—Kumaka, who was of the Hāna chief families, and a sister of Kahuakole, a chief at Kawaipapa, in Hāna. With her he had a son named Kamalalawalu, who succeeded him as Moi of Maui. Koleamoku, who was the daughter of Hoolae, the Hāna chief at Kauwiki...with her he had a son called Kauhiokalani, from whom the Kaupō chief families of Koo and Kaiuli descended. Kamalalawalu followed his father as Moi of Maui. He enjoyed a long and prosperous reign until its close, when his sun set in blood and disaster [when Kahekili lost to Kamehameha I] (Fornander 1880:206-207). [Note: Ashdown (1947a:27) claims that "Maui of Kama" refers to Chief Hua's son Kama, not Kamalalawalu.]

Ka-heihei-maile. In *Ruling Chiefs* Kamakau (1992) discusses Ka-heihei-maile Hoa-pili-wahine [sister of Ka'ahumanu - daughters of Ke'e-au-moku] who was born in Kawaipapa, Hāna.

[Ka-heihei-maile Hoa-pili-wahine] was born in 1778 at [Kawapo'ele at Pihele] Kawaipapa, Hāna, Maui, in the days when Ka-lani-'opu'u and the chiefs of Hawaii were at war with the chiefs of Maui and had taken Hāna and the fortified hill of Ka'uiki. Mahi-hele-lima was the governor, and Ke'e-au-moku and his family were living at Hāna under his protection. Hāna was in those days a noted place famous for the fortified hill Ka'uiki...the yellow-leafed 'awa of Lanakila, the delicious poi of Kuakahi, the fat shell fish ('opihi) of Kawaipapa...and the juicy pork and tender dog meat dear to the memory of chiefs of that land, moistened by the 'apuakea rain that rattles on the *hala* trees from Wākiu to Honokalani (Kamakau 1992:385, 388). [She died in Lahaina and was taken to the mausoleum at Waine'e (Moku'ula) (Klieger 1998:54]

Hawaiian Legends/Wananalua. The following list of legends or *mo'olelo* include Wananalua are from *Hawaiian Legends Index* Vol III (HSPLS 1989):

'A Story of Kauiki' In Fornander, Fornander Collection of Hawaiian Antiquities and Folk-Lore, v. 2 pp. 544-551

'Kuula, the fish god of Hawaii' In Thrum, Hawaiian Folk Tales pp 215-229

'Aiai, son of Kuula' In Thrum, Hawaiian Folk Tales pp 230-249

'Kauiki and Hāna traditions' In Thrum More Hawaiian Folk Tales pp 68-76

'Tradition of Kihapiilani' In Thrum, More Hawaiian Folk Tales pp 77-86

Place Name Legends. The following *mo'olelo* or legends are about various place names within Wananalua or in the vicinity of Wananalua e.g. Kawaipapa, Wākiu, and Honokalani. Most of the stories mentioned several place names.

Wananalua Ahupua'a: Ka'uiki.

According to some legends, it appears that the origin of many prominent *ali'i nui* was Ka'uiki [also spelled Kauwiki] in the *ahupua'a* of Wananalua. Beckwith (1970) explains the significance of Ka'uiki in the following excerpts. Several place names are mentioned.

Many generations before Heleipawa and Haho, on the Ulu line, occur such mythical figures as Kuhele-i-moana and his wife Mapuna-i-aala, daughter of Haumea, Akalana (Wakalana), the Maui brothers, and the Aikanaka to Laka group. Except for the first, famous names in southern tradition (Tahiti), all centered about the hill Kauiki, in the fertile Hāna district on the rain-washed eastern extremity of the island of Maui, where the sun rises out of the sea and the Kohala coast is to be seen beyond the channel of Ale-nui-haha.

From the time of La'a-mai-kahiki down to that of Umi, East Maui, comprising Koolau, Hāna, Kīpahulu, and Kaupō districts, was governed separately from the rest of the island, and its chiefs were grouped about the fortified hill of Kauiki, famous in history, song, and story. Myths are told about its origin. Some say that it sprang from the navel of Hamoa. Others say that it was born to the parents of Pele or to the hill Kai-hua-kala by his wife Kahaule. Others relate how Ka-lala-walu (The eight branched) brought the hill from Kahiki as an adopted child, but grew tired of its nibbling at her breast and tried to leave it along the way, first at Kaloa, then at Kaena, then at the Ka-wai-papa Stream. Hāna is called 'a land beloved of chiefs because of the fortress of Kauiki and the ease of living in that place. Maui chiefs who settled with their families in later days about Kauiki were Kanaloa and Kalahumoku, sons of Hualani the wife of Kanipahu, and half-brothers to Kalapana who ruled Hawaii, and Eleio, Ka-la-eha'eha, Lei, Kamohohali'i, Kalae-hina, and Ho'olae (Beckwith 1970:378-380).

In Sterling (1998:130-139) Ka'uiki is the most famous feature of Wananalua Ahupua'a and is cited by several authors below:

Features of Hāna. D. S. Kahookano, Hāna and the Country Life There, *Ka Nupepa Kuokoa*, Feb. 27, 1869. Hawaiian Ethnological Notes, 1:2978.

Ka'uwiki was the famous hill in ancient times. It was a fortress by which the chiefs and commoners won the victory in time of war.... The famous places that belong to Ka'uwiki are Kahulili, at the very summit of the hill. That was the name of Pe'ape'a's house. Ka'uwiki is surrounded by ridges. On the west side is the trail by which it is ascended and it was there that Kawalakii, the huge image was erected. On the left is Kai-halulu, mentioned in a saying as "Kai-halulu, before the face of Ka'uwiki" (Kai-haluku i ke alo o Ka'uwiki). Directly east is the base of Ka'uwiki, where it "kisses" Moku-hano. At its back stands Moku-mana and the coconut trees of Kane, of which it is said, "You cannot reach the coconuts of Kane" ('A'ole e loa'a na niu a Kane ia'oe). At the top, facing the east, is Ka-hala-o Mapuana and on the north-east side of Ka'uwiki is the spot where Ka'ahumanu was born. Directly north of that is Nanu'a-lele Point. At the left of Nanu'a-lele is the surf of Keanini and directly at its base is the landing of Wai-ka-'ahiki and the pool of Punahoa. On the "bosom" of Ka'uwiki lies the sand of Ka-pueo-kahi. Honua'ula peers down over it. At the "tail end" of Haleakala lies Ka-ihu-a-ka-la (The sun's nose) and it is there that one finds out whether Maui will have calm weather. "Maui is calm, for Kaihuakala can be clearly seen" (Malie Maui, ke waiho mai la kahuakala).

The winds. The usual winds blow from two directions, from the sea or from land. The wind from the sea has two names, the Kohola-pehu and the Kohola-lele. The Kohola-pehu is accompanied by

rain from the sea and the Kohola-lele is the breeze accompanied by calm, without rain. It is the wind that drives away the clouds until one can see the hills of Hawaii. The Lau'awa is the land breeze that blows gently over Kaihuakala and out to the surf of Keanini. It is the breeze that bears the fragrance of the hala of Ka-hala-'oaka to the pool of Punahoa.

The rains. There are many rainy places during the wet months (ho'oilu) but Hāna's famous rain is the "Ua-kea." When this rain falls ... is after sunrise, at 9 or 10 in morning. Perhaps that is the time the dew that falls during the night, dries up. Then the rain gives us some moisture. It does this to us everyday. It does not chill us for it clears up very quickly [Sterling 1998:130].

Kauiki and Hāna Traditions. Thomas G. Thrum. 'More Hawaiian Folk Tales', *Hawaiian Annual for 1923*, 68—69.

Ka'uiki is not a grand hill to look at. In its outline or profile it resembles the head of a *moi* (fish) diving in the ocean. On its northeast is the dark cliff of Mapuwena, and at its base is the slippery sand of Kapueo-kahi by the ship's harbor and the surf of Keanini. To the east of Paliuli (dark cliff) is a sort of deep round cave wherein the illustrious chiefess, Kaahumanu, was hidden during the battle engagements of Kalaniopuu and Kahekili, in East Maui, in 1775 and 1778. There did Kaahumanu lead Mr. Wm. Richards in 1830 and showed him her place of concealment, and the spot at Mapuwena where she was born. Down at its front, and within the cave at the base of Ka'uiki, lies the famous eel of Laumeki, which causes the top to tremble.

A certain blow-hole is at its front that is sounded by the reef-wind of Mokuhanu. Its principal outlet of sound was closed up entirely with *kaula* spears, the strange work of a certain chief named Kalaikini. (Those spears have so remained to this day.) Over two hundred years have passed since then.

At the south flourishes a coconut grove (whence the saying, "the coconuts of Kane are not reached by you"), and the dark cliff of Kaihalulu. On the western and northern sides spread the flat lands devoted to Hāna's cane cultivation. Close to the base of the hill is the ancient land division of the chiefs, called Kuakaha, with the temples of Honuaula and Kuawalu. There was the bake-oven for slain warriors taken captive by Kahekili at the hill of Kauiki in 1782.

Just above the water of Punahoa is the base of Kawalakii. Near the crown of the hill, there is the ladder of the hill of Lanakila (victory) of the *ohia* of Kealakomo, which was closed in the contest of that period. From the summit of the hill looking eastward is seen ever-green Hawaii, on the south side of Makakiloia is Makapalena, and on the northeast of Mapuwena in the center, is the foundation of Wananaiku. Viewing Kauiki from Hawaii, Kaihuakala lies to the front; inland is Puuokahaula, while seaward is Alau, like a sheltering island.

In such is its dignity and claim to admiration, like a bird soaring upward, a cape for the *noio* seabird of Mokuhanu, as if sacrificed for the tropic birds of Kaihalulu and Kapueokahi. There a certain chief thrust his spear in the heavens for Hāna's fame, as "Hāna of the low heavenly rain" [Sterling 1998:131].

Punahoa Spring and Kauiki Area T. Kelsev Collection, Place Names. *Hawaiian Ethnological Notes*, 1:818.

Punahoa, a bubbling spring at Hāna near the beach.

Kahulili, place at top of Kauiki.

Na-niu-a-Kane, two stone pillars in the sea, one broken, toward Kauiki from Mokuhanu and near Ka-puhi-o-Laumeki.

Honuaula, was a heiau that stood on the site of the school house.

Ka-pueo-kahi, beach and harbor. There are large caves there where fishermen's canoes are stored.

Moku-Lano [*Moku-hano*], spouting islet at foot of Kauiki that used to throw sprays onto the potatoes, taro and bananas, etc. until stopped up with kauila wood [*by Ka-aikini*] who circuited Maui, stuffing blow holes.

Kai-halulu, where the Kohalalele wind from Kohala drives the waves against the cliffs. Canoes from Kohala landed on this side of Kauiki.

Ka-ihu-o-Kala, a hill mauka of Kauiki, in the upland. It resembles the back and head of a *kala* fish [Sterling 1998:131].

The Story of the Eel of Laumeki. *Hawaiian Ethnological Notes*, 2:71.

This eel came from Hawaii to Maui where he was killed. He was taken and thrown away on the makai side of Ka'uiki, the side that faces the wind. There he is until this day. He has a stone body now and looks exactly like an eel lying there. His form is fearsome to look at. This eel is lying there at the mouth of the cave. It is the cave called Ke-kumu-o-Ka'uiki and makai of this eel which is lying at the base of Ka'uiki is the blow hole of Mokuhanu, the blowhole which Kalaikini blocked with Kauila wood. [Sterling 1998:132]

Mapuwena. S. M. Kamakau, *Ruling chiefs of Hawaii*, 309.

The chiefess Ka-ahu-manu was born at Mapuwena, called Paliuli, at Ka'uiki, Hāna, Maui, in a small cave on the side of the hill, and her afterbirth was taken and buried at Kani-a-makō in Kawaipapa above Pihehe [Sterling 1998:132].

Kapo'ulakina'u and Ka-Pueo-Kahi (Her House Site). Moses Manu, A Hawaiian Legend of a Terrible War, *Ka Loea Kalaiaina*, Aug. 12 and 19, 1899. *Hawaiian Ethnological Notes*, 2:977.

When she (*Kapo'ulakina'u*) reached there (*Kahoolawe*), it (*the rainbow*) moved on over the Alenuihaha Channel. As she came to it, it arched over Ka'uiki hill. In a twinkling of an eye it rested again on Mapuana. She looked about the place and then saw the owl perched on the cliff. After that it flew below the trail at Kawaipapa....

Here the owl changed into a handsome man and, in his supernatural way, recognized the person he was in love with prior to this time. He made preparations to welcome the stranger he expected would come to his house. Kapo'ulakina'u watched him work and decided to set aside her bashfulness. Therefore she came there unhesitatingly. The stranger and the native of the "land of the low rains" met with joy. Before the food was served they decided to become wife and husband and so Kapo'ulakina'u became the bride of Ka-pueo-kahi of Hāna. Later she took Puanui, younger brother of her husband, to be her husband. He was living at Wailua-iki, Ko'olau, Maui. The impression of her secret parts lies on the hill to this day and is not hidden from view. This was a place much visited by travelers who traveled by way of Hāna. A platform of stones was the site of the house in which she lived with Ka-pueo-kahi. The stones were laid in three layers and smooth water-worn stones were laid close together but somewhat rough. It is very hard, like something that had been plastered over with cement. [Sterling 1998:133]

Surf. T. Kelsey Collection, *Hawaiian Ethnological Notes*, 1:782.

The surf of Keanini is north of Kauiki.

Canoe Landing. A. Fornander, Collection, 4:330.

On Lonoikamakahiki's arrival at Maui, Kamalalawalu was residing at Hāna on the *ahupuaa* called Wananalua. When Lonoikamakahiki went ashore at the canoe landing of Punahoa he was observed by Kamalalawalu, Lonoikamakahiki and his retinue being sent for and taken to Kamalalawalu's royal residence. [Sterling 1998:135]

'Ai'ai in Wananalua. Moke Manu (trans. S. N. Emerson), Aiai, Son of Ku-ula, *Hawaiian Annual for 1902*, 115.

Some days later 'Ai'ai went over to the bay of Wananalua, the present port of Hāna, with its noted hill of Kauiki and the sandy beach of Pueokahi. Here he made and placed a *kuula*, and also placed a fish stone in the cliff of Kauiki whereon is the *ko'a* known as Makakiloia. And the people of Hāna give credit to this stone for the frequent appearance of the *akule*, *oio*, *moi*, and other fishes in the waters. [Sterling 1998:135]

Kaiapuni. Thomas G. Thrum, 'Maui's Heiaus and Heiau Sites', *Hawaiian Annual for 1917*, 53.

Not far from Hāna's pebble beach, at Waikakihi (*Wai-ka-'ahiki*), is a small rounded structure, some five feet high of about twenty feet in diameter, known as Kaiapuni, which residents of the locality held to be a *heiau*. The absence of distinctive features and its proximity to the shore led me to suggest it as being more likely a *ko'a* to Kuula, but the idea was promptly resented. On the top of Kaiapuni repose the remains of the father of J. U. Kawainui (the staunch editor of the *Kuokoa* in the reform days of Kalakaua's time), in accordance with his request. [Sterling 1998:135]

Honuaua and Kuawalu Heiau, Walker Sites 111 And 112. W. M. Walker, *Archaeology of Maui*, 186

Location: Base of Kauiki Hill

Description: Two war heiaus built by King Hua-a-Pohukaina of Lahaina sometime during the early part of the 17th century. Thrum in his 1917 list speaks of Honuaua being built prior to the raid on Hawaii. On his successful return he built Kuawalu, said to have measured 70 x 120 feet. All traces of both are now destroyed. This is presumably the same King Hua that built the heiaus of Waiie and Luakona at Lahaina. He is referred to in legend* as the infamous ruler who put his chief priest to death and himself died miserably of famine with all his people as a result. [Sterling 1998:135] *(A. Fornander, *Account of the Polynesian Race*, 2:41).

Walker Sites 111 and 112. Thomas G. Thrum, *Tales of the Temples*, *Hawaiian Annual for 1909*, 47.

Little can now be gathered relative to the temples that for many years were prominent in Hāna and its vicinity. The strategic position of its Kauwiki hill was recognized by the various warrior kings and chiefs, and in consequence has been the scene of some of Maui's hardest fought battles, and to influence which her most famous *heiaus* were built. These date back to the time of the older Lahaina temples and are credited for their origin to the same Hua-a-Pohukaina, king of Maui. It is said that on completing those at Lahaina he moved to Wananalua, where he erected his war heiau, then gathered together his forces and waged war successfully in the Hilo district of Hawaii, then returned to Hāna where he built Honuaua, and Kuawalu, at Kauwiki. [Sterling 1998:135]

Walker Sites 111 and 112. Thomas G. Thrum, *Maui's Heiaus and Heiau Sites Revisited*, *Hawaiian Annual for 1917*, 52.

Here, at the famed fortress of Kauiki, aside the entrance to the little harbor, on the west, were located the war temples of Hua-a-Pohukaina, an early Maui king, who, en route from Lahaina, erected the *heiau* of Honuaua at this point to propitiate the gods for aid in his expedition against

the district of Hilo. Succeeding in this raid he returned and built another, named Kuawalu. The first named was built at Wananalua, the foundation lines of which, in 1908 indicated its size as 120 x 70 feet. But a few of its large stones now remain, which line the roadway near the native Protestant church, the site of the war temple being occupied by the older of the two school houses in the well kept premises at the base of the hill, back of which premises, up the hill a little ways, is the concrete tomb of A. Unna, a long resident and managing owner of the Hāna Plantation. Nothing could be learned relative to Kuawalu, even its site which tradition assigned to Kauiki was forgotten. [Sterling 1998:135]

Heiau at Kauiki. Thomas G. Thrum, Hāna of Historic Tradition, *Hawaiian Annual for 1919*, 66.

Until within the past few years the ruins of one of Maui's famous heiaus graced the base of Kauiki hill, facing the village, a temple known as Honuaula, that marked history, erected by King Hua-a, who, stopping here en route from Lahaina in a raid upon Hilo, sought thereby to propitiate the gods to aid his venture. The expedition proving successful he returned to Hāna and built another but smaller one, known as Kuawalu, in the same vicinity, by way of celebrating his victories. [Sterling 1998:135]

Destroyed Heiau (Honuaula), Walker Site 111. H. T. Cheever, *Life in the Sandwich Islands*, 145.

Mr. Conde is pastor of the native church, which numbers five hundred members, having been organized in 1838 with fourteen. The walls of a new stone meeting-house are commenced, which is to be one hundred and fifteen feet long, and forty-eight wide. Many of the stones are from an old *heiau*. [Sterling 1998:135]

Honua'ula Heiau (Ka-Imu-Pika'o), Walker Site 111. Moses Manu, The Story of Kihapiilani, *Ka Nupepa Kuokoa*, July 15 and Aug. 23, 1884. MS SC Sterling 3.14.56.

(*Umi speaks to Kihapiilani* - 16th century).

“When the island of Maui and the fortress of Ka'uiki are yours, then you and the people will restore the *heiau* of Honua'ula just mauka of the hill of Ka'uiki. (The site where the first protestant church stood and where the English language school stands at this time). Make preparations to restore this heiau, then you and the people fetch the long 'ala stones of Kaiakahauli and when that is done, offer a sacrifice on the altar and free first the restrictions with a human sacrifice to the god.”

Several days passed, then preparations were made to bring the materials to build the *heiau*, the home of the god. . . . the large elongated stones were brought from Kai-a-ka-hauli which is the cape in the south east of Honokalani, and from the cape of Nanu'alele. At these two places mentioned was where the large elongated stones were carried on poles by the men and on litters also. They brought these stones to Honua'ula, stones which remain there to this day. It is an amazing thing, the strength of the men in those days.

When the stones had been gathered, they began immediately to arrange them in the usual manner of *heiaus*. The stones of this *heiau* were not as numerous as those of Puukohola, inland of Kawaihae, and of Mookini in Kohala, as well as Lo'alo'a and Popoiwi in Kaupo. These large *heiaus* are standing to this day. This *heiau* which was being built by Kihapiilani was not the same type as those *heiaus* just mentioned. The stones were brought, then they went to get 'ohi'a wood of Kealakona to make a place to lay the human sacrifice on the altar along with the offerings. This was something that caused great fear in those ancient days.

(*They bring the 'ohi'a wood from the forest.*)

As the log was being dragged through the grove of *hala* trees and over the rough *a'a* lava of the road, the end of the log stuck fast in some rocks on the road. It was mauka of Honokolani, between Puuhane and Kameha'ikaua...

When the *heiau* dedication day was over the warrior Piimaiwaa and his men returned to Hawaii. After the *heiau* at Honua'ula was consecrated, Kihapiilani commemorated the incident by giving it the name Ka-imu-pika'o. (Here is the nature of this name. It was there several Maui men were baked in the underground oven and hung up to dry in the sun by the soldiers of Hawaii at the time they were fighting Hoolaemakua.) [Sterling 1998:136]

Battle Sites. W. M. Walker, *Archaeology of Maui*, 302.

Many places in the districts of Hāna, Kipahulu, and Kaupo were scenes of conflict between the raiders from Hawaii and the men of Maui. The most famous, of course, was Kauiki Hill at Hāna. This is referred to as the "fort of Kauiki" in some of the old accounts, but there is no evidence of any form of permanent fortification here or at any of the other so-called "Fortified Hills" on Maui. Hills and steep ridges were used as vantage points from which to hurl down spears and stones on the attackers. No fortified ridges such as the one at Hookio, Lanai, as described by Emory were seen on Maui. True forts are thus lacking on the island unless the walled structure at Lanikele (*in Ulaino, Koolau*) described as Heiau site 101 is to be so regarded. [Sterling 1998:136]

Kauiki Hill. A. Fornander, *Collection*, 4:248.

When Umi saw that it was useless to try to change his wife's mind, he ordered his three chief officers, Omaokamau, Piimaiwaa and Koi to go and make war on the stronghold of Kauiki.... This hill is famous, for it is a natural fort and people on it are generally safe from assault, being protected on all sides by steep and inaccessible cliffs. To the top of this hill a ladder was built on one side, a sort of small bridge made so as to entrap those trying to take the hill, that if those from below were to climb up in attack stones would be rolled down on them, thereby injuring them. Furthermore, a large wooden image was hewed out and made to stand at night, and served the purpose of a guard. The image was called Kawalakii, and this great statue kept the warriors below from climbing the hill at night [Sterling 1998:135].

A Story of Kauiki. A. Fornander, *Collection*, 5:544.

Pe'ape'a was a son of Kamehamehanui. He was killed at Hāna by the explosion of a keg of gun powder. A. Fornander, *Account of the Polynesian Race*, 2:223.

Kauiki is a hill which stands on the eastern side of Maui, right in front of Hāna, East Maui; it is seen by those who sail on vessels from here to Hawaii. Of this hill is the saying by some people of this time: "Kauiki is beloved floating on the sea, as if it were a bird." This is a hill famous from olden to the present time. But there are two points which I wish to explain concerning this hill of Kauiki. First: How it originated: secondly, the famous localities near to or connected with this hill. Let us therefore examine some of the erroneous ideas of the olden time.

First: How It Originated

Olden people differed in this respect, four accounts of its origin being given. That this hill originated from the placenta of Hamoa, some claim that it originated from the parents of Pele and her host; others, from Kaihuakala (*the mountain peak, 2,458 feet elevation, in the Aleamai division of Hāna*) and Kahaule (*Kihaule or Kahaula, is the clump of hills just back of Hāna village*) his wife; still others, from Kalalawalu; and these are their accounts: Pele, Hiiaka and Puuhele were born of their parents; Kahinalii was their mother. However, Pele and Hiiaka were born with human bodies, while Puuhele was a bloody foetus when she was born. The elders despised this body, because when they beheld it it was not a human body, but only a foetus of blood; so the two conspired and said one to the other: "It were better for us to throw away our younger sister. How can we care for it? Of course we would care for it if it had a human body!" So they threw away the bloody foetus without the knowledge of the parents.

(The foetus travels on.)

... the foetus passed on until it landed at Nuū; this place where it landed is at Kaupo; she walked on in the form of a human being. When Nuū looked he beheld a most beautiful woman. She kept right on until she met Puuomaiai (*name of a division of Kaupo eastward of Nuū*); she also was a good-looking woman. (*They travel along and meet Manawainui, who calls after them, and when asked why says*): “Because I saw that you were nothing but a bloody foetus cast away by your elders and yet here you are walking! You had better be named Puuhele” (*a hill on the shore in Mokae near the boundary of Hamoa, Hāna*).

(Puuhele arrives at Hāna and says farewell to Puuomaiai.)

.....She no sooner commenced on her journey again when she met Kanahaha. Kanahaha first spied Puuhele, however, and she immediately became dead, her limbs extended and spread apart. When Puuhele came up, she found the other dead. This place Kanahaha is a hill from which gushes forth a spring of water to this day. Puuhele passed right on until she met Lehoula (*a place in Aleamai, Hāna—Leho ‘ula Beach*). Lehoula said to her: “What a beautiful woman you are!” Lehoula wished to follow her. Coming to Wananalua, Puuhele made a vow to stay there, and she said to Lehoula: “I have a great desire for this place; I came along looking for a good place to locate in, and I have just located it. Therefore I will abide here until my death.” Lehoula returned to her usual home.

Puuhele lived here. When Kaihuakala saw her he came down and met her and spoke reprovingly. “By what right did you come here?” Puuhele humbly replied: “I came to see the country, and seeing this beautiful country, I vowed to stay.” Then Puuhele was killed, and buried. She used her divine power, the hill rose high. Kaihuakala named the hill Kauiki, and that is the name by which it is known to the present time....

....But according to the idea of some people it was Lalawalu who brought it from Kahiki; she brought it as her foster child, but because she was vexed at the child for constantly nipping her breast, therefore the mother made up her mind to leave it. She brought it along to Koloa, Kauai, and there she wanted to cast it away, but the child did not fancy staying there. She persevered in carrying the child until they arrived at Kaena; again the child did not desire to be left there, so it was brought along until they landed at Kawaipapa, Hāna, East Maui, and it was left with him; and there it stands until this day....

Secondly: The Famous Places Connected With This Hill Of Kauiki

On this hill are many famous places; for instance, right on top of this hill was the house in which Peapea was consumed by fire, when he was burnt out by Liionaiwaa and others; thus the saying at the present time, “Consumed by fire is Peapea.”

A little to the south of this hill is a famous landing place for canoes, called Kaihalulu (the roaring sea); concerning this place is the saying now quoted: “The roaring sea in the presence of Kauiki.” At the same place, too, are the coconuts of Kane; right *makai* of this place is a large rock in the sea which is called Mokuhanō. To the east of Kauiki is Pueokahi; this place was so named on account of an owl belonging to the chief, Peapea. When the bird saw there were plenty of people, it flew to the door of the chief, indicating a multitude. Afterwards it was killed, and that was why it was called Pueokahi.

To the north of Kahulili, with its foundation right under Kauiki, was what was known as the hair of Puuhele. Kaihuakala is *mauka* of Kauiki. Kaihuakala is not usually seen; when Maui is calm, then that locality is seen. Then Papahawahawa stands forth and brags, saying, “Here I have lived, and yet this is the first time I have beheld the calmness of Maui; it is indeed clear, for Kaihuakala can be seen.” (*One must behold*) Kaihuakala mountainward and Kauiki seaward in order to complete one’s journey of sightseeing. [Sterling 1998:135]

Kau'iki - Hallowed Hill. Thomas G. Thrum, Hāna of Historic Tradition. *Hawaiian Annual for 1919*. 67.

Kauiki's elevation is barely 400 feet, yet its hallowed estimation in the minds of the early inhabitants of the district gave it a mythical height, which has come down through the ages. The hallowed estimate alluded to may be admitted as the most reasonable basis for the ancient saying, that, "At the hill of Kauiki the heaven is nearer the earth than elsewhere, in fact so close that it could be reached by a good strong cast of the spear." "*Lani haahaa*," low-lying heaven, is its sobriquet to this day. [Sterling 1998:135]

Hawaii-Kuauili. S. M. Kamakau, *Ke Au Okoa*, Nov. 11, 1869.

On the hill of Ka'uiki in Hāna, makai of the spot called Mapuwena (Mapuena) and facing Kapueokahi, lived a man of ancient times (named Hawaii). When his descendants lived on the island to the east they named it Hawaii after their ancestor. The source of its being named Hawaii was there at Ka'uiki in Hāna—Hawaii-Kuauili, or Hawaii, or Hawaii-a-Kanekapu. That was the way names were given to islands and subdivisions of islands. [Sterling 1998:135]

Hawaii-Kuauili. D. Malo, *Hawaiian Antiquities*, 246.

O Puna laua o Hema na li'i i hanau i Hawaiiikuauili, maluna o Kauiki, no Maui ma kahiki ko Hema make ana...

Puna and Hema were chiefs who were born in Hawaii-kua-ula [-uli], at Kauiki, Maui. Hema died in Kahiki, *i.e.*, foreign lands, and his bones were left at Ulupaupau [Sterling 1998:135].

Walker Sites 113—116. W. M. Walker, *Archaeology of Maui*, 187.

Names: Kaikaiea, Kilinui, Lanakila, Puuheewale

Location: The cane lands in the vicinity of Hāna.

Description: All have been destroyed. Thrum's list for 1917 says they were medium-sized heiaus. Kilinui was said to be sacrificial and Lanakila a Place of Refuge [Sterling 1998:135].

Kaahumanu Birth. A. Fornander, *Collection*, 6:321.

Keeaumoku rebelled against Kalaniopuu in Hawaii and went over to Maui, about 1765. In 1767 he rebelled against Kahekili and was defeated at Waihee, afterwards off Molokai whither Kahekili had pursued him, and he fled to Hāna where Kaahumanu was born to him and his wife, Namahana, about 1768. Mahihelelima was then chief of Hāna [Sterling 1998:135].

Kaeo at Kauiki. A. Fornander, *Account of the Polynesian Race*, 2:242.

...and the two fleets left Waiehu, Kaeokulani going round by the Koolau side to Hāna to recruit, and Kahekili going farther on to Mokulau in Kaupo, for the same purpose. It is reported that while at Hāna, Kaeokulani ascended the famous hill of Kauwiki, and, in a spirit of bravado, threw his spear up into the air, exclaiming, "It is said of old that the sky comes down close to Hāna, but I find it quite high, for I have thrown my spear, 'Kamoolehua,' and it did not pierce the sky, and I doubt if it will hit Kamehameha [Sterling 1998:135].

Peapea's Death. A. Fornander, *Account of the Polynesian Race*, 2:244.

(About 1791 Kahekili and Kaeo attempted an invasion of Hawaii but were driven off by Kamehameha in a sea battle off Kohala.)

Sometime after this, Peapea Makawalu, the nephew of Kahekili and Kaeo, was fatally wounded by the explosion of a keg of gunpowder on the hill of Kauwiki. He was removed to Honokohau in Kaanapali district, where he shortly afterwards died from his wounds.

‘Vancouver in his “Voyage of Discoverers’.” Vol. III, says that in March 1794 he heard from the natives of Maui that Peapea*, whom he calls by his other name Namahana, had only a short time before been killed by an explosion of gunpowder. [Sterling 1998:135] [*Pe‘ape‘a was the son of Kamehamehanui and Namahana and half-brother of Ka‘ahumanu]

Peapea’s Death. S. M. Kamakau, *Ruling chiefs of Hawaii*, 161.

It was not until the close of the war (Ka-hekili’s invasion of Kohala) that his [Pe‘ape‘a] death occurred at Kapelenui-a-Haho, while Ka-hekili and Ka-‘eo-ku-lani were staying at Hāna and Pe‘ape‘a was living for a time on Ka‘uiki with his followers. One day as he fired off a gun a spark fell into a keg of powder, and an explosion followed which blew up the house and burned Pe‘ape‘a. He was carried still alive to Honokalani in Ka‘anapali and there he died [Sterling 1998:135].

Ke‘eaumoku At Hāna. A. Fornander, *Account of the Polynesian Race*, 2:150.

(*Kahekili pursues Ke‘eaumoku and defeats him in a sea battle at Molokai. Ke‘eaumoku then flees to Hāna.*)

At Kauwiki Ke‘eaumoku appears to have found a short repose in his turbulent career, at least he is not heard of again for some years. It is probable that he made his peace with Kalaniopuu and was permitted to remain at Hāna, where the afterwards so famous Ka‘ahumanu, wife of Kamehameha I, was born in 1768 [Sterling 1998:135].

Sweet Potatoes at Kauiki. E. S. C. Handy, *Hawaiian Planter*, 160.

Here the little cinder mountain named Kauiki was, and still is, a famous place for planting sweet potatoes [Sterling 1998:135].

War of Kaumupikao. A. Fornander, *Account of the Polynesian Race*, 2:216.

(*Kahekili decides to attack the Hāna district and take it back when he hears of Kalaniopuu’s failing health.*)

Kahekili divided his forces in two divisions, and marched on Hāna by Koolau and by Kaupo. The fort on Kauwiki was invested, and the siege continued for many months. The Hawaii chiefs were well provisioned, and the fort held out stoutly until Kahekili was advised to cut off the water supply of the fort by damming and diverting the springs in the neighborhood. The measure succeeded, and the garrison, making desperate sorties beyond their lines to procure water, were slain in numbers and finally surrendered, expecting no mercy and obtaining none. Mahihelelima and Naeole made good their escape to Hawaii, but the large number of Hawaii chiefs and soldiers were slain and their corpses burnt at Kuawalu and at Honuaula [heiau]. This war is called in the native legends the war of *Kaumupikao*.

Thus the famous fort of Kauwiki fell again into the power of the Maui king, but its prestige was gone, and we never hear of it again as a point of strategical [sic] importance....

The surrender of Kauwiki may be dated as of the early part of 1782, about the time of Kalaniopuu’s death [Sterling 1998:135].

Strength of Kauiki. S. M. Kamakau, *Ruling Chiefs of Hawaii*, 115.

(At Ka-lani-'opu'u's death, Ka-hekili decided to try and retake the Hāna district from the Hawaii chiefs.)

The fortified hill of Ka'uiki, reinforced and well provisioned, provided a place of safety for the chiefs and fighting men of Hawaii. They had abundant food from Kuakaha and the districts of Pihehe and Kaho'oka'a-ka'ana. For a year the war continued with the loss of half the men of both sides. Those who held the hill made sallies down to the plains to fight. Ka-hekili made every effort to take the hill, but without success...

(Kahekili is advised of a man who knows how to take Kauiki.)

.... "What is his name and where does he live?" "Ku-la'a-hola is his name, Oleawa his home" (Oloewa?).... Ka-hekili was glad to hear that Ka'uiki could be so easily taken. From ancient times until that day such a thing had never been heard. Ka'uiki had surrendered to Pi'i-mai-wa'a in the time of Umi because the guards fell asleep. It surrendered to Pele-io-holani because it was in fact given away by the soldiers. There were many tales about how strong was the fortress of Ka'uiki....

(Ka-hekili is advised to cut off the water supply of Kauiki.)

.... "The fortress of Ka'uiki depends upon its water supply. Cut that off and Ka'uiki will surrender for want of water." "What is the best way to do this?" "Let the chiefs, guards and fighting men cut off the springs of Punahoa, Waika'akihi, Waikoloa, and the ponds from Kawaipapa to Honokalani on the Ko'olau side of the hill Ka'uiki and those on the Kipahulu side from Kalaniawawa to Haneo'o. Let them cut them all off at night. When the people are dying of thirst and can get no water, then they may be slaughtered." So Ka-hekili did as Ku-la'a-hola taught him, and wailing arose for the dead, for chiefs, fighting men, women, and children. Those who were eye-witnesses say there never was a more dreadful slaughter than in this war. Canoes were lowered to the rocks of Kane (*Na niu a Kane*), and Nae'ole was the first to escape and sail to Hawaii. Afterwards Mahihele-lima escaped and landed at Kohala, but he was killed at Makapala. All the rest were slaughtered. At the *heiaus* of Kuawalu and Honua'ula adjoining Kuakaha and Ka'uiki are numerous ovens where the corpses of the slain were burned and left to dry in the sun; hence this battle was called *Kaumupika'o*. With the capture of Ka'uiki, in 1782, and the ending of the war, Ka-hekili, his chiefs, war leaders, and fighting men retired to Makali'ihanau the wide plain *mauka* (mountainward) of Mu'olea and adjoining Koali, and took up land cultivation [Sterling 1998:135].

Kawalakii. Moses Manu, 'The Story of Kihapiilani', *Ka Nupepa Kuokoa*, Aug. 9, 1884
MS SC Sterling 3.14.15.

(The warriors storm Ka 'uiki and find that the guard is a wooden image.)

....he [*Pi'imaiwa'a*] began to rap the head of this image with the tip of his club and when he heard the sound of wood striking wood, he realized it was a wooden figure. He began to strike his club with force, pronouncing his famous words, "Death by Pi'imaiwa'a." This image fell below on the sands of Pueokahi. It was on that night that Pi'imaiwa'a's erroneous supposition that this was a real man, ended. It was just a wooden figure. And that place mauka of the hill of Ka'uiki is called Kawalakii (*Toppling-image*) until this day [Sterling 1998:135].

Kawaipapa Ahupua'a. Kawaipapa is mentioned in several legends of Hāna and was a significant place during battles because of the dense basalt pebbles and cobbles of Kawaipapa Stream. It is also where Umi told Kihapiilani to begin his famous road or trail, because of the hard 'alā stones of the stream of Kawaipapa [In Sterling 1998:130, from Moses Manu 'The Story of Kihapi'ilani, *Ka'a Nupepa Kuokoa*,

[July 12 & Aug. 23, 1884]. However, it was also known for its bountiful fish. “Kawaipapa, too, was a land with fish bred in ponds and with those of the sea.... Ka-wai-puna‘alae in Kawaipapa” ‘Ka Moolelo O Umi-a-Liloa, In *Ka Hoku o Hawaii*, June 10, 1909 (In Sterling 1998:126). In one of the stories of Kihapi‘ilani, he is told to go to Kawaipapa to consult with *kahuna* Ka-hu‘akole who lives at Waipuna‘alae, Kawaipapa. Kiha becomes a ward of the *kahuna* and lives at a place called Kinahole in Kawaipapa (In Sterling 1998:129, from Kamakau 1992:24).

Kapueokahi, Kawaipapa. Kapueokahi (*Lit., the single owl*) is the name of Hāna Bay. According to legend this owl, Kapueokahi, was a *kupua* or shape-shifter -- a supernatural being who could take the form of a human or animal. He wanted to marry a human woman named Kapoulakinau, so in Kawaipapa, which borders the bay, he changed himself to a man. This is how the bay got its name (Kalima and Maly 1993:A-2, In Henry and Graves 1993).

Wākiu Ahupua‘a. One of the rains of Wākiu was the “*apuakea* rain that rattles on the *hala* trees from Wākiu to Honokalani (Kamakau 1992:385, 388).” Wākiu was also one of the places mentioned in the legend of the *Battle of Kapalipilo* which resulted because of continuing altercations between the forces of Kamehameha-nui of Maui and Ka-lani-‘opu‘u of Hawai‘i Island [his brother-in-law]. Wākiu and Honokalani were famous for the stone throwing warriors who spent time on Ka‘uiki Hill.

Battle of Ka-pali-pilo. After Kalaiopu‘u’s return to Hawaii, leaving Puna in charge as governor, Kamehamehanui came to make war upon Puna. This was a famous struggle on both sides.... Ka-pali-pilo is the name of this war because of the multitude of those engaged in it; from Heleikeoho to Nahiku the men were massed. The field of battle extended from Makaolehua in Akiala to Kawaihau in Honoma‘ele. The hill of Kauiki was the fortified ground for the Hawaiian forces, a fortress celebrated in ancient days for its strength as a refuge in time of danger. It was ascended by a ladder, the body of which was made of ‘*ohi‘a* wood from Kealakomo, fastened with withes of ‘*ie* vine from Paiolopawa. The summit was covered with *kanawao* plants from Kawaipapa (to serve as bedding).... The second day of the fight the battlefield lay between Akiala and Kewaikau where waved the coconut leaves of La‘ahana and rustles the *hala* leaves of Pi‘iholo.... The districts through which he [Ka‘ohele, one of Kamehamehanui’s skilled warriors] pursued Ka-makau-ki‘i were the *ahupua‘a* of Honoma‘ele, Kawela, two Ku‘uku‘ukamanu, two Kahalili, two Ka‘eleku, Honokalani, Wākiu, and half of Kawaipapa... (Sterling, 1998:124, from Kamakau 1992:80).

Wai‘ānapanapa, Honokalani Ahupua‘a. Other than the legend of the murder of Popoala‘ea and her maid at the Wai‘ānapanapa cave, a story by Fornander mentions that the son of Kihapi‘ilani, who was living in Hāna at Wananalua sought refuge at the Wai‘ānapanapa cave. “Kamalalawalu was so afraid that he escaped to a pool of water at Wai‘ānapanapa (dazzling water) which lies in Honokolani [sic], Hāna, and this pool of water is there to this day” (A. Fornander *Collection* 5:206, In Sterling 1998:126).

Pele Legends in Hāna. Some of the *Pele* stories illustrated Pele’s visits to various places in the Hāna district.

Pele travels in Hāna. Emerson first published stories about the life and travels of the volcano goddess Pele, her lover Lohi‘au, and her sister Hi‘iaka, that he gathered and translated from Hawaiian newspapers and from interviews of *kupuna*, in 1915, as *Pele and Hi‘iaka*. He considered their stories to be the greatest Hawaiian myth and it was his intention to preserve this legend (Emerson, 1997:v). “*Pele and Hi‘iaka* is not a single version of the legends, but a synthesis of song and story from many sources” (Leib and Day 1979:16). In one part of the story, just before Hi‘iaka leaves Kohala to go to Maui, one of the canoe crew makes unwanted advances. She rebukes him with the following *mele*, which mentions Hāna place names (Emerson, 1997:63), but Emerson does not translate it as a place names.

*A Hono-ma-ele au, i Hono-ka-lani,
Ike au i ka ua ko'u aina,
E halulu ana, me he kanaka la --
Ka ua ku a-o-a i kai.
Haki kaupaku o ka hale i ka ino, e!
Ino Ko'olau, ino Ko'olau, e-e!*

With pillowed neck I lay, face to heaven:
The rain, I found, beat on my bed;
Came a tremor, like tread of a man –
The slap of a rain-squall at sea;
Within, the roof-tree broken down,
My house exposed to the storm

Sterling (1998) notes a story from *Hawaiian Ethnological Notes* (2:985) as told by Moses Manu in *Ka Loea Kalaiaina* in 1899. Manu writes about Pele going to Hāna “under the earth from Hale-a-ka-la to the northwestern side of the peak of Ka-ihu-a-ka-la.” Aleamai, Haneo‘o, Wananalua, Kawaipapa, Wākiu and Honokalani are places “visited” by Pele.

This going of Pele’s down to Hāna, Maui, was said by the ancients to be her very first experience in going under the earth from Hale-a-ka-la to the north-western side of the peak of Ka-ihu-a-ka-la (the Sun’s nose)... On the northwest side of the peak is Hale o Pele (Pele’s house). From there Pele caused a flow of lava to pour as far as Ka-wai-papa, Wākiu, Hono-ka-lani, Ka’eleku and between Honoma’ele and Makapu’u in ‘Ula’ino. Between these places is the bed of Akiala... The hills of Olopawa lie above Ka’eleku [actually *mauka* Wākiu] and were made by lava. So was the hill of Hina’i... There was also some very red earth on Ka’ulii Hill [Ka’uiki] at Wananalua, Hāna that was mixed with cinder. So it is with the hill called Ka’iwi-o-Pele (Pele’s bones) at Aleamai and at Haneo‘o. It was the same Pele who broke open the side close to the sea at Leho’ula and formed a rocky island just outside of Haneo‘o called Alau, which is there to this day (Sterling, 1998:119).

Kihawahine. The following paragraph is from Kepelino’s “Hawaiian Collection” (1858), translated and annotated by Kirtley and Mookini for *The Hawaiian Journal of History* (1977).

Kihawahine [generations after the *mo’o* La’a] is an ancient goddess who takes the shape of a *mo’o* or lizard creature. She was worshipped by the *ali’i* of Hāna and greater Maui. She is usually a female *ali’i nui* who has died and is transformed by the other *ali’i nui* into an *‘aumakua* or personal deity of the *‘ohana*. Her *kahu* or keepers/guardians watched over her and presented her with offerings of *kapa* (bark cloth) and other things. There were many *kapu* (restrictions) relating to her; one of which was on the last day of *Makahiki* (Kirtley & Mookini 1977:50).

Mele and Oli.

Aside from the *mo’olelo*, legends or stories of these famous and infamous *ali’i*, the songs and chants also give glimpses into the lives of the ancient people and places. Research revealed that there are literally thousands of *mele* and *oli* that have been recorded and/or written over the last 170 years or more. There are several indexes of songs and chants in the Hawaiian Collections at the University of Hawai’i Hamilton Library (i.e., Horie 1990; Stillman 1988; 1990; 1993; 1995; 1996). Pukui explained that it was common, for chants not to have a title, as it was the composer’s role to create the *mele*, which was then given away. When formal titles were not specified, the first line of verse served as the title (Pukui, 1995:xvii). There are texts of songs and chants compiled and translated by Roberts (1967), Pukui (1995), and Emerson (1997), as well as chants in legends compiled by Fornander (1969).

The Hawaiian word *mele* included all forms of poetical composition and sometimes overlap *oli* or chant, the lyric utterance (Emerson, 1997: 254). In regards to Hawaiian poetry or *mele*, “they had no exact word for so abstract a term as our ‘poetry.’” The English equivalent to the Hawaiian *mele* means a song. All *meles* were “sung, or rather chanted, or cantillated.... The *mele* is interwoven in Hawaiian culture with the *hula* and the *kaao*--that is, poetry is interwoven with the dance and with mythology.... *Haku mele*, is

one who arranges words into song (Plews, 1981:176).

Pukui (1995) classifies chants into three groups: (1) chants for the gods (*pule*); (2) chants for the *ali'i*, descendants of the gods; and (3) chants of activities that involved secular things. In Pukui's (1995) *Na Mele 'Welo* she points out that some *oli* are non-dance chants, but many of the *mele* and *oli* were expressed in dance or *hula* (Pukui, 1995:xvii). Emerson explains that the *hula* was a religious service, in which poetry, music, pantomime, and the dance lent themselves, under the forms of dramatic art, to the refreshment of men's minds. Its view of life was idyllic and it gave itself to the celebration of those mythical times when gods and goddesses moved on the earth as men and women and when men and women were as gods (Emerson, 1997:11, 12). Helen Cadwell quotes Alexander, but does not name the publication, as classifying *mele* into four divisions: (1) religious chants, prayers, and prophesies; (2) *inoā*, or name songs, composed at the birth of a chief in his honor, recounting the heroic deeds of his ancestors; (3) *kani kau*, the dirges or lamentations for the dead; and (4) *ipo*, or love songs which includes topical *mele* of a more secular character, now surpassing the others in number, and have survived in better condition "on the lips of the country folk" (Roberts, 1967:67, 72).

Maui Chants. In 1988 Alu Like Inc. Native Hawaiian Library sponsored a research project (Kanahele 1988) *Maui Chants* to compile, translate and record Maui chants for cultural and educational purposes. This research produced sixty-four *mele* and *oli* that represented a timeframe of three hundred (300) years. Of the 64 *mele/oli* three were *mele* of Kaho'olawe, and seven were *mele* of Moloka'i. The remaining 54 were about Maui, predominantly about Pi'ilani and his *'ohana*. The following are verses or extracts from a *mele* from *Maui Chants* (Kanahele 1988) and notes place names of Hāna. Both Hawaiian and English translations by Big Island chanter Pua Kanaka'ole Kanahele are recounted below.

Kipapa a Kihapi'ilani

<i>Kipapa a Kihapi'ilani</i>	The pavement of Kihapi'ilani
<i>Ke kuapa i Mauoni</i>	The wall at Mauoni
<i>Ka nahele i Pihaehae</i>	The forest at Pihaehae
<i>Kahawai i Kawaiipapa</i>	The stream banks at Kawaiipapa
<i>Kawaiipapa i Kahalaoaka</i>	The stratified path at Kahalaoaka
<i>Hele aku he ino he nahele</i>	Goes forth breaking through the forest
<i>Uluhaha i kai o Honoma'ele</i>	Uluhaha is seaward of Honoma'ele
<i>Ilaila na pohaku e ano ai.</i>	There were the rocks to be carried.

The following Table 2, indicates the title, pages, and place names mentioned in the *mele* and *oli* of *Maui Chants* (Kanahele 1988) that pertain to Pi'ilani's *ohana*, Honomaele and Ka'uiki, because they were significant in Hāna's history and to the Pi'ilani *Ohana*.

Table 2. *Mele and Oli* from *Maui Chants*.

Title of <i>Mele/Oli</i>	Page No.	Reference to Place Names
<i>'Auhea wale ana oe - E ka ua 'Ulalena</i>	37-38	Pi'iholo, Plain of Kama'omao'o
<i>Ka Mele Makani a Kua-Paka'a</i>	46-49	Pi'iholo
<i>Pau ka makemake is Maleka</i>	54-59	Plain of Kama'omao'o, Honomaili [sic], Ka'uiki, Makapipi [many Hāna places]
<i>'Oni ke Kula o Kama'omao'o</i>	65-66	Plain of Kama'omao'o [more Hāna places]
<i>Kipapa a Kihapi'ilani</i>	75-76	Honomaele, Kawaiipapa
<i>'O Ka'uiki, Mauna Ki'eki'e</i>	77-78	Ka'uiki
<i>Hina ke po'o o Ka'uiki</i>	79-80	Ka'uiki

Malie Maui ke Ahuwale Mai la Kaihuakala	81-82	Ka'uiki, Pe'ape'a [destroyed by fire]
Malie Maui ke Waiho Mai la	83-84	Ka'uiki, Pe'ape'a [...it is slipping away]
He aloha no Ka'uiki la au'i ke kai la	87-88	Ka'uiki
Ho'i au e pili ne Ka'uiki, Uoki e	89-90	Ka'uiki, Bays of Pi'ilani
No A.K. Kamuohou-Nani Hanohano ke Kuahiwi	91-92	Ka'uiki [other Hāna place names]
Huli Kina'u	112-113	Plains of Kama'omao'o

'Ōlelo No'eau and Place Names.

'Ōlelo No'eau. 'Ōlelo no'eau or proverbial/traditional sayings usually had several layers of meanings. They reflected the wisdom, observations, poetry and humor of old Hawai'i. Some of them referenced people, events or places. The following 'Ōlelo no'eau were compiled by Pukui between 1910 and 1960 with both translations and an explanation of their meaning (Williamson, et al. in Pukui, 1983:vii), which are often more *kaona* (hidden or double meaning) than obvious. The following proverbs reference place names in the *project* vicinity.

'Ōlelo no'eau: *O Wananalua ia 'āina; o Punahoa ka wai; o Ka'uiki ka pu'u.*
 Translation: Wananalua is the land; Punahoa is the pool; Ka'uiki is the hill.
 Meaning: Noted places in Hāna (Pukui 1983:278 #2548).

'Ōlelo no'eau: *I 'auhe'e o Ka'uiki i ka wai 'ole.*
 Translation: Ka'uiki was defeated for the lack of water.
 Meaning: When 'Umi, ruler of Hawaii, went to Hāna to battle against Lono-a-Piilani of Ka'uiki, thirst weakened the Maui warriors. Often used later to mean "without water or the needed supplies we cannot win." (Pukui 1983:125 #1151)

'Ōlelo no'eau: *Hāna, mai Ko'olau a Kaupō.*
 Translation: Hāna, from Ko'olau to Kaupō.
 Meaning: The Extent of the district of Hāna (Pukui 1983:55, #460).

Place Names. Hawaiians of old generally named everything; from winds and mountains, to rocks, canoes, taro *lo'i*, fishing stations, and "the tiniest spots where miraculous or interesting events are believed to have taken place" (Elbert in Pukui et al., 1974:x). They all represented a story, some known only locally, while others became legendary. Table 3 below lists the storied places in the vicinity of the project site.

Table 3. Place names around Hāna Bay Pier and vicinity.

Haleakalā	National Park (estb 1961), volcano, crater, peak, East Maui; <i>Lit.</i> 'house (used) by the sun' – the demi-god Maui was believed to have lassoed the sun in order to lengthen the day and permit his mother, Hina to dry his tapa (Pukui et al 1974:36).
Hāna	Quad, village, bay, surfing area, beach park, district, forest reserve, plantation and road East Maui. Queen Ka'ahumanu was born in Hāna at a place called Pōnaha-ke-one (<i>circle of the sand</i>) at the base of Ka'uiki (Pukui et al 1974:40).
Hāna Kai Hotel	The rocks in front of the hotel in Hāna Bay had deep rounded depressions that John Kalalau told his son Matthew were for pounding <i>awa</i> . Many fresh water springs were also located there (Sterling 1998:127).

Helani	<i>Lit</i> ‘a sky, or a royal chief.’ Lands in <i>ma uka</i> Kawaipapa. Sweet potato and dry taro patches were grown there in rich soil (Sterling 1998:120).
Ho‘olae Rock	In the battle with Hawaii warriors Hoolae-makua was encountered at the sands of Waikoloa in front of Kawaipapa. He pressed against a rock now called Hoolae Pohaku (Sterling 1998:121).
Ka-hala-o-Mapuana	Located on the top of Ka‘uiki Hill facing east (Sterling 1998:131).
Kahulili	The summit of Ka‘uiki Hill; the name of Pe‘ape‘a’s house (Sterling 1998:131).
Kaihalulu	Located on the left side of Ka‘uiki Hill (Sterling 1998:131); where the tropic bird frequents (Thrum 1923:68-69 in Sterling 1998:131).
Kani-a-makō	Located in Kawaipapa above Pihele where the afterbirth of Ka‘ahumanu was buried (Kamakau in Sterling 1998:132).
Kapueokahi	Port and harbor and beach of Hāna <i>Lit</i> ‘the single owl’ (Pukui et al 1974:89). On the “bosom” of Ka‘uiki lies the sand of Kapueokahi (Sterling 1998:131).
Ka‘uiki	Head, point and lighthouse, in Hāna; home of the demi-god Māui and birthplace of Ka‘ahumanu (NE side). Battles were fought at a fortress here between Maui defenders and invaders from Hawai‘i <i>Lit</i> ‘the glimmer’ (Pukui et al 1974:92); ancestral home of Pi‘ilani ‘ohana (Beckwith 1970:389). Ka‘uiki was also famous place for growing sweet potatoes (Sterling 1998:120). Famous feature in Wananalua Ahupua‘a, ancestral home to Maui <i>ali‘i nui</i> . [aka Kauwiki]
Ka‘uiki Trail	On the west side of Ka‘uiki is the trail to ascend the hill; and it was there that the image (<i>ki‘i</i>) Kawalakii was erected (Sterling 1998:131).
Kawaipapa	Land section, gulch near Hāna, Maui where Chief Kiha built a path paved with stones; <i>Lit</i> ‘the stratum stream’ (Pukui et al., 1974:99). Place (Kanimoku Heiau – a <i>puuhonua</i>) where Ka‘ahumanu lived when she was young; place where Kiha lived in hiding; place famous for its <i>alā</i> sling stones [see references in <i>mo‘olelo</i> section of this report]. It was a land rich with fish bred in ponds and with those of the sea (Sterling 1998:126-127). Maui <i>ali‘i nui</i> was taken ill at Kawaipapa; after ruling Maui for 29 years, he ceded the lands and his power to his younger brother Kahekili II in Kahalahili, Hāna (Sterling 1998:129)
Keanini	Ancient surfing area, Hāna Bay, East Maui (Pukui et al., 1974:104). Where Kiha-a-Piilani met Kolea-moku and goes surfing with her (Sterling 1998:129). [See Figure 2]
Kuakaha	Located at the base of Ka‘uiki (facing Haleakalā) where the slain warriors taken captive by Kahekili at Ka‘uiki were placed in a bake-oven or <i>imu</i> ; also where the <i>heiau</i> Honuaula (where the school house is today) and Kuawalu were located (Thrum 1923:68-69 in Sterling 1998:131).
Makakilo‘ia	Fish-spotting place on Ka‘uiki Hill (Sterling 1998:127).
Makapalena	Located on the south side of Makakiloia (Thrum 1923:68-69 in Sterling 1998:131).
Mapuwena	Dark cliff on the northeast side of Ka‘uiki, east of Paliuli, where Ka‘ahumanu was born. Down at its front and within the cave at the base of Ka‘uiki lies the famous eel Laumeki (Sterling 1998:131, 132); he has a stone body now
Mokūhano	Rocky islet eastern side of Ka‘uiki (Sterling 1998:119); where the <i>noio</i> seabird lives (Thrum 1923:68-69 in Sterling 1998:131).

Mokumana	Rocky islet eastern side of Ka‘uiki (Sterling 1998:119)
Nāniu-o-Kāne	Rocks in Hāna Bay <i>Lit</i> ‘the coconuts of Kāne’ (Pukui et al., 1974:162).
Nānu‘alele Point	Point at Hāna Bay; stones were carried from here to Honuauka, inland of Ka‘uiki for Pi‘ilanihale Heiau being built by Kiha-a-Piilani. Surfing area here is known as Hāna; <i>Lit</i> ‘the altar heaps’ (Pukui et al., 1974:162).
Niumalu	Land section, Hāna quad; <i>Lit</i> ‘shade of coconut trees’ (Pukui et al., 1974:166).
Olopawa	Cinder cone <i>ma uka</i> of Hāna town. In a small valley below Olopawa Peak at the 1500 foot level taro was cultivated during the dry season (Sterling 1998:120).
Palaha	Pohaku, point where several Hāna ahupua‘a converge (Alexander 1891). [See Figure 1].
Pali-uli	A cave near Hāna, Maui where Ka‘ahumanu was born in 1768 (RC 309) [base of Pu‘u Kauiki] <i>Lit</i> ‘green cliff’ (Pukui et al., 1974:178).
Papaloa	Islet (.4 acres, 40 feet elevation) Hāna qd. (Pukui et al 1974:180). Alternate name for the Pailoa Bay. <i>Lit.</i> , #1. <i>Flat surface</i> ; #8. <i>Stone used as sinker for lūhe‘e</i> , octopus lure (Pukui & Elbert 1986:316). [See Figure 3]
Pihele	In Kawaiipapa, where the Pu‘uhonua was located (Kamakau 1992:309, 385).
Pokuolae	Beach on Waikoloa side of Hāna Bay nearest Waikoloa, named for one of two girls who fell in love with a Tahitian chief surfing at Keanini (Sterling 1998:130).
Popolana	Beach on Waikoloa side of Hāna Bay nearest Ka‘uiki, named for one of two girls who fell in love with a Tahitian chief surfing at Keanini (Sterling 1998:130). [In Wainapanapa legend she is the older sister of Pi‘ilani] [See Figure 3]
Pukii	Rocky islet eastern side of Ka‘uiki (Sterling 1998:119). [See Figure 3].
Punahoa	Spring/pool at the base of Ka‘uiki (Sterling 1998:131). [See Figure 2]
Waika‘ahiki	Canoe landing at the base of Ka‘uiki (Sterling 1998:131).
Waikoloa	Land area NW of Hāna Bay.
Wānanalua	Land section and Congregational Church in Hāna <i>Lit</i> ‘double prophecy’ (Pukui et al., 1974:228). [Ancestral home of Maui ali‘i nui]

The following is from *Hawaiian Ethnological Notes* (HEN) I:246-247 in Sterling 1998:118-119 and includes significant place names and ancient people in Hāna e.g. Pi‘ilani whose ancestral home was Wānanalua:

Rain and Winds of Hāna. The following excerpts are references about the rains and winds of Hāna.

“*Ua kea o Hāna*” White misty rain of Hāna, companion of the Malualua breeze (Maunupau 1922 in Sterling 1998:119. Ua-kea falls just after sunrise, between 9 and 10 in the morning (Sterling 1998:131).

Hāna is rather a nice village and the land is green with sugar canes. The mists and fine rains covered the land this may have been the reason for the expression “White and misty is Hāna, companion of the Malualua breeze” (Maunupau 1922 In Sterling 1998:119).

The winds of Hāna blows from two directions; from the sea or from the land. The wind from the sea has two names – Kohola-pehu which is accompanied by rain from the sea, and Kohola-lele which is accompanied by calm (no rain) and drives away the clouds so one can see the hills. Lau‘awa is the land breeze that blows over Kaihuakala and out to the surf of Keanini (Sterling 1998:131).

Early Historic References

This section includes references to Wananalua and vicinity from the historic post-contact period based on primary and secondary sources.

Missionary Influences in Hāna.

From the time they landed in Hawai‘i in 1820, the missionaries had a profound effect on the people and culture here. They quickly connected with the *ali‘i* who later provided them with lands to build their mission stations and churches. They soon had mission stations in most rural areas including isolated Hāna.

Early Missionary Encounters with Hāna. In the June 20, 1931 *Honolulu Star Bulletin*, Kuykendall wrote an article about a missionary’s reference to the King’s Road on Maui. The following is an excerpt of that article from Sterling (1998).

The missionary records of 1828 furnish an interesting and suggestive reference to an extensive road on Maui, used by the missionaries Richards, Andrews and Green on a tour around that island, a few months after Chamberlain’s tour around Oahu. They write that on August 22, 1828, having descended from the summit of Haleakalā, they came down to a small village on the Halehaku seashore. On the next day, proceeding toward Hāna they came upon ‘a pavement said to have been built by Kihapiilani, a king, contemporary with Umi, an ancient king of Hawaii. He is said to have built it, that his name might not roll out.’

‘It extends more than 30 miles, and is a work of considerable magnitude. This pavement afforded us no inconsiderable assistance in traveling as we ascended and descended a great number of steep and difficult paries (palis).’

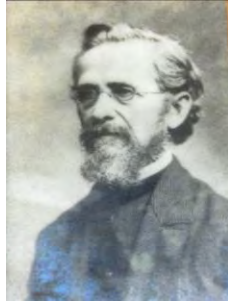
The historian Fornander says this ancient King Kiha was a brother-in-law of Umi and that ‘he devoted himself to the improvement of his island. He kept peace and order in the country, encouraged agriculture, and improved and caused to be paved the difficult and often dangerous roads over the palis of Kaupō, Hāna and Ko‘olau--a stupendous work for those time--the remains of which may still be seen in many places, and are pointed out as the ‘Kipapa’ of Kihapiilani.’ (Sterling, 1998:104) [taken from R.S. Kuykendall, “Who Was Builder of the King’s Highway?” *Honolulu Star Bulletin*, June 20, 1931, 4].

Hāna Missionaries. The early Wananalua Station missionaries are listed below based on Hawaiian Mission Children’s Society (1901:59). *Portraits of American Protestant Missionaries to Hawaii* with annotations from other sources. Several had children born in Hāna.

1837-1848 Rev. Daniel Toll Conde and his wife Andelucia Lee Conde

They came to Honolulu in 1837, and labored as a missionary to Hawaiians for twelve years in Hāna...and for eight years in Wailuku. After the death of his wife in 1857, he returned to the States with his six children [Friend 1897:35].

The following photos and information are from originals in Wananalua Church.



Rev. Conde was the founding Pastor of Wananalua Church. He was thirty-one when he arrived in Hāna with wife. In this photo he is 80years old. AndelUCA was twenty-seven when they arrived in Hāna; five of her seven children were born in Hāna – one child died in Hāna. (Wananalua Church) Photo 27-28.

1837-1840

Rev. Mark Ives and wife Mary Brainerd Ives [Annual Report, Volume 70 – 1922:41 By Hawaiian Mission Children's Society; Brainard 1908]

They [Mark & Mary] sailed from Boston Dec 14, 1836, as missionaries of the A.B.C.F.M. to the Sandwich Islands where he remained till 1851. A space of 14 years, 6 mos, his wife remained three years longer. They were stationed at Hāna on the eastern extremity of Maui from 1837 to 1840, a place much exposed to the trade winds, in company with Mr. and Mrs. Conde where no missionary had ever been. They were the first white ladies the natives had ever seen. As missionaries they were welcomed with an enthusiasm that was very cheering. "They would come twenty miles and wake us up in the night to talk with us, and asked all manner of strange questions. Mrs. Ives went into school six hours every day and the scholars in a few months learned to read fluently in the Bible. We commenced life in a house made by planting posts in the [98] ground and sticks tied across them and the whole covered with grass, which resembled a hay stack with a hole for a door, and three or four smaller holes for windows." Mr. Ives had a school about two miles distant, of a hundred scholars, and preached at distant villages. On March 2, 1838, during his absence, their house took fire and burned to the ground. This left them so much exposed to the elements Mrs. Ives took a severe cold and was threatened with consumption, and on that account they were removed to Kealakekua, on the eastern side of the island of Hawaii [1840-1851] (Brainard 1908:97-99)

Children: Joseph Brainerd Ives b1837 (Hāna); Harlan Page Ives b1840 (Hāna ?); Mary Parnelle Ives b1847 (HI); Harriet Elizabeth b1849 (Brainard 1908:99).

1841-1844

Rev. William Harrison Rice and his wife Mary Sophia Hyde Rice (parents of William Hyde Rice who became royal governor of Kauai).



Rev. Rice was twenty-eight when he came to Hāna; he was listed as a teacher and set up schools here for children and adults. Mrs. Rice was twenty-five when she arrived; two of her five children were born in Hāna. She was well known for her great love for Hawaiian children, as well as her own.

(Wananalua Church) Photo 29-30.

The Rices sailed in the ninth company of missionaries to Hawaii from the American Board of Commissioners for Foreign Missions on the ship *Gloucester*, leaving from Boston on November 14, 1840 and arriving to Honolulu on May 21, 1841. Also in this company were John Davis Paris, Elias Bond, and Daniel Dole (father of Sanford B. Dole) [HMCS 1901:75].

Their first posting after learning the Hawaiian language was the remote Wānanalua mission station in the Hāna district, on the eastern coast of the island of Maui. Reverend Daniel Conde had founded the station in 1838, but was holding services in a traditional Hawaiian thatched building. The native Hawaiians were put to work building a stone building starting in 1842, which still stands [Wolfe 1988].

1844-1854 Rev. Eliphalet W. Whittlesey and wife Elizabeth Baldwin (son Theodore Holden Whittlesey born in Hāna 1847) [Lythgoe 2015]

1855 -1860 Rev. William Otis Baldwin and wife Mary Proctor Baldwin [Portraits of American Protestant Missionaries to Hawaii by Hawaiian Mission Children's Society; Ancestry 2009]

Children of William Otis Baldwin and Mary Proctor are: [Ancestry 2009]
Edmond Baldwin, b. 1855, Hāna, Maui, Hi, d. 1859, Hāna, Maui, Hi.
William Dane Baldwin, b. 1858, Hāna, Maui, Hi, d. 12 Oct 1933, Groton, New York.
Fredrick Proctor Baldwin, b. 1859, Hāna, Maui, Hi, d. 1938, Groton, New York.

1855 to 1865 Rev. Sereno Edwards Bishop (1827–1909) and his wife Cornelia A. Sessions Bishop [Note: Bishop was a prolific writer e.g. the Huntington Library archives, CA has a collection that spans a century and three generations; and books such as *Reminiscences of Old Hawaii; with a Brief Biography by Lorrin A. Thurston* (1916)paraphrased below]

Among the second company was Rev. Artemas Bishop, a native of Pompey, NY. He was married to Elizabeth Edwards a girlhood friend of Mrs. Lucy G. Thurston. The Bishops were stationed in Kailua, Hawaii in 1824; Mrs. Bishop died in Kailua in 1828 leaving two infant children. Sereno Edwards Bishop was born at Kaʻawaloa, Hawaii in 1827. Mr. Artemas Bishop married Delia Stone (third company) in 1828; they were later transferred to Ewa, Oahu in 1836 and to Honolulu in 1855 where Mr. Bishop died in 1872 (Thurston 1916:4).

In 1839 at twelve years old Sereno was sent to the mainland for further education. After his Theological studies (1851) he married Cornelia A. Sessions (1852) then immediately accepted a post in Lahaina as a seaman's chaplain [7] where they remained for nine years and where five children were born. With the decline of Lahaina as an important seaport, the Bishops transferred to Hāna in 1862 where he served as missionary for three and a half years. At the time the only other whites living in Hāna were Mr. and Mrs. William Needham and their daughter Hattie (Thurston 1916:6-7).

Hāna Mission Station Reports. From the first missionary stationed in Hāna, station reports were annually sent to the American Board and reported on their lives, encounters, proselytizing, local activities, visitors, failures and successes. The following excerpts chronicle some of the history of Hāna through the eyes of the missionaries, as well as describe various land resources and use. The Conde's were the first missionaries to arrive in Hāna in 1838.

Rev. Daniel T. Conde. The establishment of a missionary station in the district of Hāna on East Maui was assigned to us at the general meeting of May 1837. On the 8th of Jan following we landed on the ground took up our abode in a thatched house and the next day I preached my first sermon in Hawaiian to a numerous & apparently interested assembly (Conde 1848:1).

As to morals and religion among the people generally, I must confess the aspect of things at times and in some sections has been quite too unfavorable. A great deal of stupidity at times has prevailed in the church. And multitudes of all ages out of the church have during the past year turned to the foolish and heathenish practice of tattooing their bodies. However the rulers endeavored to turn all their folly to some good account and put the perpetrators to improving the roads. Some other vices also have prevailed among some classes not, however, with impunity, except where the guilty have escaped detection (Conde 1841:4).

The church and people however have contributed more the past year for other objects than any year before. All their contributions exclusive of presents to the family amt. to \$74.10. Of this sum 46.50 are cash and the remainder in *kapa loana* wood &c. They ought to have done much more and it is hoped they will another year. Our people have but little time to themselves. It is surprising to see how they are kept on the go, laboring for the chiefs, konohikis, teachers &c. What time they have to themselves is so cut up into small parts that even the truly industrious can accomplish but little in the course of the year for themselves or for any other object. I find it hard to call upon them to contribute for benevolent object[s] while I see that in addition to extreme poverty they are constantly oppressed by the chiefs and others. It is impossible for them even to support their own institutions of learning and religion at the rate they are now taxed. It may be thought by some this government has been modified of late for the better (Conde 1841:6-7)

As far as I could observe the school laws were adapted with a good degree of cordiality on the part of the people generally. In fact I have perceived no opposition. The people generally have been willing to work for the teachers as far as they have been called upon to do it. All the children of a suitable age work for their teachers according to law. This practice however has obtained in our field from the beginning of our labours among the people. If the Children do not attend school, they or their parents are fined according to law. And if they are very disorderly in school they are frequently (perhaps not in all cases) dealt with according to the directions given in the law. I hear of no complaint on the part of the children or their parents that either school laws are too strict or too severe as to the penalty annexed. Since their adoption teachers have been more faithful, more scholars have attended school regularly and thus far they have made very commendable proficiency in their studies. All things considered....

I am happy to remark in conclusion that we have had several visitors during the latter part of the past year. In the month of November we were honoured with a visit from His Hawaiian Majesty the King of the Sandwich Islands, with whose urbanity and sociability we were very much gratified. He made many inquiries about the schools in our field, and the attendance of the people on religious worship on the Sabbath; also about their morals – all of which was calculated to convey the impression that his Majesty felt interested in the measures now in operation to enlighten and Christianize his subjects. But I did not succeed in getting him to consent, to have the people collected in the meetinghouse, that he might address them on these subjects. After spending a part of one day in our house and dining with us, he, together with the few who accompanied him, proceeded on his way to Lahaina by water on canoes (Conde 1841:10-12)

Among the greatest apparent obstacles with which we meet in raising our poor people from ignorance degradation and ruin to habits of civilization and religion are tobacco and awa. Everyone in our field as far as my knowledge extends who confesses to be a Catholic uses either tobacco or awa or both. These however constitute a small part of those in our part of the island who indulge in this practice. Both the plants in question are evidently cultivated more largely and used by greater numbers than formerly. Men are frequently seen carrying Awa in great quantities from place to place, exposed too, to the view of all they meet. Formerly they kept it concealed in leaves and when questioned about the nature of their load they would call it food or something

else as harmless. The use of it is also becoming more public. Individuals are every now and then seen whose trembling motions dull watery eyes and scaly appearance alas, make it quite evident that they are slaves to one of the worst of practices. From the exhibitions with which we meet occasionally it would seem that public opinion is not so strongly arrayed against these vices as formerly (Conde 1843:7-8).

Awa so much cultivated in some parts of Hāna & Koolau three & four years since is not used now but to limited extent – nor can it be while the present law exists – still the injury arising from this source has not entirely ceased – Many will manage to use it secretly until the cultivation thereof is entirely prohibited by law (Conde 1848:7).

Formerly the people – many of them – raised corn beans & various other articles for market in exchange for which they received cloth & some money. At that time there was an increase of cultivation on their own lands. But since Foreigners have come in and begun the growing of sugar cane [,] corn, beans & coffee the people have dropped their own plantations and are now laboring for these new comers at the rate of 1 yd of poor cotton cloth per day. It is manifest that by so doing they labor much harder & for a much less compensation than when they applied themselves to the cultivation of their own lands. It is therefore my opinion that the settlement of foreigners in our place is no particular benefit to the native population in a pecuniary point of view. Were the natives to confine themselves to their own farms and raise such things as the market demands I apprehend that it would be much to their advantage. Most certainly it would be better for their morals which are beginning to suffer from the influence of foreigners. I fear there is no higher destiny for the great mass of the Hawaiians than that of servants of hirelings to whites that come here to seek pleasure and pecuniary profit. Foreigners will be favored by the chiefs & principal landowners as they possess the ability to buy or lease land. They also are supposed to have the enterprise that will contribute to the support of government. The natives on the other hand will be slighted – crowded off from all the most desirable lands and compelled to locate in remote and unproductive places. This will occasion discouragement and sink them still deeper in all the common vices of the country by which their extinction will be rendered the more sure & rapid (Conde 1848:7-9).

Rev. Eliphalet Whittlesey. Intemperance which abound to a great extent in some parts of the year, indicates that their hearts are “fully set in them to do evil”. East Maui is still a dark place. Foreigners who have lived in other parts of the Islands give the people there the name of being different from other natives, that they are meaner in their dealings, and more indolent in their habits.

Still many are furnishing themselves with more and better clothing and in other ways increasing the comforts of their homes. The number of those who own cattle, horses and donkeys is increasing. Previously to the last anniversary of the Restoration our school Superintendent made a law that the teachers & parents should provide themselves with certain articles of household furniture, such as tables, plates, knives & forks. At the feast there was such a display of those articles as was very creditable to the industry & enterprises of the people. It looks more like civilization being forced into them than like their imbibing it naturally.

The number of foreigners is increasing in our neighborhood. Two young men from California during the years past have applied for land at Honomaile and commenced a sugar cane plantations which is the third in that end of the island. These plantations give proof of something either that the people are possessed of a competence and need not labor for others, or that they are so lazy, that they will not work. Each establishment would employ more hands but they are not to be had (Whittlesey 1851:1-2)

Since 1848 there have been 74 cases of church discipline of which 34 were for the use of fermented potatoe.... I said that the past year had been one of judgment to the people. A severe drought prevailed in this region from April till Sept. in consequence of which the Kalo crop was rendered unfit for use. The potatoes were destroyed by a worm in the root. I have often heard the

cry of famine there but never before really saw the people destitute of food. Money has been very scarce among them so much so that some have used the Castor oil berry for light because they could not buy oil. When asked to contribute for the Mon. Concert many who would have given said they had no money. Only \$95.50 have been contributed for the support of the Gospel (Whittlesey 1852:2).

[NOTE: Mrs. Elizabeth Baldwin Whittlesey is the older sister of Samuel Baldwin (W.P. Alexander 1851 ltr)]

Rev. William O. Baldwin. The progress of the natives here in the industrial pursuits has not been marred. I have already spoken of the agricultural Society and of its death while yet in embryo. The planting of tobacco, however, has not been neglected by the brethren, nor yet the smoking nor the chewing. And I firmly believe that this tobacconizing [sic] is the great and leading cause of the stupidity in the Hāna church. So also think that portion of the church who are somewhat active, whose eyes are not so bedimmed with tobacco smoke that they cannot see (Baldwin 1857:6).

Idolatry- Two men, one an expelled member from the Makawao Church, and the other, a member, at this time in regular standing, in this Hāna Church, brought up a rock from the ocean, built a house for it, and placed it therein and anointed it their god, offering their sacrifices to it and placing food before it, which was devoured (by the ants & rats) and the whole affair seemed under full headway before it became known to the pastor and lunas. But it was soon disposed of. Two of the lunas made war against it, broke down the image and reduced it to fragments in spite of the protestations of its devotees and in defiance of the wrath of the insulted god who (they said) would avenge himself in coming time. And not a few were actually terrified by their threat. Alas! For poor weak human nature! (Baldwin 1858:8).

Distinct and separate, however as these different parts of our field are, there is one evil which has been common to all parts & which has most sorely tried us. It is that Bacchanalian feast known at Hāna by the name of Lau lima. I know not whether the nature of this feast is well understood by any now in this mission, although the evil is an old one. We found it there on our arrival nearly four years ago, but did not then understand its character, Further time, however has served to make it plain, and the evil has been increasing among us casting its withering blights on every effort to arouse the Church from its dream of security in sin (Baldwin 1859:2).

Idolatry has again appeared among us. A woman professing to be endowed with divine power and skill to give light to the blind and soundness to the lame, if they will follow her directions which quite a number have been attempting to do. She directs them to sleep in a *hale akua* (god house) built by her directions, and to pray to the god that inspires her, and acts through her. O when shall Satan's empire be demolished and the dark night of ignorance and superstition no longer brood over the poor Hawaiian (Baldwin 1859:6).

Rev. Sereno E. Bishop. Sereno Edwards Bishop was the son of Artemas and Elizabeth Bishop, members of the Second Company of American missionaries. Sereno was sent to the United States for schooling and when he returned he served as seaman's chaplain in Lahaina; then served for three years at the Hāna Mission Station. He went on to become teacher then principal at Lahainaluna before heading to Honolulu where he was a land surveyor, then editor of *The Friend* and correspondent to Washington DC's *Evening Star*. His *Reminiscences of Old Hawaii* (1916) is a great historical resource (Day 1984:11, 12).

Money in those days was hardly a medium of exchange among the natives, most of whom were not familiar with the appearance of coin. What was in circulation was entirely Spanish...probably coined in Spanish America.... Our purchases from the native were paid for usually with school books and slates, but sometimes with a few yards of blue or white cotton cloth, or with fish hooks or horn combs. Labor was hired the same way (Bishop 1916:29).

None of the natives in those days had horses except the priestly class of chiefs and they were generally carried on large litters by scores of human bearers (Bishop 1916:29-30).

Objects much in evidence among the natives, when visiting or at meetings as well as in their homes were their fans, and their fly-brushes or *kahili*.... Small fly-brushes were used by all the people. They were about four feet long, the upper half of the stick having the tail feathers of fowls tied on. The *kahili* of the chiefs were larger and more elaborate (Bishop 1916:30).

The following are excerpts from S. E. Bishops Hāna mission reports:

For the past three months, drunkenness has been very prevalent. With a rich and exhaustless soil, and almost perpetual moisture, a lack of food exists through neglect and indolence, and the people have been compelled to dig ti-root to eat. This affords a temptation to ferment the juice. I have evidence that a majority of the church indulge more or less in this practice. The culture of tobacco is quite open and general among them. Awa is extensively cultivated by some church members, and bought and sold by others. I believe that few of them use it.

It is thus apparent that there is a strong call for disciplinary measures. The discipline of the church has naturally been neglected in the absence of a pastor. A prominent church member the brother of the preacher Kamakahiki, has been for more than a year cultivating awa, yet no one would disclose the fact to me; nor when on penetrating the interior I discovered his plantation, would the church members tell to whom it belonged, and I was indebted to a Mormon for the information, a disclosure which appeared to give him much satisfaction. Their elders afterwards reluctantly owned that they knew of it (Bishop 1862:3-4).

Industry is somewhat active in the immediate vicinity, under the auspices of Messrs. Needham & Co. who are establishing a Sugar plantation. The people are buying largely of Poi and fish from Koolau, as well as planting taro & Potatoes extensively for themselves. The leading crop of the season through this region seems to be tobacco. A trifling attempt has been made to cultivate rice. Two persons have a few choice cotton plants. I have found four lots of coffee trees in bearing. The whole district is well adapted to a great variety of productions. Yet very little is done beyond the supply of immediate wants. Improved houses are rare. There are four framed & clapboarded houses in this village owned by natives, and but one other in this whole field. There are a few houses with windows. Very rarely, a table or chair is to be found.

In the entire lack of assurance as to the sources of my future support, I have felt constrained to make some provision by beginning to cultivate a portion of the Mission land with Sugar cane, say 10 or more acres. The ploughing is done by natives owning teams in the district. Plenty of good hands can be had for \$5 per month and food. This work promises to furnish means of support with less diversion of time and strength from Missionary work than any other. Yet with the wide and varied calls for pastoral labor on every side, it is hard to be obliged to spend any time in other pursuits (Bishop 1862:5-6)

There have been 11 persons suspended for the culture and traffic in Awa, 2 of them Elders, 2 District lunas, and nearly all persons of consideration in the church. Nearly every case was developed by the pastor's own efforts and personal inquiry. All were dealt with slowly, and time and means taken to obtain repentance in each case rather than discipline. As the result, several of the offenders abandoned the practice (Bishop 1862-63:8).

Health of People. There is much sickness. It is evident that Deaths much exceed births, as also the official statistics show, to which I have not access now. There is a constant drain of the younger and more active of the people to the sea-ports. Hence there is an unusual proportion of the elderly and aged among us. No general of severe sickness has been prevalent in the field during the past year. The whole number of deaths in the church has been 50 during the year among over 600 members. Dysentery was very prevalent at the beginning of the year, and the missionary had the satisfaction of being the means of saving the lives of several children. He is much in need of

medical Books, Drugs, and implements, which present means do not permit him to purchase. He has felt compelled repeatedly to violate the law of the land by receiving pay for simple but essential remedies, which he could not otherwise provide (Bishop 1862:18)

Industry. No marked improvement has been seen. Yet it has not retrograded. A good deal of labor has been called for by the new Sugar Plantation, which is now in full and successful operation, and making the every finest grades of sugar. Awa and Tobacco continue to be the chief articles of native produce for export. There has been some talk of combinations among natives owning land for culture of cane on their own account. Prices of eatable produce of all kinds continue higher than Lahaina market, except poi. Cattle & poultry are rather above Oahu prices, and very few are sold. The Missionary must raise his own produce or be liable to pay exorbitant prices for everything. It is usual for all the people of a district to unite in cultivating a tract of upland taro, or a *lau lima*, in which they work together, and when ripe, often feast upon together until consumed. It is difficult for the native to raise anything and call it his own. All friends & neighbors claim to share it. Hence industry is checked. Few raise melons, bananas or other fruit for the same reason. On the whole, there is no serious difficulty among the people in procuring money for all wants, for taxes and for the support and spread of the Gospel. And the facilities have every prospect of constant increase. The soil is fertile, the climate moist, and land abundant (Bishop 1862:18-19)

Sorcery has been very prevalent of late years in Kaupo. Many have died in consequence, including some of the Kahunas themselves. Many natives have taken lessons in the art. The revival of these horrible practices is attributed by the intelligent natives to the extensive licensing of native doctors by Kapu, 4 years ago. Stimulated by covetousness, these wretches have been the most diligent missionaries of idolatry and demonism (Bishop 1862:20-21)

History of Land Divisions. It was during the time of Kaka'alaneo of Maui that the division of lands is said to have taken place under a *kahuna* named Kalaihaohi'a. He portioned out the island into districts, sub-districts, and smaller divisions, each ruled over by an agent appointed by the landlord of the next larger division, and the whole under control of the ruling chief over the whole island or whatever part of it was his to govern (Beckwith, 1970:383).

Each island was divided into *moku* or districts that were controlled by an *ali'i 'ai moku*. The present district of Hāna was formerly divided into five sub-districts (Moffat and Kirkpartick, 1995:24-25) or *okano* (Alexander 1891). However, as stated earlier, the present district boundaries were established in 1909 (Sterling, 1998:4). Within each of the *moku* on each island, the land was further divided into *ahupua'a* and controlled by land managers or *konohiki*.

Its name, as explained by Mr. Lyons, "is derived from the *Ahu* or alter, which was erected at the point where the boundary of the land was intersected by the main road *alaloa*, which encircled each of the islands. Upon this alter, at the annual progress of the *akua makahiki* (i.e. year god), Lonomakua, was deposited the tax paid by the land whose boundary it marked, and also an image of a hog, *pua'a*, carved out of *kukui* wood and stained with red ochre" (Alexander 1891).

The boundaries of the *ahupua'a* were delineated by natural features such as shoreline, ridges, streams and peaks, usually from the mountain to the sea, and ranged in size from less than ten acres to 180,000 acres (Moffat and Fitzpatrick, 1995:24-29, see also Chinen 1958:3).

Each *ahupua'a* was often divided and sub-divided several times over (i.e., *ili*, *kuleana*, *mo'o*, *paukū*, *kō'ele*, *kīhāpai*), answerable to the *ali'i* where the lesser division was located. However the '*ili kūpono* or the '*ili kū* was "completely independent of the *ahupua'a* in which it was situated...his tributes were paid directly to the king himself" (Chinen 1958:4). Rights to lands were mutable or revocable; a ruling chief or any "distributor" of lands could change these rights if displeased, or as favors--usually after a

victorious battle, and after the death of the *ali'inui* (Chinen 1958:5).

The Great Mahele, Land Commission Awards, Royal Patents and Grants. During the period between 1839 to 1855, several legislative acts transformed the centuries-old Hawaiian traditions of *ali'i nui* land stewardship to the western practice of fee simple or private land ownership. Kamehameha III formalized the division of lands among himself [*Crown Lands*] and 245 of the highest-ranking *ali'i* and *konohiki* [*Konohiki Lands*] between January 27 to March 7, 1848. He acknowledged the rights of these individuals to various land divisions in what came to be known as the *Buke Mahele* or 'sharing book' or *The Great Mahele*.

This historic land transformation process was an evolution of concepts brought about by fear, growing concerns of takeovers, and western influence regarding land possession. King Kamehameha III, in his mid-thirties, was persuaded by his *kuhina nui* and other advisors to take a course that would assure personal rights to land. In 1846 he appointed a Board of Commissioners, commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10th day of December, AD 1845." Notices were frequently posted in *The Polynesian*. The legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Fitzpatrick, 1995:48-49).

In the first stage King Kamehameha III [Kauikeaouli] divided up his lands among the highest ranking *ali'i* (chiefs), *konohiki* (land managers), and favored *haole* (foreigners) (Chinen 1958:7-14; Moffat and Fitzpatrick, 1995:11, 17). The land for the people was designated *Government Lands*; and "from time to time portions...were sold as a means of obtaining revenue to meet the increasing costs of the Government." People who purchased these lands were issued documents called "Grants" or "Royal Patent Grants," which differed from the Royal Patents issued upon Land Commission Awards (Chinen 1974:25-29). All these lands were "subject to the rights of native tenants" who were cultivating the land (Act of 1850) referred to as *Kuleana Lands*. They were independent of the *ahupua'a* or *ili kupono* within which they were situated and were free of commutation fees. However, if there were no heirs, the lands reverted back to the owner of the *ahupua'a* or *ili kupono* where they were located (Chinen 1974:29-30).

In all Awards of whole Ahupua'a(s) and 'Ili(s) the rights of Tenants are expressly reserved, "*Koe na Kuleana o Kanaka*." Besides, the Act of August 6th, 1850, confirmed and amended July 11th, 1851, protects the common people in the enjoyment of the right to take wood, thatch, ki leaf, etc., from the lands on which they live, for their own private use, but not to sell for profit. They are also guaranteed the right to water and the right of way, but not the right of pasturage on the land of the Konohiki. (Hawaiian Reports, Vol. 2, p. 87, and Vol. V., p. 133.) These rights are embodied in Section 1477 of the Civil Code. Furthermore, every bona fide resident on a land has the right to fish in the sea appurtenant to the land, and to sell the fish caught by him. (Hawaiian Reports, Vol. VI., p. 334 In Alexander 1891)... It may be observed here that Kuleana(s) in default of heirs "revert to the owner of the Ahupua'a or Ili of which the escheated Kuleana formed a part," by a law passed July 6th, 1866 (Alexander 1891).

"The mahele did not actually convey title to the various *ali'i* and *konohiki*; it essentially gave them the right to claim the lands assigned to them. They were required to present formal claims to the Land Commission and pay a commutation fee, which could be accomplished by surrendering a portion of their land to the government." The government could later sell these lands to the public. Upon payment of the commutation fee, the Minister of Interior issued a Royal Patent to the chief or *konohiki*. In 1892 the legislature authorized the Minister of Interior to issue Royal Patents to all *konohiki* or to their heirs or assigns where the *konohiki* had failed to receive awards for their lands from the Land Commission. The Act further stipulated "that these Royal Patents were to be issued on surveys approved by the Surveyor General of the kingdom..." (Chinen 1958:24; Moffat and Fitzpatrick 1995:41-43; Alexander 1891).

Wananalua Mahele Awards. At the time of the Mahele the *ahupua'a* of (Na)Wananalua 1, 2 was set aside for Victoria Kamamalu, sister of Kamehameha IV and V - LCA 7713, 50 *apana* [Mahele Book 1-6 (6-11)]. It was relinquished by M. Kekuanaoa, her father, and John Ii, executor of the estate of Victoria Kamamalu (Mahele Book 1, 3, 5,(6, 8, 10) :

An Internet search of the website www.waihona.com (*Waihona 'Aina, Inc.*) produced Land Commission Awards (LCA), Royal Patent and Land Grant claims in Wananalua.

Wananalua Land Commission Awards (LCA)

LCA	Claimant	Island	District	Ahupuaa	Ii	Awarded
00387*M	ABCFM (Mission)	Maui	Hana, Lahaina, Wailuku	Wailuku, Wananalua, Kauaula, Kelaweia, Opauea, Paunau, Haleu, Pohakukauhi, Halaula	Kukalopako, Pohaku o Kaulii	1
00417	Kawainui	Maui	Hana	Wananalua		0
00419	Kawainui	Maui	Hana	Wananalua	Kuakaha	1
00609	Mahoe	Maui	Hana	Wananalua		0
00615	Ulunahela, Mose	Maui	Hana, Lahaina	Wananalua, Lapakea		1
02954	Hopu	Maui	Hana	Wananalua		1
02991	Wahineaea	Maui	Hana	Wananalua		0
03007	Mahoe	Maui	Hana, Kaupo	Wananalua, Niunalu	Kahuakoikoi, Puluaha, Aimakua	0
03023	Kawao	Maui	Hana	Wananalua	Puluaha, Auhamakua	1
03023B	Kamakahilahila	Maui	Hana	Wananalua	Kahuakoikoi	1
03024	Kanenui	Maui	Hana	Wananalua	Palemoiki, Palemonui	1
03031	Kanenui	Maui	Hana	Wananalua		0
03033	Kaili	Maui	Hana	Wananalua	Palemo	1
03034B	Kauohilo	Maui	Hana	Wananalua	Pohanui	1
03040	Kepoo	Maui	Hana	Wananalua	Akeakawaha	1
03042	Koalii	Maui	Hana	Wananalua	Kakapa	1
03696B	Bete	Maui	Hana	Wananalua	Piilani	1
03697B	Kaluahi	Maui	Hana	Wananalua		1
03711B	Wahie	Maui	Hana	Wananalua		0
04746	Mahoe II	Maui	Hana	Wananalua		0
05068B	Kekahunaaiole	Maui	Hana	Muolea, Wananalua	Kaohi	1
06705B	Uhai	Maui	Hana	Wananalua, Pakakia		0

Wananalua Royal Patent Claims

RP Number	Patentee	Island	District	Ahupuaa	TMK
1242	Ulunahela, Mose	Maui	Hana	Wananalua	2-1-4-03, 15, 13
1600*M	Castle, Samuel N. & Cooke, Amos E.	Maui	Wailuku Hana Lahaina	Wailuku Wananalua Paunau Kahua	2-1-4-03, 04
1958	A.B.C.F.M. (Castle, Samuel & Amos Cooke)	Maui, Molokai, Kauai	Hana Lahaina Wailuku Kona Koolaupoko Kona Halelea	Wananalua Wailuku Haleu Opaeula Lahaina Kaluaaha Honolulu Kaneohe Waioli Waiohinu	
1958*M	A.B.C.F.M. (Castle & Cooke), see 1958	Maui	Hana Wailuku Lahaina	Wananalua Wailuku Lahaina	2-1-4-03, 04
2347	Hopu	Maui	Hana	Wananalua	2-1-4-03
3108	Kawainui	Maui	Hana	Wananalua	2-1-4-03, 05, 13
3246	Kepoo	Maui	Hana	Wananalua	2-1-4-03
3248	Kanenui	Maui	Hana	Wananalua	2-1-4-03
3250	Kauohilo	Maui	Hana	Wananalua	2-1-4-03
3251	Kawao	Maui	Hana	Wananalua	2-1-4-03
4101	Koalii	Maui	Hana	Wananalua	
4983	Kamakahilahila	Maui	Hana	Wananalua	2-1-4-03
8007	Kaluahi	Maui	Hana	Wananalua	2-1-4-03
8211	Bete	Maui	Hana	Wananalua	2-1-4-03

Wananalua Land Grants

Between the years 1850 and 1860, nearly all the desirable Government land was sold, generally to natives. The portions sold were surveyed at the expense of the purchaser. An Index of Grants issued before March 31, 1886, arranged by locality, was published in 1887. The total number of Grants issued before April 1st, 1890, was 3,175. It may be added here that "All fishing grounds appertaining to any Government land, or otherwise belonging to the Government, excepting only ponds," were "granted to the people of the free and equal use of all persons," May 15th, 1851. (Laws of 1851, p. 23.) The same privilege is confirmed by Section 384 of the Civil Code (Alexander 1891). The following list of Land Grants in Hāna is from the Waihonu 'Āina database:

RP Number	Patentee	Island	District	Ahupuaa	TMK
1242	Ulunahele, Mose	Maui	Hana	Wananalua	2-1-4-03, 15, 13
1600*M	Castle, Samuel N. & Cooke, Amos E.	Maui	Wailuku Hana Lahaina	Wailuku Wananalua Paunau Kahua	2-1-4-03, 04
1958	A.B.C.F.M. (Castle, Samuel & Amos Cooke)	Maui, Molokai, Kauai	Hana Lahaina Wailuku Kona Koolaupoko Kona Halelea	Wananalua Wailuku Haleu Opaehala Lahaina Kaluaaha Honolulu Kaneohe Waiohinu	
1958*M	A.B.C.F.M. (Castle & Cooke), see 1958	Maui	Hana Wailuku Lahaina	Wananalua Wailuku Lahaina	2-1-4-03, 04
2347	Hopu	Maui	Hana	Wananalua	2-1-4-03
3108	Kawainui	Maui	Hana	Wananalua	2-1-4-03, 05, 13
3246	Kepoo	Maui	Hana	Wananalua	2-1-4-03
3248	Kanenui	Maui	Hana	Wananalua	2-1-4-03
3250	Kauohilo	Maui	Hana	Wananalua	2-1-4-03
3251	Kawao	Maui	Hana	Wananalua	2-1-4-03
4101	Koalii	Maui	Hana	Wananalua	
4983	Kamakahilahila	Maui	Hana	Wananalua	2-1-4-03
8007	Kaluahi	Maui	Hana	Wananalua	2-1-4-03
8211	Bete	Maui	Hana	Wananalua	2-1-4-03

History of Sugar Industry in Hāna. [The following information comes from previous research done by the author (Kolb, Orr & Conte 1993:16-20) and adds to the information above - Chronology]

The sugar industry rose to prominence in Hāna concurrently with the Mahele and replaced whaling as the mainstay of the Hawaiian economy in the 1850s. Hāna was one of the earliest districts where sugar was cultivated as a commercial crop...sugar cane was growing in Hāna in 1837. Condé & Best noted that “a Mr. Lindgren planted 60 acres of cane and operated a mill erected in a grass shack ca. 1849-1850 near Ka‘uiki” (Condé & Best 1973:247). But it was not until 1851 that it was commercialized by the Hāna Plantation, one of the pioneer plantations in Hawai‘i.



Photo 31. A Hāna grass hale (HCC Archives)

The Hāna Plantation was established by sea captain and ex-whaler George W. Wilfong, who brought Chinese laborers to Hāna in 1852. However, the plantation was abandoned after the mill burned down. Arson by disgruntled workers was suspected (Davis 1988:15; Condé & Best 1973:247; Youngblood 1992:44, 45). In 1862 August Unna obtained managing control of Lindgren’s as well as other plantation’s lands in the vicinity and expanded Hāna Plantation. Unna, son of a Jewish merchant in Elsinor, Denmark, joined forces with William G. Needham and Thomas E. Cook in a venture to re-establish the Hāna Plantation in 1862. Shortly after, Needham quit the partnership. The Plantation agents were C. Brewer & Co., a trade company founded by sea captain James Hunnewell in 1826 and taken over by another sea captain Charles Brewer in 1843. In 1862, led by Henry A. P. Carter, the company entered the growing sugar industry (Conde & Best 1973:247; Davis 1988:15; Stone 1991:221).

The Plantation was the primary source of change in Hāna, “permanently altering its lifestyle and landscape.” Fertile land was farmed, used for grazing or “at least surveyed for its economic potential.” Not many *maka‘āinana* owned land and in the private land tenure system, lost their traditional land-use right. Since they were no longer self-sufficient, many of these people had little choice but to become indentured laborers as a means to earn the money now needed to buy food and pay the king’s taxes” (Davis 1988:21)....

During the Civil War years (early 1860s), Unna and Cook profited when the price of Hawaiian sugar escalated. However, after the war the prices dropped as American sugar planters recovered. Cook left the partnership in 1867 leaving Unna to continue along by himself. In 1868 he brought the first Japanese laborers to Hāna. His perseverance paid off after the Reciprocity Treaty of 1876 went into effect, allowing Hawai‘i sugar planters to compete fairly with American planters. In 1877, Unna returned to Denmark as a celebrity due to his high social standing in Hāna and the sugar industry, to recruit technical and management personnel to help with modernizing his plantation (Davis 1988:15-17; Youngblood 1992:46). Unna and his chief engineer from Denmark, Christian Hedemann, brought the Plantation from the mule and cart stage to the railroad era with locomotives and 3-roller mills in the early 1880s (Condé & Best 1973:247).

Another version of the early history of the Hāna Sugar Co./Hāna Plantation follows:

Hāna, a more remote region on East Maui, had a few independent growers and at least one mill, which was owned by A. B. Howe, an auctioneer in Honolulu, and Gerrit P. Judd, minister of finance and Howe’s future father-in-law. The plantation operated between the years 1850 and 1852-54. George Wilfong, a retired whaler, was the manager. Howe purchased his initial lands in 1850 from a man who had planted sixty acres of cane and put up a primitive mill in grass houses. Wilfong added lands through lease and purchase. He manufactured the sugar as syrup and sent it

to B. F. Bolles and Co. in Lahaina, who then sold it to whaling vessels. In 1852 Howe added a train of cast-iron sugar kettles (previously whaling ship tri-pots were used) and an iron mill. At that time he had 150 acres in cane, making between sixty and seventy tons of sugar. But after grinding the first crop with the new mill, both the sugar house and boiling house burned down, and with it fifty tons of sugar. The plantation was then abandoned (MacLennan 1995:46).

A 1915 map (Haun & Henry 2000:9) of *Government Tracts* indicates that the railroad was *mauka* of Government Road [now Hāna Highway] but forked in Wākiu, just before Honokalani. The lower tracks then crossed over Government Road just before the northwest boundary corner of Honokalani and continued *makai* of Government Road [half way between the coast and Government Road], going [north] across the *ahupua'a* of Kawela, Ka'elekū, and both East and West Honomā'ele. The upper tracks tended to follow the Government Road [*mauka*].

A continuing decline in the native labor force plagued the Plantation. Although some of the Hawaiians became skilled workers, many were attracted to *paniolo* (cowboy) and steamship work. A large number of Hawaiians fell victim to syphilis, smallpox and leprosy, which took their toll on the local population throughout the islands. Additional laborers were recruited from New Hebrides and the Gilbert Islands (Davis 1988:36, 47, 49).

By 1883, there were six separate sugar plantations on the Hāna Coast – Ka'elekū Sugar Co. [not the same entity as the 1905 one], Hamoa Agricultural Co., Kawaiipapa Agricultural Co., Hāna Sugar Co., Reciprocity Sugar Co. and Haneoo Agricultural Sugar Co. (Youngblood 1992:46, 47).

Unna died heavily in debt in 1885, before he was able to see his improvements pay off. Hāna Plantation was placed in receivership and sold in 1889 to its major creditor, sugar factor M. S. Grinbaum & Co. He combined the holdings of the Hāna Plantation with the old Reciprocity Plantation and some land at Hāmoa and established the Hāna Plantation Company (Condé & Best 1973:248)....

M. S. Grinbaum and Co. was primarily a mercantile business but owned an interest in Hāna Plantation, and decided to concentrate solely on sugar (Maui News 1905:4). In 1905, Grinbaum reorganized the company and changed the name to *Ka'elekū Sugar Company*. The company would eventually include the lands and holdings of all six plantations (McCall 1940 in Haun & Henry 2000:10).

In 1908 Grinbaum sold his holdings and plantation agents T. H. Davies & Co. assumed the ownership (Davis 1988:90; Condé & Best 1973:241, 248). The company continued to fluctuate with good years and bad years. In 1933 the ownership of the company changed hands once again, to the estate of W. G. Irwin and C. Brewer & Co., both had been previous owners at one time.

Interisland Vessels

On December 19, 1853 the Privy Council awarded a monopoly to The Hawaiian Steam Navigation Company to operate steamers inter-island. In 1860 a propeller steamer *Kilauea* made its appearance, however she had a checkered run due to being laid up for repairs or lack of coal on many occasions (POP 2000). In November, 1868, the *SS Kilauea* was withdrawn and the islands were without inter-island steamer service for two years." Sailing ships in the coasting trade filled the void created by the withdrawal of the *Kilauea* in 1868 until she was refit and returned to service in October, 1870" (POP 2000).

In the mid-1870's interisland transportation consisted of one steamer and around 30 sailing schooners, sloops and other boats (POP 2000). During this era the sugar cane industry utilized these vessels. In 1871 Samuel G. Wilder became the agent for the government-owned *SS Kilauea* and started Wilder & Company in 1872.

On the Maui and Molokai Route, Wilder's had the main service for most Maui and Molokai ports. Wilder's steamers ran a "milk run" stopping at Molokai ports before arriving at Lahaina on the run from Honolulu. From Lahaina, they proceeded around northern West Maui to Kahului and thence to Hāna or Kipahulu and then retraced their route stopping at various ports along northern East Maui, Kahului, Lahaina and Molokai.... The steamer route along the northern East Maui augmented the often unpredictable overland route between Hāna and Haiku. When overland service between West Maui and Wailuku/Kahului was terminated in 1888, the steamers carried all the mail from Lahaina to Kahului or other parts of Maui (POP 2000).

Matters of transportation took a decisive turn in 1876. In that year, the Reciprocity Treaty between the United States and Hawaii took effect, reducing tariffs on various Hawaiian exports including, most significantly, sugar. Hawaii's economy expanded rapidly, making improvement of inter-island transportation imperative. Wilder's successful operation of the Kilauea encouraged the government to order a new steamer from Dickie Brothers in San Francisco. In August, 1877, the steamer *Likelike* was delivered. The government solicited bids to sell the *Likelike* and *Kilauea* and Sam Wilder purchased them under a contract that included a guarantee of free mail carriage. In March, 1878, the *Kilauea* was broken up. That same month the steamer *Kilauea Hou* was launched for Captain T. H. Hobron to run between Honolulu and the booming East Maui plantations using Kahului as its port (POP 2000).

His Wilder Steamship Company merged into the Inter-Island Steam Navigation Company in 1905 (Nellist 1925). *SS Kilauea* was put into passenger and freight service in 1911 (Young 2014).

The Matson Line was organized in 1882 by Captain William Matson to operate the Hawaiian trade. One of the Matson schooners known to have berthed in Hāna was *Annie Johnson*. The following excerpt is from Matson's website (MNC 2002).

Annie Johnson, 1409 ton ship, built Harrington, England, 1872 as ADA IREDALE. Abandoned in South Pacific 15 Oct. 1876 when coal cargo caught fire. Reached Tahiti 9 June 1877. Repaired and rerigged (sic) as bark, sold to Matson 1895. Rerigged as schooner 1912, auxiliary engines installed 1916.

During the 1920s, 30s, and 40s, Inter-Island Steam Navigation had several steam ships: the *SS Haleakalā*, *Hualālai*, *Kilauea* and *Wai'ale'ale*. Others carried 12-passengers such as the *SS Humu'ula*, which was primarily a cattle boat (Young 2014).

End of Sugar Era in Hāna

San Francisco businessman Paul I. Fagan purchased the company in the 1930s where he had other visions for the struggling sugar plantation. Records from the Hawaii Sugar Planters Association (H.S.P.A.) show that as of December 31, 1945, the Ka'elekū Sugar Company was liquidated. Condé & Best (1973) report that very few records of the company survived (Condé & Best 1973:241-2, 247-248). The Ka'elekū Sugar Company, the last sugar plantation in Hāna, shut down operations in August, 1945 at the "high noon" whistle, signifying "death" of the Company, and the "end of plantation life of about 400-500 employees and their families (Okano, nd:16). Many of the plantation laborers were relocated to other parts of Maui (Youngblood 1992:60, 67-70).

Hāna's Isolation. As mentioned previously, overland travel to Hāna was very arduous at best so travel by sea was an alternative. McGregor (2007:71-72) expands in the following:

The people of the Hāna Coast overcame the obstacles to transportation and communication by maintaining contact with the outside world through the inter-island steamers that called at the

district at least once a month. Hāna, the safest harbor for these steamers, developed as the major center of commerce for the Ko‘olau district [between Keanae and Hāna]. Although Hāna was regularly serviced by steamers, because of the difficulty of the voyage, visitors to the district were rare, and the manner of life among the Hawaiians was quaint by comparison to that of urban Honolulu, O‘ahu, or even Wailuku, Maui. In 1910 H. M. Ayres, a reporter for the *Pacific Commercial Advertiser*, wrote a series of articles about an excursion through the Hāna Coast. He described the arrival of passengers from the *SS Claudine* at Hāna:

While the landing is all right for freight, it is mightily inconvenient for passengers and when the swell is heavy it must be dangerous to life and limb. Passengers leaving here have to jump into the arms of the boat boys, and on occasion have to be grabbed and thrown from the boat to the wharf.

The visitor to Hāna put up at the comfortable club maintained by L. Y. Aiona, a Chinese gentleman of parts who runs the club rather as an accommodation for visitors than as a money-making proposition. A man at the house whom every visitor to Hāna calls is W. P. Haia, the Bismarck of the Maui County Board of Supervisors.

The following are photos taken of original photos in the Hāna Cultural Center Archives and document various vessels that anchored or berthed in Hāna Bay:



Photo 32. Vessel anchored outside of old Wharf.



Photo 33. Vessel waiting off of old Wharf.

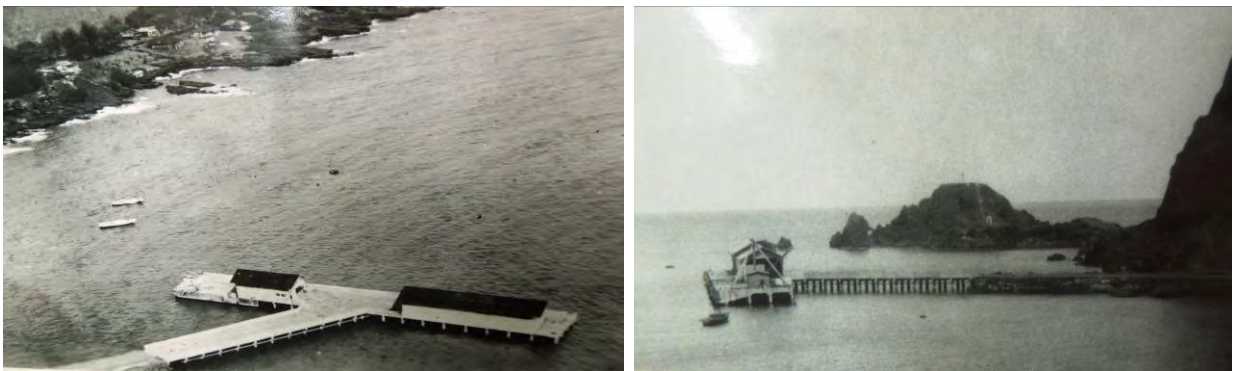


Photos 34-36. Schooner Annie Johnson (Matson) berthed at Pier [no building structures on Pier] [Appendix E, F blowup photos]; SS Kilauea (Wilder) waiting outside Pier [Appendix G]; Unknown steamship likely a Matson.

The following are photos taken of original photos in the Hāna Cultural Center Archives and document the old Wharf and new Pier in Hāna Bay:



Photos 37-39. Old Wharf in Hāna Bay destroyed in the early 1900s.



Photos 40-41. New Pier ca. mid-1900s with two, then three structures on deck.



Photos 42-43. People on new Pier waiting/watching; People appear to be sorting/dividing fish on Pier.

The following are photos taken of original photos in the Hāna Cultural Center Archives and document the area in the immediate vicinity of Hāna Pier in the early to mid-1900s:



Photos 44-45. Standard Oil tanks and warehouses among the structures where Helene Hall and Beach Park are today; Tanks intact after April 1, 1946 Tsunami.



Photos 46-48. Aftermath of April 1, 1946 Tsunami on shore of Hāna Bay; Structure on Pier deck still intact.

History of Ranching in Hāna.

Hāna's sugar industry was declining by the 1930s, yet entrepreneur Paul I. Fagan bought the Ka'elekū Sugar Company. As World War II ended in the 1940s, he decided to convert his sugar holdings to a long-time dream of cattle ranching and the visitor industry. Fagan envisioned retiring in Hāna, so he abandoned his ranch on Moloka'i, brought over his white-faced Herefords from the ranch to his 14,000 acres of the Old Hana Plantation (Youngblood 1992:67, 70). The plantation town of Hāna changed again to become the *paniolo* or "cowboy" town of Hāna, with first-class accommodations for visitors who could afford to fly in to the grassy runway of Hāmoa and stay at the then 10-room Hotel Hāna Maui.

Fagan's dream was once again temporarily interrupted on April 1, 1946 when Hawai'i was hit by a devastating tsunami. Whole villages were "obliterated" all along the Hāna coast (Youngblood 1992:63). However, the gentle Hāna slopes were soon modified once again as sugar cane was cleared and alien grasses planted to accommodate the newly converted grazing lands. The cane fields were the initial pasturage for the cattle, but the pastures were improved over the years with the addition of various grasses including the now dominant *pangola* (*D. decumbens*) (Borthwick et al. 1992:16; Youngblood 1992:70), a South African grass introduced to Hawai'i in 1950 (Neal 1965:72).

Previous Archaeological Surveys and Other Studies. Several surveys and studies have taken place in Hāna [See Haun and Henry (2000) below for map]

Thrum (1905/1908/1909/1916/1938). One of Thrum's greatest interests in Hawaiian research was the location and identification of as many sites and structures of *heiau* [ancient Hawaiian temples], as possible. Between 1907 and 1917 several articles on *heiau*, and descriptive lists of *heiau* and sites on all of the major Hawaiian Islands were included in Thrum's publications of the *Hawaiian Almanac and Annual*. Many of these articles and lists refer to or give a brief interpretation of a legend connected with a certain *heiau*. These provided convenient reference sources (Leib and Day 1979:18).

Thrum's (1908:38) *Hawaiian Almanac and Annual for 1909* included a report on the "Heiau of Island of Maui." Thrum's (1916a:52-61) *Hawaiian Almanac and Annual for 1917* included his report on "Maui's Heiaus and Heiau Sites Revised" in his "Tales of the Temples" series. This updated version of his *heiau* surveys covered more information this time. Thrum, compiler, editor and publisher of the *Hawaiian Almanac and Annual*, visited Hāna in 1916 to investigate significant sites. He reported that politics was important in ancient times, which is why the districts of Hāna, Kīpahulu, Kaupō and Wailuku had their "famed temples." He visited Ka'uiki fortress, and the temples of Hua-a-Pokuaina. Hua reportedly erected the *heiau* of Honuaula [near Ka'uiki where the Wananalua Church stands today] while enroute from Lahaina to Hawai'i, as an aid against the Hilo forces. Hua succeeded--he defeated the Hawai'i warriors--and on his return he built another *heiau*, Kuawalo (Thrum, 1916a:52-53) [where St. Mary's Catholic Church stand today].

Thrum also shared other information he gathered while in Hāna. He reported that long time resident and managing owner of the Hāna Plantation, August Unna's burial place was up on Pu'u Ka'uiki, and that there was confusion about a *pu'uhonua* (place of refuge) *heiau*. Apparently, there was conflict over the name of the *pu'uhonua*--some said it was Kaniomoku, while others called it Keaumoku. Still others told him it was not a *heiau*. Thrum was told that this was the place where Ka'ahumanu was raised. Thrum was also informed that there were several "medium *heiau* in back of cane fields." Kaikaiea Heiau was located at Pa'auhau, Kilinui Heiau and Lanakila Heiau were at Ka'alae--Lanakila Heiau was a *pu'uhonua*, a place of refuge in time of war. In the vicinity of these *heiau* [Haneo'o/Hāmoa] is the birthplace of Kapaakea, father of Kalākaua and Lili'uokalani. Thrum acknowledged George Cooper [*kama'aina* of Helani, Kawaiapa, Hāna] (Thrum, 1916a:54, 61; see also Thrum 1938:128).

Stokes (1916/1917). According to Thrum (1917/1937/1938) Stokes made two surveys of Maui *heiau*. Stokes' handwritten field notes of November/December, 1916, indicate that he did survey several *heiau* on Maui. However, he concentrated most of his efforts on Pi'ihana Heiau, located in Wailuku. He did make a couple of trips to the Keanae/Hāna/Kaupō district (Stokes 1916). Thrum published Stokes' "Report on the Heiau of Maui" in his 1918 *Hawaiian Annual* pp125-128. During his two-week survey of Maui in 1916, Stokes accessed *heiau* at Mokae, Hāna, as well as "Honoula and Kawiki" [sic] in Hāna. He noted in his comments that the "rest of East Maui would require a special trip with Hāna as a base" (Stokes 1916).

Walker's Survey (1931). In 1929 and 1930 Walker conducted a survey of archaeological sites for the Bishop Museum as part of a territorial survey. The following is taken from his unpublished report.

The *heiau* or temple was the place of worship among the Hawaiians. A total of 230 of these sites have been found on Maui, 48 on the western part and 182 on the eastern part of the island. The structures on many of these sites have, however, been totally destroyed in the progress of the pineapple and sugarcane industries, so that, of the total listed, only 134 remain in a good enough state of preservation to permit being measured and studied.... The *heiaus* are all quite simple in construction, native rock or stones from the vicinity being used without any attempt at cutting or

facing.... No mortar of any kind is employed, the stones being fitted together as tightly as possible, both for strength and in order to produce a fairly even wall-facing.... Platforms are built by extending the natural level of some hill or eminence of ground and thus producing a solid rock filled platform with a sheer or terraced front, perhaps many feet above the lower ground....

The very large *heiaus* over 200 feet in length number 11 on the whole island. They are Loa-loa, Keakalauae, Opihi, and Kou, in the Kaupō region; Kanekauila at Kīpahulu; Pi'ilanihale near Hāna; Kauihale at Kailua; Poohoolewa at Honopou; Pihana and Halekii at Wailuku; and Puu Kaeo at Honokohau. Tradition speaks of many of these as having been built in times of war and consecrated with bloody human sacrifices. It is quite possible that all were so used, although there is no evidence confining sacrificial rites to this class of *heiau* alone....

The presence of graves on some of the *heiaus* should be noted. In most cases they were found to contain intrusive burials of comparatively recent times. But a burial platform such as the one just outside the *heiau* of Papakea at Nuu may very likely have contained the remains of the last keeper or *Kahu* of the *heiau* (Walker, 1931:97-99).

The following list (Table 4) is compiled from Walker's unpublished manuscript based on his survey of the "Archeology of Maui" in 1929 and 1930 giving the names, general location and brief comments about the *heiau* of Hāna. It is followed by a map of Walker's sites (Figure 5), which illustrates the abundance of sites in the Hāna District of east Maui as compared to the rest of Maui.

Table 4. Walker's Hāna Heiau (1929-1930)

Heiau Name	Location	Comment/Description
Kaluakelea	Honoluluui, Nahku	On ridge just west of Makapipi Gulch
Pohoula	Nahiku	East side of Makapipi Gulch
Haleaka	Nahiku	East bank of Makapipi Stream
Unnamed	Lanikele, Ulaino	On bluff west of Lanikele Gulch at shore
Piilanihale	West Honomaele	Largest <i>heiau</i> found on Maui
Kuakealii	Honokalani	3/4mi north of Wai'anapanapa Cave near shore
Ohala	Honokalani	1/4mi east of road
Kaniomoku	Kawaipapa	Where Kaahumanu spent childhood
Kawaipapa	Kawaipapa	Where road crosses gulch-destroyed
Unnamed	Waikalua, Kawaipapa	In rough lava flow
Unknown	Kawaipapa	On Keanini Point beyond factory (ku'ula?)
Kauleiula	Kawaipapa	On Nanualele Point
Kauleilepo-Kauleiula	Kawaipapa	At Kainalimu--twin <i>heiau</i>
Honuaua-Kuawalu	Wananalua	Two war <i>heiau</i> built by King Hua-a-Pohukaina
Kaikaiea	Hāna	In cane fields-destroyed
Kilinuī	Hāna	In cane fields-destroyed/luakini
Lanakila	Hāna	In cane fields-destroyed/place of refuge
Puuheewale	Hāna	In cane fields-destroyed
Koahaepali	Alaemai	North of Ka iwi-o-Pele
Luumaikaua	Haneo'o	500yds south of Ka iwi-o-Pele
Hinaohi or Kaluanui	Hamoā	Appearance of truncated pyramid
Pakiokio	Mokae, Hamoā	Open terrace platform 40x120 feet
Unknown	Hamoā	Small platform
Hale-o-Lono	Hamoā	In center of cane lands-100 feet square

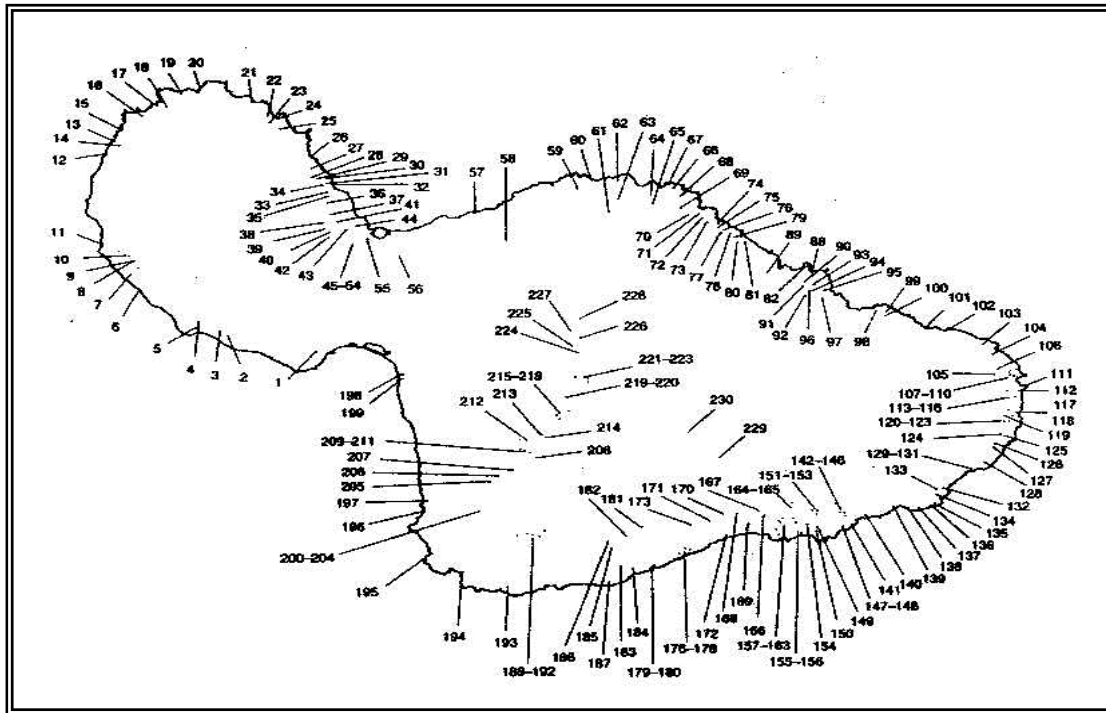


Figure 5. Walker's map of Maui *heiau* and sites illustrates the extent of sites in the Hāna District (from Walker ca.1930 Unpublished Ms.)

Thrum (1937). The following is a list (Table 5) in the Hāna section of 'Maui Heiau' (Thrum 1937:122-132):

Table 5. Thrum's Heiau List (1937).

Heiau	'Ili/Ahupua'a	Comment
Hale-o-Lono	Paikalani, Hamoa	
Honuaula	Kauiki, Hāna	Portion of foundations only remain
Kaiapuni	Hāna, near beach	In ruins
Kaikaiea	Pauhau, Hāna	Site planted in cane
Kaluanui	Hamoa	In bad condition
Kaniomoku	Hāna	An ancient <i>heiau</i> and alleged place of refuge
Kauleilepo/Kauleoula	Kainalimu, Hāna	Twin <i>heiau</i> open platform 25 feet apart
Kilinui (luakini)	Kaalae, Hāna	In ruins in cane field
Kuawalu	Kauiki, Hāna	Famed historic <i>heiau</i> , its site not found
Lanakila	Kaalae, Hāna	Medium sized <i>heiau</i> in ruins in cane field
Mokae	Hāna	Platform <i>heiau</i> , not seen
Poohoolewa	Hamoa	Rounded, now house site
Panauku	Honomaile [sic]	No particulars
Piihale	Honomaile [sic]	No particulars
Wananalua	Hāna	War <i>heiau</i> of Hua-a-Pohukaina [Honuaula/Kuawalu]

Thrum (1938). In 1937 Thrum published his sixty-fourth issue, the *Hawaiian Almanac and Annual for 1938*. His report the “Complete List of Heiaus (Temples) and Sites” by Thomas G. Thrum, gives an overview of his *heiau* investigations. He states that “effort began in 1905 to locate 60 heiaus...and shows how little was known by the general public in the subject [*heiau*] compiled for various reports in the *Annual* for 1906, 1910, 1916, 1917, 1918, and 1921 (Thrum 1938:121).

Handy (1940). [See Part I: Flora]

Ashdown (1956). Not available.

Soehren, Lloyd J. (1963). As staff of the Bishop Museum, Soehren conducted a survey of selected sites in East Maui. His report “An Archaeological Survey of Portions of East Maui, Hawai‘i” (1963) indicated that he concentrated on Kaupō, Kīpahulu, Wailua and Ke‘anae, as well as a few sites in Haleakalā Crater. In his *Preface*, Soehren qualified the earlier (1928) Bishop Museum surveys conducted on the four major islands: Kaua‘i, O‘ahu, Maui and Hawai‘i.

These surveys were devoted almost exclusively to the documentation of surface features--heiaus, house sites, fishponds, etc.--with occasional attempts to record local traditions concerning sites or places. While two of the surveys were subsequently published by the Bishop Museum (Bennett, 1931; and McAllister, 1933), all were more or less deficient in the precise recording of the locations of the sites described. Much of this deficiency may be attributed to the rather inadequate maps available to the field investigators, but not all. The result has been to hamper later investigators in their attempts to relocate the sites for further study. Indiscriminate publication of such details can have serious, even disastrous, consequences by facilitating vandalism; failure to even record such data can lead not only to much wasted effort but also to the inadvertent destruction of a site, through ignorance of its nature and value, as in the course of construction activity. (Soehren 1963:iv).

Pearson (1970). Pearson and others conducted a five-day survey of Wai‘ānapanapa State Park (Ahupua‘a of Wākiu) [Honokalani] February 1969, facilitated by park caretaker Mr. Frank Oliveira. Pearson commented on the significance of the cultural remains recorded in the park (Pearson 1970:26) and listed a number of the features (Table 6).

Fragmentary though they are, the remains at Wai‘ānapanapa are examples of an aspect of prehistoric human ecology which is not readily evident or easily accessible anywhere else at present.... In these locations, which face directly into the trade winds, dense pandanus and naupaka thickets along the sea give way to inland luxuriant rainforest, and settlement may be scattered in homesteads instead of nucleated villages. This pattern of living has many points of contrast with that observed at Lapakahi and Kealakekua on the dry leeward sides of Hawaii, and because of the problems of preservation as well as locating the sites in such dense vegetation, remains of this type are more scarce than those in dry areas and should be carefully preserved.

Table 6. Sites/features recorded by Pearson in Wai‘ānapanapa State Park in 1969 (adapted) (1970:8).

Category	Feature Number
Caves of Wai‘ānapanapa	2 large with fresh water
* <i>Heiau</i> with 2 platforms, 2 pavements, wall (126.5m/414.8’) & upright stone	1
Cave [associated with <i>heiau</i>] (13m/43’ X 12.2m/39’) with small tunnel and chamber, large whetstone & 3 grinding areas, large pounder or pestle; walls	21
Lava bubble shelter (7.4m/24.3’ X 82cm/2.7’)	9
Cave shelter (3.8m/12.5’ X 1.8m/5.9’ X 1.74m/5.71’)	16

Cave of 400 (est. 10m/33' X 40m/131' X 25m/82')	no feature number [not examined]
[several pictographs are inside, previously mentioned]	
Cave shelters	22, 28
Trail (stepping stone) [Kihapiilani Trail]	10
Pictograph [near #21 & #22] (13cm)	23
(red ochre, appears to be holding 2 clubs)	
Ahu [in vicinity of <i>heiau</i>]	2, 3, 7, 15, 19
Grave cairn [3 cemeteries]	unnumbered, in park
Grave cairns	unnumbered, west side of park
[with associated platforms; basalt crystal (80cm/2.6')]	
Circle Enclosures [small]	13, 14, 17, 18
(45cm/1.5' high; 10cm/.33' diameter)	
U-shaped enclosures [2] near Trail #10	5, 8
Short shelter wall	4, 6, 11, 12, 20
[<i>ka ua pe'e pohaku</i> or protecting wall]	
L-shaped wall with hearth	6
Boundary wall (core-filled)	24, 26, 27, 32
Platform	25
House platform	31
Walled enclosure, rectangular structure,	33
Enclosure and Platform (15.9m/52.1' X 9.7m/32')	34
Historic cemeteries (2)	29, 30
* Ohala [From Walker (1931)]	

Ashdown (1970). Ashdown began compiling the information for *Ke Alaloa o Maui* (1970) long before the research group “Hui Hāna Malama” was formed in 1968. The group made at least twenty-four field trips to explore and record sites beginning in 1969, often placing markers on sites in the hopes that the public would recognize their significance and respect them (Ashdown 1970:1). *Ke Alaloa O Maui* refers to the “broad highway built by King Pi‘ilani of Maui with the willing help of his people” as well as “the Pathway of Life we all travel from birth to death.” The original highway or trail originated in Hāna, was from four to six feet wide and followed the coastline, was completed by Pi‘ilani’s younger son, Kiha-a-Pi‘ilani after Pi‘ilani’s death in Lahaina about A. D. 1527 (Ashdown 1970:5, 9).

According to Ashdown, “the road was built, along with other engineering feats such as water-canals from forest rain-sheds to the lowlands and the *Heiau* called Hale-o-Pi‘ilani at Honomaele beyond the Hāna airport, all around east Maui.” All along *Ke Alaloa* are “*wahi pana* (storied places) including village sites...temples...and home shrines.... Along the coast are numerous shrines called *Ko‘a* and *Ko-ula*” (Ashdown 1970:9, 30).

The text *Ke Alaloa o Maui* includes several anecdotal stories about life in the early 1900’s, as well as *wahi pana* and sites of Maui. Several *heiau* were pointed out beginning in 1908 to Ashdown, who later became the Maui Commissioner of the Historical Sites Commission. The following excerpts from Ashdown (1970) are about some of the *wahi pana* of Hāna.

In the Hui lands of Hamoa where the High Chief Ka-pa-a-kea was born and reared there were many *heiau* from the beach up to the *Ana Pe‘e-kau‘a* (War-hiding cave) near Ke-aka-a-manu. This chief was the father of King Ka-la-kau‘a and his sister Queen Lili-u-o-ka-lani, and their mother was the high chiefess Ke-oho-ka-lo-le. All that area has been used as cattle range and was plowed also for raising sugar cane (Ashdown 1970: 45).

At Hamoa Bay in Ka-lua-nui the ruins of the *heiau* Pa-i-ka-lani and the temple of Lono, among others, still can be found. On the former land of High Chief Ka-pa-a-kea...stood the *heiau* called Lana-kila (victory) in Kili-nui and Pa‘au-hau. Above there was the *ana-pe‘e-kau‘a* or war-hiding

cave and its hidden spring which, perhaps, remain till today in that present pasture of Hāna ranch (Ashdown 1970:53).

[Ashdown later revises this] At Hamoa on a knoll the ruins of the Heiau Pa-i-ka-lani are seen. Its lower wall was over thirty feet high and very long, and nearby stood the Heiau Ka-lua-nui. A little further *makai* are the ruins of the Heiau o Lono with its stone altar for offerings of harvest time and for rain. Part of this temple was a place for treating the sick, and the *kahuna* and dwellers of the area cultivated a medicinal herb garden. The rain *heiau* is the smallest part of this structure. At Pa'au-hau stood the temples of Ka'i-ka'i-ea and Kili-nui which, most people claim, formed a *luakini* po'o-kanaka or place of human sacrifice. Nearby the *luakini* stood the Heiau Lana-kila which was the pu'u honua, and here was born High Chief Ka-pa'a-kea, who was the father of King Ka-la-kau'a and other children. Lanakila is about a fourth of a mile away from the other structures, in the land area called Ka'alae. Above there, quite a distance near the beautiful hidden spring of water is the tunnel which was a famed war-hiding cave from the time of Kiha-a-Piilani and his brother Lono who was slain in their battle to possess Maui (Ashdown 1970:56).

The *heiau* of Honua'ula which was built by King Hua-a-po-hu-kai-na at Wa-nana-ula in Hāna, and his other one called Kua-walu in Hāna, have been destroyed. In their place stand the Protestant and the Catholic churches and the tomb of A. Unna on the slopes of Pu'u Ka'uiki. Mr. Unna was one time a manager of Hāna Plantation (Ashdown 1970:52)... The Fortress, or Pa'a Kau'a which stood atop of Pu'u Kau-iki protected all that side of Mauna Ka'uiki. It was built by order of King Hua of Lele (now called Lahaina) while on his way to invade Hawai'i across Ale-nui-ha-ha channel (Ashdown 1970:56).

The *heiau* Ka-ni-o-moku was the place of refuge at Hāna in the area of Ke-au-moku [Kawaipapa] and all that land was a *pu'u-honua*. It was to this place of safety that the infant Ka'a-hu-ma-nu was brought after her birth in the cave at Pu'u Ka'uiki. Her father, Ke'e-au-moku was, at that time, defending the *pa'a kau'a* or fortress of Ka'uiki (Ashdown 1970:52)... On the boundary of the land [Ka-ni-o-moku] the *kahuna* set up poles having white *tapa* "pennants" rather than a stone enclosure (Ashdown 1970:56).

At Wai-ka-ki-hi, west of Ka-pu-eo-ka-hi harbor of Hāna, stood the twin temples called Kau-lei-lepo and Kau-lei-ula, with a paved path between and these were fishing shrines near the sacred fishponds there. Only ruins remain, and little is left of the round structure named Kai-a-puni, a *ko'a* near the grave of J.A. Ka-wai-nui, who was the editor of the newspaper called *Ku-o-koa* during the reign of King Ka-la-kau'a (Ashdown 1970:53). [Ashdown later says that the grave was "atop" the shrine (Ashdown 1970:56)].

[In another section Ashdown expands on these *wahi pana*] Across the bay [Ka-pueo-kahi or Hāna Bay] in later times the large fishponds of Wai Ko-loa were built by Ku-ula-kai of Hamoa. The Kihawahine, or spirits who take their name from a deified chiefess [Pi'ilani's daughter], who was a direct ancestor of Queen Ke-'opu-o-lani of Maui, visited Wai-Koloa and many other places on Maui. That deified chiefess, whose name is remembered as Ka-lama-i-nu'u or Kiha-wahine, was so sacred that she was a patron saint [*aumakua*] even after the arrival of Christian missionaries (Ashdown 1970:59).

Nakkim (1969-70). In 1969-70 Nakkim [former resident who still has family in Hāna] conducted an archaeological survey of Hāna, Maui. It was the opinion of Nakkim that "the wetlands of Hāna, Maui constitute one of the most important areas of occupation by pre-contact Hawaiians." It was Nakkim's intention that this study be a guide to further archaeological work in Hāna. In the following excerpt, Nakkim explains the attitudes of some of the locals:

The population of Hāna, Maui, today is still nearly ninety percent Hawaiian or part Hawaiian. Local people have a concern and respect for their heritage, and place names of coves, inlets, cliffs, and hillocks are familiar to most of them. Older persons speak freely of house sites, canoe

landings, Alii areas, heiaus, but most share a reticence in discussing burials or burial sites. Most have always steered a wide circle around acknowledged heiau sites, hence perhaps, the good state of preservation of some of these. For the most part, it is not the Hawaiians who have been guilty of tearing down ancient walls or building pre-fabricated houses atop heiau platforms. Most destruction has come through economic necessity--clearing fields for cultivation of cane and grasslands--and some has occurred through the ignorance of house-building summer residents (Nakkim 1969-70:1-2).

In discussing La Perouse's (1786) description of "the beauty and lush verdure of the slopes of East Maui" Nakkim concludes that La Perouse is describing the Hāna Plain, which would encompass three miles north of Hāna [the Hāna airport area] to three miles south of Maka'ālae, and the Kīpahulu-Kaupō area. Nakkim calculates that La Perouse is implying a population of 20,000 people in this area (Nakkim 1969-70:24-25).

In Nakkim's discussion of the destruction of archaeological sites, blame goes to the general *heiau* destruction [i.e., Ka'ahumanu following the 1819 breaking of the *kapu*], and church building on *heiau* sites. However, the near-complete destruction is blamed on the "One hundred years of sugar cultivation [that] demolished walls of whole villages" (Nakkim 1969-70:25-26). In discussing previous archaeology, Nakkim states that "not only did Winslow Walker miss many sites...there are still a good number that everyone [emphasis Nakkim] has missed so far." As did Soehren, according to Nakkim (Nakkim 1969-70:27-28). Nakkim's survey was conducted on foot, on horseback and by jeep, with occasional references to aerial photos.

Cordy (1970). In 1970 Cordy of Bishop Museum conducted Phase I of a 3-phase project initiated and supported by the Oceanic Institute and the Hāna Community Association: Phase I Initial Survey; Phase II Excavation; and Phase III Restoration. The primary goal of Phase I was to clear, and map Pi'ilanihale Heiau. The secondary purpose was to inventory and map surrounding sites within the 60-acre project area as a preparation to Phases II and III. Two weeks were dedicated to clearing the underbrush from the *heiau*; large trees were removed from the western part of the *heiau*. A detailed plane-table map of the entire site was completed along with two profiles; East-West and North-South.

Emory and Hommon (1972). In 1971 a survey of endangered sites within Maui was conducted by the archaeology staff of Bishop Museum, at the request of Inez Ashdown and her group *Hui Hāna Malama*. Emory officially began the project in August 1971. Hommon joined in September and in the course of five months, made three trips to Maui to explore and record endangered sites. The following are excerpts taken from their report "Endangered Hawaiian Archaeological Sites Within Maui County," prepared for the County of Maui

Until 1920 little thought was given to recording Hawaiian sites other than *heiau* ruins--the most conspicuous structure. When Thomas T. Thrum began his search for these in 1906, he said he was already 50 years too late; by that he meant that a majority of those which had survived had been converted into cattle pens or raided for their stones. By then, also, those who had known the history, character and function of a *heiau* had long departed this life with having passed on to their successors only a few scant details, such as its name and perhaps its main function.... Nevertheless, these ruins are the most visible anchors with the past of the land on which they stood.... *Heiau* ruins have another value. The presence of a *heiau* site may indicate that other important remains are in the vicinity through which ancient life and history of the land can be reconstructed (Emory and Hommon 1972:6).

Bevacqua (1972). Reconnaissance Survey: Lands of Hāna High & Elementary School, Wākiu. Bevacqua conducted a walk-through survey of the site of the proposed Hāna High & Elementary School. He reported that these lands were either used as pasture or under papaya cultivation, therefore he focused his

study in areas relatively untouched by modern agriculture.

While examining the northern corner of the survey area several artifacts, some midden, and numerous small, water worn pebbles were noted scattered about a low outcropping of decayed 'a'ā lava. The artifacts included two hammerstones and a possible grindstone. The basin of the grindstone was not well defined, suggesting that its use had been minimal. The midden or kitchen debris included several fragments of cowrie shell and coral. The pebbles had the appearance of being 'ili'ili, the pebble pavement used on the floors of Hawaiian houses. The combined presence of artifacts, midden, and 'ili'ili suggest that a Hawaiian habitation site had once existed there, though it has since been destroyed when the ground was prepared for papaya cultivation...no other sites were noted in this 37.8-acre parcel of land (Bevacqua 1972:1-2).

Hommon and Connolly (1973). In 1973 a cursory statewide survey was conducted on the archaeological sites in Hawai'i. Hommon and Connolly re-mapped several sites in Hāna.

Morton and Lum-Ho (1975). Reconnaissance Survey: Burials of Nananalua, Honokalani and Ka'elekū (NE of Wai'ānapanapa State Park), between Hāna Airport and USGS 1929 marker. Two sisters, Ella Hoopai and Juliana Kekauoha were contacted. They gave the name of their great-grandmother, Kahanaole Ahukinialaa, who was the last person to be buried in that area. Mrs. Kekauoha believed the ancient burials were in use from A.D. 1600 to 1870. Morton's hand-drawn map notes an ancient trail, platform burials, mounds, as well as a complex of lava tubes and caves

Tuggle (1976). Tuggle made a site inspection of Pi'ilanihale Heiau on May 13, 1976 for the purpose of providing recommendations to the Pacific Tropical Botanical Garden (now NTBG) regarding the preservation and archaeological use of the *heiau*. He noted a recent collapse of the western end of the north face, apparently caused by visitors or "vandals" walking or climbing on the face. Tuggle stated that Pi'ilanihale Heiau "is an excellent example of the Hawaiian architectural trait of developing a natural feature to create an impression of massive, monumental construction...the *heiau* is basically a facing of the end of a natural ridge with a platform on top." Tuggle pointed out the following when considering its future (Tuggle 1976:1-3):

Pi'ilanihale Heiau must be considered one of the most important archaeological sites in the Hawaiian Islands and any use of the site for whatever purpose...should take this into consideration...compromise with the archaeological needs should be as limited as possible.

Landrum (1984). Reconnaissance Survey: Kawaipapa. No surface evidence of prehistoric sites.

ACHI (1984). In August 1984 Archaeological Consultants of Hawai'i, Inc. conducted a survey of State lands (TMK: 1-3-05:2 and TMK: 1-3-03:26) in Wākiu [more likely Honokalani and Ka'elekū] west of Wai'ānapanapa State Park between Pailoa Bay and the Hāna Airport, from the ocean and the *hala* forest. A single three-man sweep was done between the sea and the government road. ACHI reported that the current "Wai'ānapanapa State Park is the previous location of Honokalani Village," which along with burial complex was the focus of the survey. A total of 368 features were recorded at the burial complex including above ground burial platforms, *ahu*, a circular pile of un-worked stones, and a multi-tiered structure with a number of smooth basalt uprights placed around the platforms. ACHI estimated that there may be over a thousand occupants in these platform burials (ACHI 1984:1-27).

Cleghorn and Rogers (1987). In 1987 Cleghorn and Rogers of Bishop Museum conducted preliminary archaeological and historical investigations of Hāna Ranch lands for EDAW, Inc. The focus of Rogers' section of this report was the literature review. Cleghorn reported on the 'Archaeological Investigations of Hāna' section of the report. The two-day field inspection included complimentary use of aerial photographs (Cleghorn 1987:13-14).

Cleghorn (1988). Reconnaissance Survey of Hāna Ranch lands. The survey was conducted by Paul Cleghorn, Aki Sinoto, and Eric Komori on 19 acres of land in the *ahupua'a* of Niumalu for Rosewood Corporation. LCA data revealed that traditional cultivation of taro and sweet potato occurred there. Two of four sites found predate AD 1778 and were consistent with traditional habitation and agricultural activities.

Cleghorn and Flynn (1989). In 1987 Cleghorn and Flynn headed three teams (14-plus people) in a six-week archaeological and botanical survey in Hāna, Maui. Their project was the first of a 5-year plan sponsored by Earthwatch “to provide information on the pre-contact settlement and botany of Hāna...to describe the settlement patterns of this windward district and show how these patterns were related to the prehistoric natural environment” (Cleghorn and Flynn 1989:2). Their report, “The Archaeology and Botany of Hāna: A Summary of the 1987 Investigations” was submitted in 1989.

Kennedy (1990). Inventory Survey: Kawaipapa.

Kolb (1990). During the months of October and November, 1989, Kolb conducted preliminary excavations at Pi'ilanihale Heiau. This represented Phase II of the Pi'ilanihale Heiau Project, first initiated by the Oceanic Institute before the development of a botanical park and *heiau* restoration. The following is a synopsis of Kolb's report:

Piilanihale Heiau is primarily a stone platform with a total area of 10, 857 square meters, placed on an 'a'a flow. Building material for the Heiau primarily came from local sources, both the underlying 'a'a lava rock, and the water-worn stones from the coast. Four major building episodes were distinguished: Stage A, the outrock terrace on the west; Stage B, the central terrace, the largest building episode, and the wall; Stage C, east terrace; and Stage D, modification of the wall, and the east and west terraces. Pi'ilanihale Heiau represents one of the earlier sites in the Hāna area. Material evidence such as domestic debris and adzes suggests that the Heiau functioned as a chiefly residence (Kolb 1990, 2-3, 7, 20-22).



Photo 49 & 50. Views of Hale-o-Pi'ilani Heiau. (L) Top view looking (R) View of N face – 50 feet high.

Kolb (1991). In 1991 Kolb submitted his dissertation “Social Power, Chiefly Authority, and Ceremonial Architecture in an Island Polity, Maui, Hawai‘i” as partial requirements for his doctorate. His data included analyzing archival material and 108 *heiau* on the island of Maui (Kolb 1991:xxiii). One of the *heiau* was Pi‘ilanihale Heiau. This has been the most extensive study of Pi‘ilanihale Heiau to date. The following excerpts regarding the construction phase of the *heiau* are extracted from his manuscript:

Pi‘ilanihale Heiau is 12,126 m² in size, and consists of two separate platforms bridged by a large terrace...[and] is situated at 30m AMSL on a large bluff.... Piilanihale Heiau consists of an immense dry laid lava stone platform constructed atop a natural ridge. The ridge was originally bisected by a deep gully now filled with a 13.4m high retaining wall. The boundary and retaining walls which outline Pi‘ilanihale Heiau are irregular and follow the contours of the ridge. The dimensions run 174m east to west and 89m north (*makai*) to south (*mauka*) (Kolb 1991:160).

Borthwick et al. (1992). Reconnaissance Survey: Haneo‘o, ‘Aleamai, Papaauhau, Oloewa. Charcoal collected during this survey produced three radiocarbon dates: AD 1345-1650 (Site 2711), AD 1425-1950 (Site 2835), and AD 1640-1950 (Site 2749).

Kolb, Orr & Conte (1993). Inventory Survey: Hāmoa

Henry and Graves (1993). Inventory Survey: Kawaipapa. Three walls and a complex of two enclosures, a platform and an L-shape were identified.

Masterson et al. (1997). Inventory Survey: Haneo‘o.

Sterling (1998). Elsbeth Sterling compiled research material about Maui in the 1960s. She organized this material using Walker’s unpublished map (see Figure 5). This archival research project was often complimented by field trips accompanied by local informants (including a walk-through with Mathew Kalalau in 1969). Her *Sites of Maui* is cited throughout this report.

Orr (1999). Ethnographic Survey and Cultural & Historical Background Review: West Honomā‘ele. Extensive archival research regarding the Pi‘ilani ‘Ohana and Kahanu Garden, along with an ethnographic survey of people connected to the Kahanu family and Kahanu Garden.

Bushnell & Hammatt 2000. Not available. [Ka‘elekū]

Haun & Henry 2000. In May 2000, Haun and associates conducted a survey of a 125-acre parcel in East Honomā‘ele. The parcel had been “extensively disturbed by historic and modern agricultural and ranching activity” and cattle were grazing during the survey (Haun & Henry 2000:3)

The survey identified four sites with seven features. The sites consist of two complexes of historic sugar cane plantation railroad features (Sites 4963 and 4964), a historic road (Site 4965), and a human skeleton (Site 4966). The skeletal remains represent an isolated late prehistoric to early historic burial. Site 4964, a railroad bed and bridge abutment, were constructed before 1915 and abandoned by the 1920s. A second railroad (Site 4963) consists of three stream crossings were bridge abutments and support piers are present. The second railroad was originally constructed between 1915 and 1923. There is evidence that the bridge support structures were subsequently repaired and rebuilt. The Site 4965 roadbed was probably constructed after the 1920s, possibly as late as the 1960s.

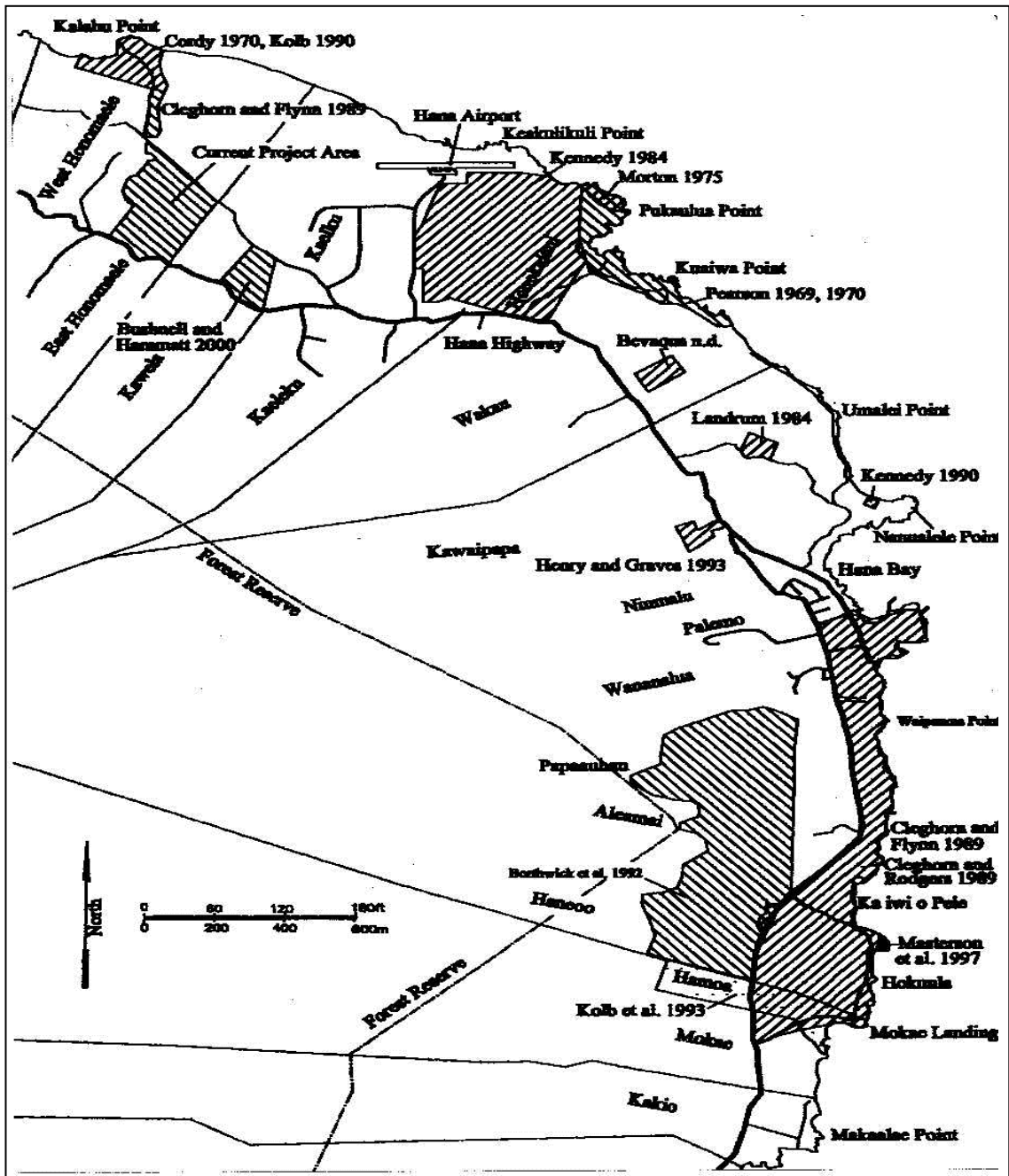


Figure 6. Map of surveys in Hāna (Haun and Henry 2000)

Hāna Pier Site Visits.

In the last twenty-six years the author has made dozens of visits to Hāna Bay and Pier. However, several site visits have been made with the HHF/DOT staff for this project. We noted the ramp construction work done relatively recently by DLNR-DOBOR (Division of Boating and Ocean Recreation); and the pier damage and safety measures taken to keep the public off of the damaged pier. The following photos are from a previous site visit (2010) and site visits on February 28, 2013; March 28, 2013; July 10, 2013; and October 29, 2014.



Photo 51. Hāna Pier 2-18-10.



Photo 52. Hāna Pier 10-29-14



Photos 53-54. Ramp before renovations 2-18-10.



Photo 55-56. View of West side of Pier 2-28-13



Photos 57-58. New Ramp 3-28-13 and 10-29-14



Photo 59-60. Pier Deck 2-18-10 and 3-28-13



Photo 61. Pier Deck 3-28-13



Photos 62-63. Pier Bridge damage 2-18-10



Photo 64. Entrance to pier 2-28-13



Photo 65. Damaged SW side of Deck 3-28-13



Photos 66-67. Safety Fence 10-29-14



Photo 68. East view of pillars 2-18-10



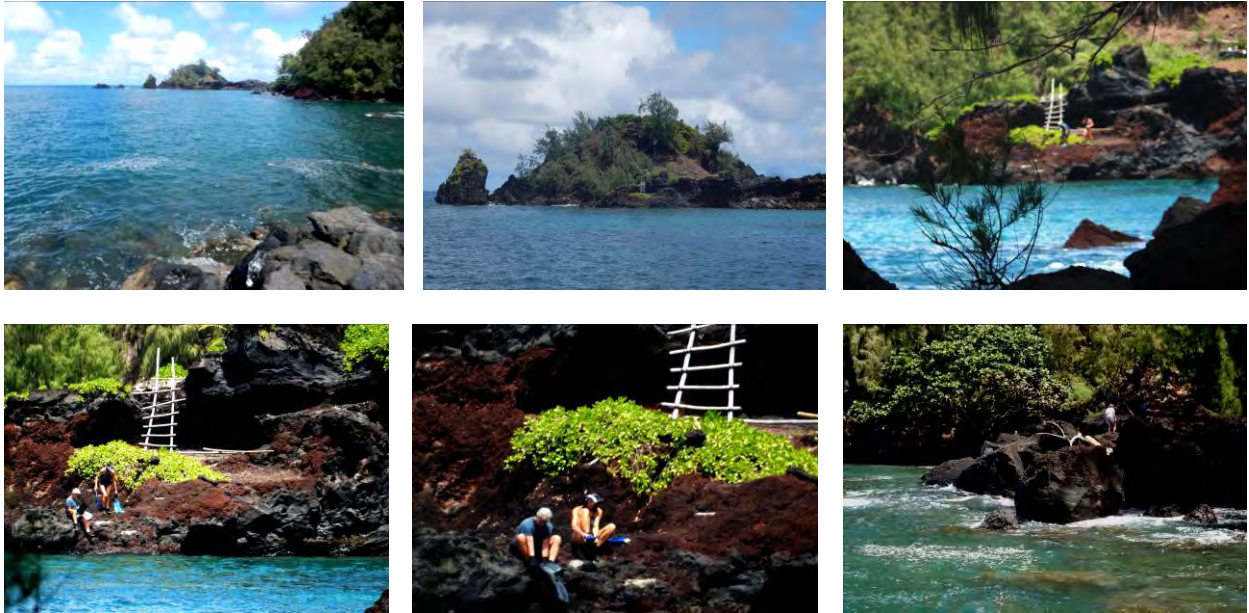
Photo 69. West view of pillars 2-28-13



Photos 70-75. Children jumping into Hāna Bay from boat ramp vessel loading/unloading area (9-11-16).



Photos 76-78. Children swimming at boat ramp area (9-11-16)



Photos 79-84. Activity on the cove side (East) of the pier (9-11-16).



Photos 85-86. Signs at Pier entrance (9-12-16)



Photo 87. Remnants of old wharf with Hāna Pier in background (9-11-16)

Hāna Community Meetings

February 28, 2013: Several letters were mailed to key community leaders of Hāna inviting them to meet staff of DOT-Harbors, Helber Hastert & Fee, Planners and Moffatt & Nichol Engineering who gave them an update of the pier improvement project and to obtain early input and advice on the EA scope and process.

July 10, 2013: Email blasts were sent to the greater community inviting them to the Hāna Pier Scoping Community Meeting at Helene Hall, Hāna Bay. The staff from DOT-Harbors, Helber Hastert & Fee, Planners and Moffatt & Nichol Engineering gave an update and answered questions.

October 28, 2014: This was a joint meeting with HHF and DOT-Harbors, Airport, and Highway Divisions. It was primarily organized by DOT-Harbors.



Photos 88-90. Helene Hall public meetings: 2-28-13; 7-10-13; 10-28-14

To provide a scientific basis and context for assessing impacts of the project on the cultural practice of *akule* fishing, the 2016 CIA interviewees were provided with a preliminary summary of project impacts to the *akule* fishery, prepared by AECOS, Inc. The conclusions of the study (as of October 2016) were:

Impacts to subsistence fisheries during demolition of Hāna pier would be localized and temporary. Project best management practices are intended to avoid or at least minimize impacts to essential fish habitat (EFH), and with effective implementation, BMPs will limit adverse impacts to *akule*, associated EFH, and fish catch. The elimination of the pier superstructure will allow sunlight into areas where light was blocked by the pier structure. Enhanced sunlight is expected to improve marine resources below the existing pier, contributing in the long-term to positive effects on *akule* and other Hāna Bay marine resources.

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ETHNOGRAPHIC DATA AND ANALYSIS (2013 & 2016)

The Ethnographic Survey (oral history interview) is an essential part of the Cultural Impact Assessment (CIA) because the ethnographic data helps in the process of determining if an undertaking or development project will have an adverse impact on cultural properties and practices or access to cultural properties and practices. The following are initial selection criteria:

- ❖ Had/has Ties to Project Location(s)
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Known Hawaiian Traditional Practitioner
- ❖ Referred By Other People

The consultants for the 2013 and 2016 Cultural Impact Assessment (CIA) were selected because they met the following criteria: (1) grew up, lives or lived in Hāna; (2) consultant is familiar with the history and *mo'olelo* of Hāna and/or Hāna Bay and vicinity; (3) consultant is a cultural practitioner of the area; or was a recreational or work-related user of the Hāna Bay Pier and vicinity (e.g. fisherman, boater, swimmer, gatherer). Copies of signed “Consent/Release” forms are provided [Appendix H and I].

In order to comply with the scope of work for this cultural impact assessment (CIA), the ethnographic survey was designed so that information from the ethnographic consultants would facilitate in determining if any cultural resources or practices or access to them would be impacted by the implementation of the Hāna Bay Pier project. To this end the following basic research categories or themes were incorporated into the ethnographic instrument: Consultant Background, Land Resources and Use, Water Resources and Use, Cultural Resources and Use; Anecdotal Stories and Project Concerns. Except for the ‘Consultant Background’ category, all the other research categories have sub-categories or sub-themes that were developed based on the ethnographic raw data (oral histories) or responses of the ethnographic consultants. These responses or clusters of information then become supporting evidence for any determinations made regarding impacts on cultural resources and/or practices including access.

Each person interviewed is asked to talk about their background; where they were born and raised, where they went to school and worked, and a little about their parents and grandparents. This category helps to establish their connection to the project area, their area and extent of expertise, and how they acquired their proficiency. In other words, how they meet the selection criteria. Ethnographic consultants either have family or personal ties to the project vicinity and/or are familiar with the history of the area.

There is always a danger of not allowing the consultant’s “voice” to be heard; of making interpretations that are not theirs; and of asking leading questions. To remedy this, the “talk story” method was used and allows for a dialogue to take place, thereby allowing the consultant to talk about a general topic in their own specific way, with their own specific words. All of the excerpts used are in the exact words of each consultant or paraphrased to insert words that are “understood” or to link sentences that were brought up as connected afterthoughts or related additions spoken elsewhere in the interview.

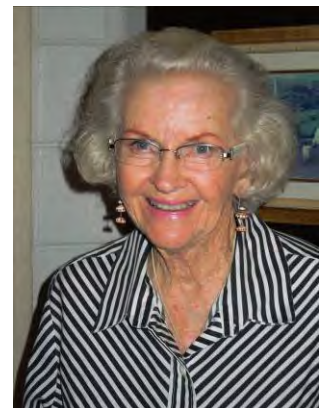
The following Table (7) is designed to provide a demographic view of the ethnographic consultants and how they met the selection criteria. It also provides a view of how consultants utilized the pier and bay e.g. cultural practices, recreational or subsistence. Because the sample (number of people interviewed) was relatively small it is not intended to necessarily represent a cross-section of the entire Hāna community.

Table 7. Ethnographic Consultant Demographics (2013).

Interviewee	YoB	Ethnicity	Connection to Project Area	Birthplace	Reside	Cultural Expertise
Coila Eade	1923	Cau	Fish/Historian	Nebraska	Hāna/1964	Artist/Hāna Cultural Center
Hank Eharis	1963	Pt. Hawn	Fish/Limu	Hāna	Koali	Fish/Limu
John Kahalehoe	1945	Pt. Hawn	Fish/Gather*	Wahiawa	Hāna	Fish/Limu/Opihi
Joseph Kaina	1943	Pt. Hawn	Fish/Boater	Ha'u, Hāna	Ha'u	Fish
Roback Kawaiaea	1956	Pt. Hawn	Fish/Boater	Waki'u, Hāna	Hāna	Fish/Limu
Nani Lay	1960	Pt. Hawn	Cultural/Rec/Fish	Hāna	Hāna	Ka'ahumanu Soc
Bruce Lind	1949	Pt. Hawn	Fisher/Boater/Rec	Papa'awa'awa	Mo'olea	Fish/Limu/Opihi
Giovanna Lind	1978	Cau	Fish/FAD**	Wailuku/Haiku/Hāna	Hāna	Fish/FAD/Limu/Crab
Greg Lind, Jr.	1976	Pt. Hawn	Fisher/Boater/Buoy	Hāna	Hāna	Fish/FAD/Limu
Gale Notestone	1957	Cau	Rescue/Boater	Ohio	Hāna/1995	-----
YoB=year of birth			*Gather=Limu/Opihi/Crab	**FAD=Fish Aggregation Device		

Consultant Backgrounds. The following “Consultant Background” section provides an overview of the ethnographic consultant, as well as information about their families, their relationship to Hāna, and their connection to Hāna Bay and Pier. These vignettes are presented in alphabetical order of interviewee names.

Coila Eade. My name is Coila Eade, I was born in Gothemburg, Nebraska in 1923. I lived there until I was twelve then my family got a job in Omaha, Nebraska and stayed there until I graduated from high school. I graduated in 1941, it was right after at the end of the year, of course there was Pearl Harbor, and many of us young women got married because our boyfriends were leaving. So in the following January I got married, January of 1942. My husband joined the Marines and was sent out in April to San Diego, California, and then I waited until August and came out to San Diego to live; my brother was also in the service and stationed in San Diego; he was a welder in the Navy. I lived there until my baby was born in January 1943; and I was in the hospital for 21 days then I moved up to Pasadena, California. I came to Hawaii in 1956, because I remarried and my husband and I came here on our honeymoon and fell in love with Hāna. My brother was [then] a policeman on Maui and showed us all of Maui, all the way around; and every time we ended up in Hāna because we fell in love with it. We had a new house, just finished in 1955, in Pasadena and we came over here and loved Hawaii enough to stay and we built another house. We started in 1964; we had to get a piece of land first, of course. [My husband's] name was Leslie Eade; he and his father had a garment business in Pasadena and they got a contract from Lockheed Aircraft and about the time I came to work there, so I worked with my future husband for nine years before we got married and then came to Hawaii. We did curtains; Lockheed [job] consisted of curtains for the Constellation airplane, some were military and some were regular commercial planes and we did 368 planes and one was the President Eisenhower's plane. It was a very interesting job. We got land in 1964 and built our house, which took us two years because we did most of them; and then Les got some oil paints and did some beautiful paintings and I got a small set of chisels and started some carving. Les' hobby was taking photographs; he did quite a few weddings in Hāna and various jobs but he took some wonderful



close ups of the individual Hāna people and before he passed away, he donated about 500 pictures and the negatives to the Hāna Cultural Center.

In 1971 Babes Hanchett was collecting items for the Cultural Center and I was also helping and in 1973, she started a membership drive and we had a lot of people come and signed up, so we have quite a lot of memberships now. Babes incorporated the Cultural Center in 1971, then we needed a place to put our items; we applied to Mayor Hannibal Tavares, and were allowed to receive a lease on the property of the Hāna Court with the old courthouse on it that was built in 1871. We restored the courthouse and when it was finished, we went to the Courts and they started using the courthouse once a month; the Judge came over and the attorneys and the police helped out. [In the beginning we had] a storage room up behind the post office, that area; and I had a collection here at the house. The main topic in all of our meetings was how we were going to get a building for a museum and that was our main discussion in every meeting. So, because I was not working I volunteered to send out some letters to people that we knew and the results were fantastic, the money came in large and small amounts from many people and many new members joined us. I drew the plans for the museum and it was approved by our Trustees as well as the Planning Department and they gave me permission to be the contractor to build the building. It was very interesting and fun. We opened in 1983 so I started in 1981. We cleared the land of course, there were lots of rubbish, junk and lot of weeds; the typical unused property. I hired local carpenters, cement men, and used all local men [sub-contractors] to build it, and in 1983 we opened it. Mayor Hannibal and I cut the *maile lei* and it was the most exciting moment to have that open and we had like a hundred people there and they all marched in to see the place - that was exciting. It wasn't a big exhibit because we didn't have the cabinets at first but it was nice; and John Elliott gave us \$37,000 worth of artifacts.

I opened [the museum] with volunteers and the ladies would come in muumuus and volunteer different days of the week and that was for 2 ½ years, and one of our generous donors gave us \$50,000 and he said to use part of it to hire someone so I don't have to be there so much. From then on we had to pay our help, which is not easy. This man that gave us the \$50,000, we had to use part of that to restore the courthouse and there was \$40,000 more just sitting there and I wrote him a letter asking him if alright with him if we use the \$40,000 to build the archives room and he wrote back a very nice letter, said he was very glad that money could be used for something as necessary as that, so that paid for our archives room. The carpenter who did the archives room did the whole thing without any pay but he hired the guys that we had to hire and he was used to working with, I thought that was fantastic - the archives, it was completed 1990 or 1991. We had to rebuild the jail, it was so termite eaten and we followed the pattern and everything exactly, we are also on the National Registry now for both places. I know the courthouse, we have to get it repaired and we have to go and check with someone to see what we are going to have to do....

We heard that David Hanson's cousin was selling the lot next door for a \$140,000. We couldn't decide what to do, whether we should try and buy it or go in debt. I brought five very good friends over to look at it, the first one said, definitely and she gave us a check for \$5,000 and the other four people were the same, had the same feeling and we got quite a bit of money out of them later. That was a place that could be seen from the hotel, they would have to have used our driveway to enter the property, and it would have been a big problem. I went to the hotel, I called the hotel and the Treasurer was there so I asked if I could see him, he was leaving for the airport and I said could you stop by ten minutes and so he did. He came up, I told him the story, we tried to get the price lowered and couldn't. Our friend from Philadelphia said if I could get the hotel to give us \$100,000, he would give the \$50,000 to buy the lot. The man said we are having a meeting in two weeks and I'll go to Atlanta and ask about it, so two weeks later I got a call from him and they were very generous and offered us \$50,000 not the \$100,000 and that was the beginning of our real estate purchase. This guy from Philadelphia said, "Okay if they don't think anymore of you than that then I'm going to send you \$50,000 but I don't want you to use it to buy a lot", so he sent me \$25,000 first and the last of December he sent the other \$25,000 but we never put his money in there. I wrote to people, I had drawings of what I wanted on the lot, the location of the *kauhale* and everything and that brought a lot of money in, so we bought the lot and then we had to build it, the *kauhale*. That's where we got a hold of Frank [Sinenci]. He built it with the students' help; it was wonderful, there were kids everywhere working on it. They had to clear the land first and we had to dig [archaeological excavation]; you were there - it was 1992. I'm sure it was finished by 1993 as soon as we got it cleared Frank was there. He did that in 1994 and 1995. [Coila]

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Legario (Hank) Eharis, Jr. My name is Legario Eharis, Jr. I was born in Hāna, 1963, went to school in Hāna, High and Elementary, currently live in the Koali area Hank is my nickname, after my dad, my dad was also called Hank; named after a baseball player, Hank Aaron. Legario is Filipino-Spanish. My parents are Theresa Kupau Eharis and my dad is Legario Eharis, Sr. My dad was born here and my mom was born here, we all grew up living in Hāna. I am Hawaiian, Chinese and Filipino. The Hawaiian is from my mom-she was Hawaiian Chinese; her father was Joseph Noa Kupau and he was Hawaiian. My dad was pure Visayan, Filipino. In 1912, my great grandfather assisted with the sugarcane, driving the train, hauling sugarcane. Originally we are from the Kaupo area and migrated into Hāna itself, my dad was a ranch foreman at least fifty years. My mom was a home keeper. She had twelve siblings – six girls and six boys; a lot of them are diseased already but my mom still resides in Koali, a few aunts, Cissy is my aunt, my Uncle Francis - they both still reside in Pukuilua. It's a very musical family. I play at home, I've learned Kiha'alo with my grandpa, Joseph Kupau, learned with my mom, singing at gatherings and other family members. I

graduated, actually I went to a year and a half at Lahainaluna and I finished my senior year at Hāna High School. Graduated and I currently work for the government, I've been working for the government, National Park Service for the last thirty years or so, I started when I was seventeen years old working on the conservation crew (YCC). Tim Bailey is my co-worker; we work together under our division for Feral Animal Management. I deal with all of those fences through Hāna Mountain, Ko'olau, up to the summit of Haleakalā. [Hank]

###

John Kahalehoe, Sr. My name is John Kahalehoe, Sr. I was born October 21, 1945 at Wahiawa, General Hospital, Hawaii. When I was six months my grandparents Francis and Maria Marciel, brought me to Hāna and I've lived here ever since. I was raised in Hāna, Francis Marciel had already left Kaupo and they relocated to Hāna, had a house built at Kawaipapa - that's where I grew up. He had children of his own but we were grandchildren, my father and mother were living on O'ahu. My parents are James and Ellen (Marciel) Kahalehoe. James was from the Big Island, born in Honokaa; my mother was born here in Hāna. The shares of Francis Marciel [Kaupo lands], he gave it to the ones that remained in Kaupo, one of his brothers, Joseph Marciel. He was the one that stayed back, everybody else had left the island, went to different places to live. I went to Hāna Elementary and High School. I graduated from Hāna High in 1963 and I was already enlisted in Hawaii Army National Guard, and went to basic training on O'ahu and after six month of basics, came back to Hāna, got married to my wife, Kanani Pū Kahalehoe, married in 1965 and had our first child in 1965. I worked at Hāna Tropical Fruit Plantation- that was a papaya plantation. After there for so many years I worked at Hotel Hāna, Maui. After several years, in 1968, I was employed by the County of Maui, Highways. After working there for two weeks, I was called to active duty and relocated to Schofield Barracks; I was there for a year and discharged from the Hawaii Army National Guard, came back to Hāna and continued working for County of Maui. Working for some years with the Public Works Department, I transferred over to the Water Department, and I've worked for the Water Department for thirty-two years. I worked out in Central Maui for twelve years and came back to Hāna and worked from 1985 to retirement in 2007, total years of employment with the County thirty-nine years and six month.



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Joseph 'Blondy' Kaina. My name Joseph Kaina, I was born (1943) and raised in Ha'u Maui, that's about five miles away from Hāna towards Seven Pools - I lived there all my life. Went to Hāna School, graduated twelfth grade and stayed here. After high school I worked for Hāna Ranch for couple of years, then overseas to work then I came back and worked construction on the other side for four years and came back and worked in Hāna until I retired from the State. My dad is David Kaina and my mother is Elizabeth (Keli'i) Kaina. My mom, from the Big Island, my dad is originally from here. My half brothers and sisters are Kananā and my grandparents, my grandma's brothers and sisters all lived here. [Growing up] I was five miles out [Ha'u] and very seldom come to the Bay. When you are young your parents always have something to do so if you want to swim, why come all the way to Hāna Bay when you can go to Hāmoa. Most of our family is from Hāmoa, we go there weekends.

###



Roback "Boise" Kawaiaea. My name is Roback John Kawaiaea. I was born (1956) and raised in Hāna. I went to Hāna Elementary and High School until sophomore year then went to Lahainaluna where I graduated. My parents - my mom is Pearl Momi (Roback) Kawaiaea and my dad is John Kawaiaea. My mom was from Keanae and my dad was from Kaupo. My father came from Kaupo but before that I think Big Island.... Billy [Roback] is my Uncle, my Mom's eldest brother. He's Ali'i Nui now for the Royal Order of Kamehameha. After high school I worked for a construction company (Ige Construction); I worked on the waterline, in the subdivision, in Ka'eleku and did road work. Later I went to the other side to work for a while then came home to Hāna. I worked as a bartender for the hotel; and as lifeguard at Hāmoa Beach. In 1983 I started working for the County Highways Division [currently there].

###



Nani Lay. My name is Nani Villaremo (Smith) Lay, and I was born here and my parents are Dempsey and Mina Aiana Villaremo from the island of Moloka'i, Ho'olehua, Moloka'i. My father was the head maintenance for the Hotel Hāna Maui. I graduated here at Hāna High School 1977...I left for a very short period and returned and never left; at that point I knew I loved my home. Soon after [graduation] I worked at the Hotel Hāna Maui; at that time Tony DeGetley was the manager. While working there I was able to do many things that I am so thankful for today, that has kind of led me up to where I am today. During the process of working, other than being a Shop Steward for the AFL-CIO, that gave me a lot of leadership qualities, it made it possible for me to do some traveling to different islands, that I really appreciated. And beyond that and most recently with the management of Doug Chang, I was able to travel to Arizona to visit with the Navajo Nation. Myself, and three other ladies were invited along to do a cultural exchange.... All with my working at the hotel, I had an interesting career, I was able to attend Maui Community College, through an outreach program that is still continuing here, our community building. While I was going to school that room was known as the library and now it's our community outreach program. Through Sky Bridge I was able to get my certificate in Hawaiian Studies, which entailed a lot of ethno botanical studies along with language and pacific culture. I'm very happy to have the opportunity to work and continue education.... And now I'm here at Kahanu [Garden] after thirty-two years with the Hotel Hāna Maui and still enjoying the journey. Now

it's taken me more of an ethno-botanical field that I so enjoy. Brings us back around to the culture and who we really are and I so love who I am, what my community lomi-ed me to be and different threads that I was able to encounter along the journey. 'Aha Hui Ka'ahumanu started in 1990 with a very strong core group and Pelekikena [President] at that time was Mrs. Keaolani Noa. They started off with a very strong core group and after she left, Elaine Needum, was a Pelekikena for maybe three years and she's now a member of the Wailuku Chapter. I joined in 1990...and I took over probably in 1995 until now, as the Pelekikena.

###

Bruce Lind, Sr. My name is Bruce M. Lind, Sr., and I was born (1949) here in Hāna District, born and raised and I grew up here, the only time I left this 'āina is when I went to the service. When my time was up, I came back and stayed here the rest of my life, got married and raised a family. I was born in Papa'awa'awa, and I was born at home and grew up in Mo'olea. I went to Hāna School and graduated at twelfth grade, after graduation I left for the service -Army. I was in for three years, two years of that time I spent in Vietnam. I came back and ended up got married, raised a family, fishing and hunting, all those things are the way of life over here in Hāna. When I first came back I worked at Hāna Ranch for twelve years - I was a cowboy, ranch hand and just about everything you can think of...and then I worked for the County of Maui for twenty seven years, I retired there.



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Giovanna Lind (Gina). My name is Giovanna McGregor Lind. I was born in Wailuku, Maui in 1978. I went to Haiku Elementary and graduated from Maui High, I attended the University of Hawaii at Manoa. My mom moved out here when I was twelve, but I went back and forth between Hāna and the other side; I'd prefer to stay. My mother is Angela Eharis, my father's name was Samuel McGregor [stepfather is Hank Eharis]. She's been here for over twenty-five years; originally from California. [After high school] I moved back to Hāna. I worked at the Medical Center as a Dental Technician. When the last sale of the medical center was made, the doctor I worked for moved to the other side and I went with him. After a couple of years, I wanted to come back to Hāna, but I had to have a job I could do in Hāna. So I went back to school and I became a teacher. I teach at Hāna Elementary, I'm a third grade teacher. This is my fifth year. [So I came back] after finishing school, so about five years.

###

Greg Lind, Jr. My name is Greg Lind Jr., born and raised in Hāna, 1976. Went to Hāna School, Elementary and High. [After high school] I worked on my dad's farm, fished with him. My parents are Greg Lind, Sr., and Eunice (Smith) Lind. My parents were both born and raised in Hāna. Yes, my dad used to go fishing on the boat and we used to go down to the Bay, swim at the wharf all day long and wait for the boat to come back in; that was the playground before - playing on the wharf. Went fishing with my dad, all my life, my dad is a commercial fisherman too. I started my own business three years ago, got my own boat.

[NOTE: I apologize for not having photos of Giovanna and Greg]

Capt. Gale Notestone. My name is Gale Notestone. I was born in Ohio (1957) and raised there and moved to California after high school, pursued golfing career, got into boating after that. I became a windsurfing enthusiast, that's what brought me to Hawaii, windsurfing, and I opened up a windsurfing concession at the old Intercontinental Hotel in Wailea in 1982 and that's when I moved here; they brought me over to teach windsurfing and run the sailing school. I came over here and did that and got my captain's license in 1983, boat captain's license and have been a boat captain ever since and still active to this day. I take care of other boats, big boats, one on Maui and one on Molokai. In 1994 I was hired by the Maui County Fire Department, passed the tests that were required and was selected to be a Fireman, the Hāna Station opened up February of 1995 and I was stationed here as one of the new firemen for Hāna; I was living in Makawao at the time. I decided to look at living out here because Hāna is very unique and having a job in Hāna - to have a good job, is unique, because there's not a lot of very good jobs in Hāna. About 1997 I purchased a share in a property in Nahiku and had my sights on living out here and I've been here since 1997. My wife works as a paramedic out here, we built a house on 'Uakea Road and that's where my main residence is now. I'm the first resident Fire Captain for the Hāna Fire Station, over all the years they've never had a resident Fire Captain. All the Captains that work here - there are three different Fire Captains working three different shifts - all the Captains have been from the outside. I'm the first one that actually lives in Hāna and I'm very proud of it and I take a lot of ownership in this station. I've worked here a long time and know a lot of people out here. And Michele, my wife, and I teach a lot of CPR and First Aid; we do it for the hotel and a lot of different people - the school, Kipahulu Stables. So we do CPR and First Aid training.



###

Land Resources and Use. Land resources and use changes over time. Evidence of these changes is often documented in archival records. Cultural remains are also often evident on the landscape and/or beneath the surface and provide information regarding land resources and use. However, oral histories can give personal glimpses of how the land was utilized over time and where the resources are or may have been. The sub-categories below are developed based on the responses of people interviewed.

Hāna Bay/Park

Hāna Bay, growing up in Hāna was our playground, especially in the summer [Boise].

I did go down to the Bay, as I grew older, being young as I was, I started to go on my own, walk along down the stream, Kawaipapa Stream, when it wasn't flowing, when it was dry. Using that pathway down to the shoreline at the mouth of the river and eventually got into Hāna Bay and walked around [John]

When I was growing up they had storage, sugar cane warehouse. Is this Helene Hall? This is where one of the storage ware houses used to be, one was there and next to it was a Standard Oil tanks. Eventually, Hāna Ranch started to develop the electric power station, before that they had to bring oil in at the pier; they had an oil line that went from the pier all the way to these storage tanks. I know they unloaded oil, they fed it right into the line and the line went into these storage tanks and it was trucked up to where they needed the oil to continue running the power plant up in the Hāna Town where the Hāna Store is, that's where the Mill was and that's where the Hāna Store Warehouse is where the power plant was; they had generators that ran by fuel [John],

Mr. Sumida, he had the fuel truck - there were huge tanks, two or three of them [Coila].

Helene Hall was built after we came (late 50s or 60s) and that's used for weddings, receptions, and it's used for birthday and graduations and the Christmas program used to be there. I don't know if it still is or not, they are doing without Santa Claus now [Coila].

They had to take the big tanks out and clean the whole area; there was no building there before. They must have built it in the late 50's, because I remember that this guy that would bring me home, we'd park the jeep by the tanks and I'd meet him there with my fish and he'd drive me home. It was very exciting to have a new hall and have a place for people to get together, and there are a lot of meetings there as you know and the Aloha Week flower arrangements are in there [Coila].

Historic Pier Use/Users

I think it was mainly used for the sugar cane. I don't think they used it for cattle. Kaupo they used to take the cattle to that side; they took them in the water with horse and lasso. Hāna, by the time they got their cattle going, I think they used the road but in the old days, they would slaughter and take out the meat, they had a slaughter house - by Kawaipapa, the bridge where they have the new homes, where Howard Cooper's Farm, there was the old slaughter house [Boise].

I was familiar with this area and at my young age I remember this pier was operational, the Ranch was the only one using it. They used it to load the cattle in and out on the barge. They used to tie up on the pier, and they had a house here on the pier before and they use to bring the cattle down here on the road, they drive them on the road all the way down, right on the wharf, into the house until the barge, get in and they put the chute and run them on the barge. Until they condemned the pier, they condemned this a long time ago, maybe early 1960s... the pier just wasn't safe enough for the big boats. I was a cowboy, ranch hand and just about everything you can think of...[and] drove it [cattle herd] down to the road. They had the road up here on the back of the hill, and the cows used to come down this road [Bruce].

I don't recall when the pier was built, that was during the period of the plantation. The pier was built mainly for the plantation to have their sugarcane shipped out as large boats came in to pick it up. After the plantation broke up, phased out, this person Fagen came from Moloka'i and bought large parcels of sugarcane area within Hāna and he

also had built the first hotel here in Hāna. The pier was also still in use for him [Fagen] to ship out cattle as he brought the cattle from Moloka'i, they grazed here where the sugar cane used to grow [John].

I know it was in good use for the people before for the *kupuna* and *kamali'i*, because they used the pier a lot; it used to be for fishing and the kids use that as a swimming area. Those used to be the day, until now they still use the place [Blondy].

Ramp Boulders

I thought it was Waikoloa but they may have brought it from the other side, they wanted to get them from Kawaiapa but they weren't able to get permits, and the guys weren't allowed [Boise].

Ka'uiki/Ka'uiki Trail

We have pictures of it, Kauiki was just a big hill and there were no trees. I can't remember who planted all the trees but after a few years they dropped seeds and it's covered now. [Pictures were from] Plantation times, because there were big trees already when we came in 1956 [Coila].

I hiked up [Kauiki] with Les when we were testing the TV, we carried a battery and were not very successful. The trees are very close together and the ground is just covered with all kinds of weeds and things growing along with the rubbish from the trees that were dropping; it was pretty rough going. It used to be a trail but with all the landslides the trail was very bad... tall pine trees, Norfolk Pines and there was Ironwood [Coila].

Mrs. Cooper, Eva Cooper, I have a letter from the County to Mrs. Cooper because she used to go up to the top of the hill and watch for fish and they said they would change the road somewhere and that she had to move something so that they could go along [Coila].

I used to go up there before when they use to surround *akule* because sometimes that's where the *kilo* used to go and start flagging the boat and when to drop the net and couple times I went up with him. Porte, the guy's name was Porte, he used to live in Waikoloa but I forget his last name, old Hawaiian man, and I remember him going up there. On this hill we would climb the hill, go over Red Sand, the peninsula facing this small island, we used to go and hook *ulua* at night time. The trail came up by the [old] school and come up, cross over and go down and walk above Red Sand Beach, up in the hills. We'd start climbing down trees to get down there. [Getting back] same way, climb up and hold onto the trees; those days we were young. The first time I went up and looked down into this area, the lighthouse [side], there was a nice green valley, pine trees, Ironwood pines, and other trees. It was like walking through a forest until you come to the valley over here and then we started walking back down this way to the peninsula right here [Boise].

The next big step we [Ka'ahumanu Society] are trying to do, and it's in our work-in-process, to put a statue up at Hāna Bay area, we are looking at the area that Hāna Ranch now owns [base of Ka'uiki] and we've been in talks with Amber Starr [Nani].

Lighthouse Island

When the trail was good we would go down to the wooden bridge and swim under; there was a hole. The other side was a peninsula and a white sandy area. But one storm the bridge disappeared – the Coast Guard took care of the bridge, but did not replace it... Right here [pointing on map] had that bridge; it was a narrow wooden bridge that the Coast Guard put up so that they could service the lighthouse [Boise].

I don't know the name of this island but it's where the lighthouse is [John].

Papaloa Islet

You can't see it from here [Coila's house] you have to go around and the only way you can get around here is to walk around the shoreline here, this is the trail and it comes around the head of the Kauiki Hill and you have to jump into the water and get on that island. The name of this island is Papaloa [John].

Old Train Track

Right below here [Akule Hale] going down this way is the old train track that would go down to the pier, that's the old train track road that goes behind Helene Hall [Blondy].

It was steep but that's where they [train tracks] ran, they ran it right below Akule Hale and it came down between the *hale* and the road, it was pretty steep [John].

The train tracks went down to the pier, we have a picture of the train and I guess they were unloading the sugar to take it out to the ships, I suppose they brought supplies in too [Coila].

Akule Hale Land.

The [Hāna] Ranch owns the land. They've been good to us and we still keep up the place and that's how we started this place, this Hui, Akule Hale, and since then it's still going. We had to clean this place out.... All the old timers would come up here and look at the fish, this was a small little place over here, and that's why I asked for the place and they said okay and we built it to where the community can use too. Not only us, we use it but people who want to use for their purpose, meetings and things like that, that's okay, I don't stop anybody, unless they are young kids [Blondy].

Hāna Cultural Center/Hāna Bay Neighbors

In 1971 Babes Hanchett was collecting items for the Cultural Center and I was also helping and in 1973, she started a membership drive and we had a lot of people came and signed up, so we have quite a lot of memberships now. Babes incorporated the Cultural Center in 1971, then we needed a place to put our items; we applied to the Mayor Hannibal Tavares, and were allowed to receive a lease on the property of the Hāna Court with the old courthouse on it that was built in 1871. We restored the courthouse and when it was finished, we went to the Courts and they started using the courthouse once a month, the Judge came over and the attorneys and the police helped out [Coila]

The Hāna Cultural Center is up here and this is Keanini Drive. These two little lots are the two we bought for \$140k... The courthouse, that was an important place, took care of all their legal [Coila].

[Leslie] donated about 500 pictures and the negatives to the Hāna Cultural Center. We get orders for pictures; sometimes they want copies so the girls [staff/volunteers] have a man that copies them [Coila].

This was the Mederios' [Ulu Mederios Helekahi]- it used to be a hotel and the last time I was there they still had the numbers above the rooms.... She married before Helekahi but he died on the *Sarah Joe*, really nice guy [Coila].

This first one [is the Akana's – Thelma Haia Akana], the second one is Bub's [Haia-Chang] and this is Babes [Haia-Hanchett]. That's where her mother lived. Their father was a Principal at the high school and a musician - taught people to play the guitar and so forth. I was told that there was always singing in the family and he taught the girls to sing and play music, they'd play a lot of music at home.

That's where one of the warehouse was, the other is across here [Waikoloa side]. I tried to build the skating rink, I tried to have it built here but they said no. I can't even remember who said no but John Hanchett said they wouldn't even allow it [Coila].

Wananalua Church

It started out as a *hale* church, I don't know if it burned or blew over in a storm, then they made a wooden church, the one that is there now [was built] in 1837. I think it was completed then. Its chunks of coral from the ocean, huge coral pieces and the walls are about 2' thick, and we restored it when _____ was here so we saw the inside and it's plastered with - in the old days they ground up the coral with water and used it as cement [Coila].

The Catholic Church is right across the street, the telephone company is across the street [Coila].

New Camp/ Hāna Ranch Cottages

Sam Akoi, they were born and raised here at the new camp, another one is Duke Kahuila. [Hāna Ranch Cottages] that used to be the new camp and the road goes all the way and comes out by the theatre [now Hasegawa Store] [Blondy].

Hāna Ranch Lands

They demolished all the sugar cane fields because the sugar cane wasn't in use any more and planted grass to feed the cattle, and the pier was mainly used to ship the cattle at that time. As I was growing up, I was still too young...of what area they still had cane and when they demolished the cane. During my elder years as I grew older and understood what the surroundings were, it was mainly pastures already. I don't know what year it was but it was already pasture [John].

Hāna Mountains

The Hāna Mountains here are very unique in itself. I have a lot of photos, recording of plants and animals, bird life; doing that specific job you get to go where very few people tend to go and see and it's really not that far but it's a two day hike to those places, anywhere from here [Hank].

Water Resources and Use. The Hawaiian word for fresh water is *wai*; the Hawaiian word for wealth is *wai wai*. This is because of the value the ancient Hawaiians placed on fresh water, which was crucial for growing taro, the staple of the Hawaiian people using the *'auwai* or irrigation system. Fresh water was also crucial in the lifecycle of stream inhabitants such as the *'o'opu* and *'opae*, as well as some of the marine life that depended on the benefits of brackish water areas. Fresh water was valuable in other ways such as natural springs or ponds. The responses in the interviews did not cover fresh water; emphasis was primarily on the bay and pier area, although historically Ka'uiki was known to have a fresh water source.

Marine Resources and Use. The sea can be a great resource to people with access to its bounty. Wananalua Ahupua'a was part of a coastal environment settlement, where the ancient inhabitants fished and gathered at Hāna Bay and the near-by islets. They were also very connected to the area surrounding the bay, Pu'u Ka'uiki and *ma uka* lands as mentioned in the *mo'olelo*. The fishing, gathering and recreational activities have continued with the current population of Hāna as expressed by the interviewees. The sub-categories below are developed based on the responses of people interviewed.

Hāna Bay

Ka Pueo Kahi, as we know as Hāna Bay was a playground for many of us, it was a part of my life, our life, all the kids down Keanini Drive, down Auakea Road, kids from far away who was *kolohe* and they were always sent home with their grandparents. During the summer months we had a lot of people from elsewhere and we would always gather down at Hāna Bay. Everybody would do their chores and meet down Hāna Bay and just enjoy and that's where our friendship grew, so a lot of people from all over the place [Nani].

Hāna Bay is an important place for fun. And as we grew up a lot of important things happen there, family gatherings, family reunion [Nani].

Hāna Bay growing up in Hāna was our playground, especially in the summer [Boise].

The canoe races are very popular now, probably have about thousand people here...they bring their canoes over from Lahaina, all different places from the other side, Kahului. They come out of the Bay and go around Alau and

back so they have motor boats accompany them in case the flip over. They might [use the pier] when they start the race and they may have someone out there to watch when they come in [Coila].

We bring all the families down here to swim, everybody, the whole town in Hāna, learned how to swim in Hāna Bay and a lot of them learned how to swim from the Pier [Bruce].

Over the years of being here I haven't really noticed a lot of change in Hāna Bay -- the sand, height and drop. I have never seen big dramatic changes like that in Hāna Bay over the years that I've been here. For the winter swells, it doesn't get hammered like Ka'anapali Beach does.... Waikoloa, the black sand that's down there, I've seen changes there where those rocks at Waikoloa get really steep sometimes and it's really nice sounding... But as for Hāna Bay itself, I just haven't seen it disappear like you do at Ka'anapali - I frequent there [Hāna Bay] and I live right here [Capt].

We work with West Pac [Western Pacific Regional Fishery Management Council] actually, we deploy FADs [fish aggregation devices] for West Pac and my husband also works with Eric King of West Pac to manage the Hāna Community FAD, which he helped build and deploy... and the buoys are used for studying pelagic fish and also used to provide for community sustenance [Gina].

Hāna Bay Fishing, Gathering and Crabbing

What we used to do we used net to go *hukilau*...long time ago. We might have been the last out in the Kipahulu area, we had the *lau*, we made them and the net but we gave that up a long time ago. It's a different way of fishing, at times we go, like the *lau* it scares the fish, they won't even go through and once they get into the net and everything that gets into the net is caught, there's no escape...for the *o'io* and whatever fish that is afraid of the *lau*. It depends if you go to the rock area you get a different kind of fish [Bruce].

We go down there to catch crab - the black one, sometime *ahole*; we gather *limu- limu kohu* [Gina].

Crabbing, there is a lot of crabbing in the Bay...*a'ama* crab, the black crab, and here in Hāna Bay that's a self-sufficient Bay where all the people of Hāna come into the Bay and catch crab, whatever they need for the party. When they make *lu'au* for the families they come into the Bay. And we feel comfortable because the water is nice and clean, we have good circulation in the Bay with the water and we'd like to see it stay that way [Bruce].

We do pole fishing, the community does that... for *enenuē*, any small fish that bites at the shore. A lot of *limu* in Hāna Bay, everybody, until today, everybody gathers the *limu* and *opihi*. *Lipoa*, *limu kohu*, *lipepe*, *nei*. *Nei* looks like deer horn, they call it chop-chop *limu*, they mix them with the *opihi*, and some people call it *opihi limu*. I guess every area has different names for the same type of *limu* [Bruce].

We do a lot of diving over here, our young kids learn to dive here in Hāna Bay, and this Bay got a lot of background, learning and experience from generations and generations. As they grow up, they learn this type of fishing, that type of fishing in Hāna Bay, the learning experience and when they get better they start going out diving and fishing all over [Bruce].

We lived in Waki'u and after we did our chores we would go to the bay to fish and swim. We would walk; it was about a mile. Also my Mom liked to fish too so we would go and she would hook for *oio* and *moili'i* when they were running - usually during the summer. The whole bay would be lined up with people hooking up *moili'i*. Now you don't see that anymore - it's not happening anymore. It's been kind of long; maybe 20 years. We would throw spinners for bone fish - *oio*; spear fish and dive. First stage would be to go to first rock, then to second rock. We made homemade spear-gun using the wire hanger and thread spool with rubber for a sling and dive along the shore for *ahole* [Boise]

In Hāna Bay there is a lot of *limu kohu* and there's *opihi* but the locals don't gather that too much, they leave it for the *kupuna*. The young generation they go to the kinds places where they can get them [Blondy].

We would swim along the shoreline to Waikoloa for *limu kohu* when the tide was nice and low. Part of gathering was getting black crab at night from Waikoloa to the lighthouse. Other *limu* was the crunchy one...*limu pe'epe'e*...small little black sand area at bay and at Waikoloa [Boise].

We started over here, outside this area and by the old landing, right here. But this whole bay, people was catching [o'io] [Boise].

I go there [Hāna Bay] every week, my son-in-law is a fisherman so we go out on the ramp, to sea and spend a lot of time on the shoreline looking, for me I'm look to see what's happening especially these last few weeks of low, low tide. You can really see the *limu* beds and how things are doing; I spend a lot of time there [Hank].

As I was growing up in Hāna, I recall during my young years that Hāna Bay was more like a gathering place for all mostly everyone who lived within the Hāna area because of the fishing [John].

Not like when I was younger but still once in a while I get to go down to the Bay, especially when something is biting [Boise].

All kinds of shoreline fish, *enenue*, *menpachi*, *aweoweo*, *ahole*, all kinds you can think of, the ones they want to keep, they keep and the ones they don't, they let them go [Blondy].

[I did] mainly shoreline fishing, like striped Sergeant fish, *manini*, *aholehole*, *enenue*, just the shoreline fishes. I've gone out open-ocean fishing with my friends...*aku*, *ahi*, *kawa kawa* and sometimes deep sea fish, *opakapaka*, *ehu* [John].

And that's another thing, you don't see many boats moored for long period of time out in Hāna Bay because of the surge and its' so rough [Capt].

All kinds of fish for boaters, they have bottom fish - *onaga*, when tuna runs, everyone goes for tuna but right now it's slow [Blondy].

It's pretty bare down there, I mean out in the middle of the Bay, out from the pier it's kind of sand bottom and kind of open [Capt].

[Hāna Bay] We did everything, diving, throw net...used to have plenty of everything, not too much now. [Throw net for] *aholehole*, pick *limu kohu*. Get crab, *opihi* but there wasn't the best *opihi* down there [Greg].

The building of *manini* houses, that's one practice that has not been done in a long time but in the northeast side of Waikoloa, I remember a lot of the shorelines they had built. Besides the inland ponds and the fish ponds right along the shoreline before they incorporated that, the practice of building for the *manini* house itself. It's like a fish pond but a house for easier fishing [Hank].

Akule Hale/Akule Fishing

We started this way, actually we are fishermen all our lives, all the people in Hāna are all fishermen; we started this place here over twenty years ago. We asked permission to use this place and they granted permission. All the old timers would come up here and look at the fish... We spot fish; if the fish come in we go and get it and the good part about the people over here love fish. We catch fish, everybody comes here and takes it out, we ice it and everybody gets their share, the whole town gets their share. We don't sell, we catch for the community [Blondy].

Way back our legends, this was one of our old traditional ways of fishing for *akule*; this hill here the spotter goes up and looks for the fish from Kauiki Hill. Now they are more modernized, they got glasses, they can see easier [Bruce].

You have the *akule*, I don't know enough about that fish but I know it is very important because you have the *akule* shack above Hāna Bay and they built that. One of the main purposes of building it right there was to spot the *akule* schools that come in. I remember when we first got the watercraft we had to go get permission to practice out there,

they wanted us to ask. We didn't need to, but we did out of respect. We'd go visit them if they were out there and certainly we don't want to interfere with any of that. Now whether the *akule* would benefit from that by having calmer waters, I would imagine that's why they come in to Hāna Bay because it's relatively calm and somewhat protected [Capt].

We used to surround *akule*... *o'io* too. We load all the nets on the boat and two people paddle, one guy is up on the cliff, on the hill and when we spot the fish he waves the two people to go, the two guys on the net boat paddle the net around the fish and then we get the full surround a bigger boat comes in, we call it 'bust a pile'. The old days, didn't have boat so they would just swim inside and splash, that way was better because the fish would get scared and they would come back the next day. Now you got the boat and you do that and the fish stay away for weeks [Greg].

I recall there were times that the fish came into the bay to spawn, large amounts of fish; that was the time the fishing crew that was established here in Hāna had nets, and what they did was go out in canoes with their nets onboard and surrounded the fish, *akule*. That was one of the biggest events for the Bay of Hāna [John].

Normally the way they surrounded it, and after they got it surrounded there was one end of the net on shore and as they surround the fish, they'd bring the other end to shore so the people that gathered on the shore to support those who were out fishing, they started to pull on the net bring the fish closer to shore. But it was slow moving because the amount of fish was so much and they needed to make sure the net didn't get snagged at the bottom of the ocean. Those who were on the canoe and there were divers to make sure the net didn't get snagged, the people on shore kept pulling and pulling at a slow process until the whole amount of fish that was gathered in the net got close to the shore line, I would say about waist high, they brought the net in and they kept the fish in the water so it didn't dry out and then they'd started to take the fish out of the net. And at that particular time people gathered around the net and I recall some taking fish without being spotted or waiting their turn to be given fish, they were helping themselves [John].

It was very exciting. It was one of the biggest events sometime lasting from the morning all the way to the evening, and sometimes there were so much fish and there were people already had fish and they couldn't take anymore and those who were in charge didn't know what to do with the fish, everybody had fish... [there was] mainly *akule*, there may have been other types but no sharks. There weren't any refrigerators and you could take what you could eat or what you could do with it as far as drying it so you can preserve it. There's were any refrigerators and for those who had refrigerators they could take a little bit more or keep it frozen but other than that, I heard, I didn't see it, the balance was buried back into the sand [John].

Hāna Bay Challenges

The pier was there way back and as we grew up the pier became the place where we gathered, and we swam; when we were young we swam only in the bay, close to the sand so you could touch bottom and when you got a little bit older you went to what we called "First" and "Second Rock" and as you got older swimming to First and Second Rock, then you took a chance swimming to the pier [John].

From this sand area to First and Second Rock, and when you got a little bit older, more strength, you'd could go from the rock to the pier, just like graduation and when you'd get onto the pier you could dive off pier, you'd could jump off or swim back and just swim around the pier, go under the pier even go on the opposite side of the pier. When you were swimming underneath you could go on the front of the pier but everyone always swam in the closed off area of the pier, close to the entrance of the pier [John].

Hāna Bay was a place to gather, enjoy, drink a lot of salt water and just have fun, good clean fun of swimming and physically strong, we would do challenges from the Bay area to Second Rock. From shore to Second Rock, where the ramp is now, and we'd go out to the coral, from the shore out to the wharf [Nani].

Right here, the two rocks are still right here. That's where we kind of learned when we were growing up, and young, we used to jump off of first rock because the water not that deep during low to mid tide; we could stand up. Then as we got older we went to the rock further out and that's where you had to know how to swim already. The

older we got the braver we got and we ended up jumping off the pier, about ten years old, ten and up. You can see all the smaller kids that same way that we started learning how to swim and using that [Boise].

Now the bridge is no longer there but that was another way of graduating for swimming, because that area was known for sharks. We'd swim from there to here, and all around in here because it has beautiful, the water was so pristine - nice white sand on the bottom and little caves where the fish would hang out and you'd see the fish just cruising around and of course this is a shark infested area, all this side. But that was another graduation that we would have to do to, that time there used to be challenges, "Oh, I went to the lighthouse, I went swim outside there", "oh, I going to den", and that would inspire, that would allow us to go out there and visit the cave [Nani].

Here is the shoreline so we would swim from up here [pointing to a map] to here would be Second Rock where the ramp is now; that would be the first leg of graduating from how to swim. Another would be from Second Rock to the wharf, Second Rock also had a Sharp Rock, it would be up by the Highway where the road is, and from Sharp Rock to the Wharf. Then of course, the very last when you are physically ready, your lungs are big, we swim directly from the shore to the wharf. Stay there little while and swim all the way back again. That was graduation, graduation from Hāna Bay; I believe that is how our people became more physical, with the salt water, the sand and the sun. All the elements that make our bodies strong were during that time [Nani].

All in this area to the lighthouse, from Hāna Bay out to the lighthouse; that's a graduation area for the kids to graduate to go into the big ocean and dive, you got to dive in this area here, also from Hāna Bay to Waikoloa area; all important areas for the youth [Nani].

Hāna Bay Reef

Right out here, it's the reef, and during low tide area; low tide you can see it and it was not recommended to go out there because you could damage the coral but if you got to take a breath, you got to take a breath. We would get scolding for standing on the reef but if nobody saw, nobody could do anything. And I strongly believe that is what made us stronger [swimming out to the reef] [Nani].

They [boaters] would have to come straight out here and hug the edge of the reef because there is a reef on this side. There is a shallow reef, usually they come this way and come to this angle [Boise].

That's the reef, all the way here, so our boats goes out and goes around the pier, it's about First and Second Rock. It kind of goes like that and goes around the pier, outside of that white ball it comes across to the ramp and comes in...except for way over by the *papa* coming out and just beside of that there is a sand strip that goes straight out and goes all the way out [Bruce].

Got *manini* and all kinds of fish [on the reef] [Blondy].

The anchor is right in there, just about off the reef and the sand, just on the reef side. You got to watch your boat when the low tides come. We used to be familiar with it because we used to launch our boat on the sand over here, so we know where it is so we go around it [Bruce].

Every time the fish go on top [the reef], like *akule*, we don't surround over there, because of high reef... I don't know if they are going to want to dredge that reef, it's historic, Keanini [Blondy].

If you notice now the reef is getting bigger and bigger within the bay, it's growing, and I hope it's not growing within the path of the boats launching I'm almost sure that they are going to have to take out some of that [pointing to a map] around this area, it hasn't gotten out to this area...ramp, first and second rock [John].

Again the impact is great because under this, there is so much recovery of the reef itself that's been growing the last thirty five years [Hank].

Hāna Bay Islets: Swimming, Fishing and Gathering

[Chain Rock] it's one of these rocks a little bit out from the lighthouse... The reason why they call it Chain Rock is because there was this big chain link that was cemented to it and I guess it was connected to other things. Diving out here there was a big ship anchor out here [Boise].

This is the lighthouse. All this, *limu* on top of this island, where ever Chain Rock is, *limu* on top there. I haven't dove there in a long time but the last time I checked everything looked healthy [Greg].

I've gone but not to swim, mainly for fishing even out to here, this is where the lighthouse is, we went around... it is out in this area you get a lot of turbulence but here, not much. But there's more fish to see out here, in the bay you don't see much fish. Because of the food that out there on the reef, that's why you see more [John].

There not much edible *limu* in this area here along where the pier is; it is mainly out here. Through the past years, we have this other type of *limu* that it out growing the *limu kohu*, the *limu pepe*, the *limu* that is edible and can be used for *lu'au* along the shoreline to where the lighthouse is but not as much as there used to be because the other type of *limu* that is overgrowing... it's the yellowish type. Hard *limu*, you can't even eat it, it's too hard and I don't think there is even a way to prepare it so you can eat it. I think that was called *limu kalā*, the *kalā* fish eats that *limu*, they don't eat the old *kalā limu*, just the young one. That's the one overgrowing the soft *limu* [John].

Right here had that bridge; it was a narrow wooden bridge that the Coast Guard put up so that they could service the lighthouse. This is all white sand area, we get tired of swimming over here so we'd walk and we started swimming over here [Boise].

[Lighthouse still in use], it is a big support to our night fishing it guides us in and out of the bay. Sometime we go out for *ahi* or we catch *kawalea*, sort of like a Barracuda, and *menpachi* [Bruce].

We used to fish over there. My dad took me a couple of times, we used to walk go towards the lighthouse, we used to come over here and jump in the water and swim over to the island over here, the name of the island is Moku Ahole. We had to jump in and swim across the channel and I was young and kind of scared to do that and my dad said to go with him, so we swam across. He had the throw net, and he threw a couple of times, caught pretty good fish [*ahole*] and we had to swim back across with the net and the fish; I was maybe fifteen or fourteen. We did that about three or four times, one time we took the bamboo and went half a day just hooking fish [Boise].

We'd go *uluu* [fishing] on this side of the lighthouse, there's a cove over here and kind of deep cave over here that we'd sleep in at night, it's kind of cold too and they have *lauhala* trees growing so we'd gather all the dried leaves to make a fire to keep warm [Boise].

We call it 'pound-pound' is another method of old style of fishing besides the modern day gear is hanging a stick off the cliff itself, on the far side of Waikoloa, even in the front of the lighthouse, folks would have done that, my dad would have done that in the past. On the Big Island they call it *kaula'au* and it's a method of fishing for the giant trevally or *uluu*, that method is still practiced today all along the Bay, front side of Kau'iki and a lot on the northeast side of the Bay towards Wai'ānapanapa. People still throw net, but people nowadays need to be aware of how much they take [Hank].

Well you don't see it a lot but you do on occasion [see snorkelers], one is access, to have to access it, it is kind of rough, but there is a lot of beautiful stuff [Capt].

My neighbor Mel could tell you about the *opihi*. I see them. I haven't been in the water a lot here in this area. Where you don't get a lot of traffic then you see *opihi* [Capt].

The other thing before the trail to the cave or lighthouse was damaged by the cinders, Ka'uiki Hill the cinders continue to fall and I guess we had a tidal wave that broke up our trail. But we always used to run out to the bridge that was between Ka'uiki and the lighthouse. Beautiful bridge and they needed that to repair the lighthouse, if there was anything wrong with the lighthouse the worker had to go by land and go out there but with today's technology they don't need a person to walk out there, they have some other way to repair it [Nani].

Lot of people would go out there and do the sightseeing, especially to the lighthouse and out here is a beautiful fishing area, Papaloa. I used to go out there fishing. Catch anything; *ulua*, good for *ulua*, but again because it's an island going out there's *limu*, the waves washes right over. *Limu kohu*, *limu ele'ele*, edible *limu*. Fish, *ahole*, get the school that's why. Because this area, the cinders that kind of goes into the ocean, it provides food, it provides plankton for the fishes. So in this area so beautiful for fishes, and still today they do diving out there just to look at the fishes but that's the reason...*kālā*, *palani*, *manini*, *po'opa'a*, *hinalea*, all kinds of fish, and that's a clear sign, there's *akule* out there, the ocean is so vast, they just come and go. The reason for all of that is the *limu*, the reason why the fish come is for the *limu*; there's that island right there that has the pine tree and other area here, all going down to Waikoloa. So this whole area is a home for our fishes, our *limu*, that's a place for with all the nutrients [Nani].

As we got older (5 years older) and braver we would go around through the bridge to the lighthouse and fish for *kole* and *kumu* [Boise].

Over in this area where the canoes go there are a lot of big rocks and coral growing on top of that, good hiding places for marine life [Capt].

Hāna Bay Fauna

Plenty *honu*, it's a beautiful *honu* ground right inside the Bay area [and] way out here, Spinner dolphins [Nani].

We got whales come in here every now and then, lot of porpoises. The people enjoy seeing the whales because they don't see them all the time, when season they come in and they see them [Bruce].

Of course porpoise [get in *akule* net] but we let go...they come in here and if it's a nice day the whale comes right in the middle of the bay. The other day they were all passing by and some of them were coming in [Blondy].

We have a lot of *honu* in this Bay, all along the shoreline, down below here, outside there and even by the lighthouse Bruce].

There are also turtle in Hāna Bay and I would think that marine life would thrive.... Over towards here, you see the birthing spot of Ka'ahumanu, in between Chain Rock right in that area where Kevin Coats goes with his kayaks...he launches from the beach, right where all the canoes are parked, just as you come down to the Hāna Bay [Capt].

You use to see a lot of *honu* before too, but not as much these days. I think they've moved on because of the impact on the shores, too much people or overharvesting the *limu* area that the *honu* wouldn't come back again, they find where the *limu* would be by going down the coastline, they stay there and feed if the *limu* was abundant [Hank].

Hāna Bay Pier/Wharf

I never saw but this is where the children would jump off, they'd jump off into the water and my grandkids loved it. I saw some kids out there not too long ago [Coila].

I'd hate to see the pier go. Because it happens to be a part of the history of Hāna and I happen to be a preservationist and want to save everything old... It's just been a very important part of our life in Hāna.... Restoring it yes. I wonder if, since I don't drive and don't wonder around, I don't know if people are out there fishing or not; would have to ask somebody around that fishes. But I would like to see it stay there [Coila]

We have some pictures of the ships that are, in some of the pictures, they are longer than the pier, big huge ships came in and we have pictures of the old pier and the people pulling the cows out to the ship by dragging them out by a small boat. And some sailing ships that are anchored by the Bay, beautiful shots [Coila].

Just fishing, fooling around. One guy drove straight onto here and off into the water, early 70's. It was a van and he drove it straight off and there was a woman in there, she was fighting to get out but caused herself to drown because

they were trying to help her and she was too wild, trying to keep her head out of the water. One guy drove his car off this end, suicide; I don't know if that's what you want on the tape [Coila].

One time Boy Kalalau and Yoshi Okada and Miki Kalaniopio went on a little boat and the rescue boat came and found them and brought them back, and you should see the pier it was so full of people they could hardly get off the boat...must have been in the 60s [Coila].

I remember growing up and there was a house on this pier. When I was small it was still on it as far as I remember.... I really don't want to see that pier disappear; too bad it's rotting away and all those holes [Boise].

My boy is in the Navy and we go down there once in a while and we jump off and swim, before they were maintaining that ladder but now anymore; they don't allow anyone on it [Boise].

I've been underwater and there is some coral growing on a lot of it [pillars] [Capt]

In the summer time, young people, the teenagers, they are kids and they'll climb out there no matter how big the fence, they'll swim over to, they'll climb on, they want to jump off the thing. I've done it over the years, I mean not around the fence, but when it was still good integrity I use to jump off the pier with the kids. And not having a surge would be amazing and it would change everything down there [Capt].

My dad used to go fishing on the boat and we used to go down to the Bay, swim at the wharf all day long and wait for the boat to come back in; that was the playground before, playing on the wharf. [That stopped] when they closed off the wharf and decided to give kids cell phones at the age of twelve. 2002? When was the big storm? That's when they closed the wharf down [Greg].

Hāna Bay Pier/Wharf Fishing

We used to fish from the pier, at the end. When I first came I used to go down there every day and fish, and I would try to finish about 4:00 p.m., because Mr. Sumida...he would take me home in the jeep so I wouldn't have to walk home... Hinalea and I caught an *enenuē* one day, I caught a *palani* and I carried that thing so everyone could see them. We had a rule in our house that if you caught a fish, you clean it, so I cleaned a lot of fish [Coila].

At night, they knew the right time at night to go fish and the whole pier would be full of people. We called them *Moon Light Annie*. Do you know what they are? It was a little red fish with big red eyes. [We used] just a pole, bamboo mostly. Sometimes I used bamboo, sometimes a spin reel [Coila].

Right now that it is very important to us because my husband is a commercial fishermen and our lively hood is based off of Hāna Bay. We spend a lot of time down there just because we go down there to greet the boat, so my children have grown up down there, fishing off of the wharf, it is usually where we take them to teach them how to fish; it is a little safer...pole fishing, with bamboo usually. We start them out, it's one of the only safe areas that they can go, that they're not going to fall into the water, and we can kind of maintain them a little bit more. Like I said, it's not more for sustenance; it's more for teaching the children. [Go for] everything, *kupa'a*, *enenuē*, *menpachi* at night, whatever gets all of our bait. I shouldn't say we go down there to fish, we go down there to feed the fish [laughter]. Hooked *o'io* off of the wharf [Gina].

Off the pier now, still have a lot of the red fish at night, the *u'u*, *aweoweo*, the moonlight nights you can get a lot of *aholehole*, *papio*, the goat fish like the *moano*, *munu* (bigger lip goat fish, grows a little bigger than the *moano*). When the tide is in, *akule*, the Bay is famous for having that and that was good, even pole fishing instead of netting. *O'io* is still biting too in the Bay [Hank].

In the Bay, got a lot of them, they pole out from the pier and hook *o'io* there and from the sand, it's a good *o'io* fishing [Bruce].

Night fishing from the pier we would get *ahole*, *menpachi* and *aweoweo*. One time – one year there was *halalu* – baby *akule*. We would line up and wait for the school and hook, wait and hook. Now you hardly see any *halalu*. If you see someone two nights in a row, you go *niele* to see what's biting [Boise].

If they were going to block it [under pier] completely, I don't know, maybe that will work too. I know the fish, I don't think they make their homes under there, they come out at night from around the rock walls and that wouldn't make any difference as far as changing the fishing cycle. Growing up, that's where I learned and my brothers and sisters, learned how to first throw a spinner from off the pier. That's when we were just excited to get that lead in, there was no hooks; we wanted to throw something in, just practicing [Boise].

We didn't want to go on the sand so we'd kind of fish [for *oio*] from off the rocks, on this side of the pier and on this side [Boise].

Fishing is a nice relaxation; we used to do that all the time. I use to hate going fishing down there because I was a young girl, I had to go school, my father was fishing, and he wouldn't leave me home. I'd sleep in the jeep - we had this military jeep, that was a time in the 70s when the cars would go right on the pier and fish right there.... I probably grew up on the wharf, I'd have to sleep on the wharf, have dinner on the wharf, and lucky not go school from the wharf but that is part of our growing up life [Nani].

If you went under Hāna Pier today, you'd see a lot of fish hanging out, but there are not a lot of places to hide, no holes or rocks or any type of caves under there [Capt].

Before you could drive and the tour bus driver would drive on the bridge and let the tourist out and the big Hawaiians would bomb and splash the tourist. The driver would stay in the van, all the tourist would come out [Greg].

As for Hāna Bay, we were out of school when we learned more about Hāna Bay and how it's used; before you could drive on the pier, go on top the pier and fish, that's what the old folks used to do [Blondy].

It is easier to come in with the boat now that all the kids are not swimming around. Before you'd come inside and have to wait for the kids to get out of the water, there were some that didn't want to listen [Greg].

Night time - plenty of night time fishing off the wharf, *menpachi*...you just have to be ready, got to keep your eye on the rain because if it rains all your things are out there and you got to run back to the car. We'd go dunking off the wharf for *o'io*, the end of the wharf and hook *enenuē* [Greg].

Hāna Bay Sand Launch and Pier Ramp

Yes, usually [launched our boat]. We only left the boat in the water one time and I couldn't sleep so we always launched at the sand ramp, not the one by the pier. We had a big roller, it was wider than the boat and the boat would just roll right over that thing to come onto the trailer or to take it off [Coila].

Way before we didn't have the ramp so you could only launch a sizeable boat that would go on the sand and in the water that way and that's how we used to transport the boat in and out of the water. We used to back the truck all on the sand right into the water...First used the ramp in 1980s [Bruce].

I recall, we didn't have a boat ramp at the time that we were growing up so we launched right off the bay, took the boat all the way down, up the sand and into the water. There were times when waves were high and it was pretty difficult to get the boat launched but once you get past the waves you were good to go. There were times when the waves smashed right into the boat, and that's the same way you come back from the ocean. When you come back, you reload onto the trailer and sometimes that was difficult too but that's the only way [John].

Big boats cannot use the sand ramp. The coral grows too and real low tide the old reef is sticking out and it's only good for the zodiacs, small kinds of boats and dingy [Greg].

My husband fishes two to three times a week; he uses the ramp more than anyone else in Hāna. We are the only strictly commercial fishermen in Hāna; my husband does not have another occupation and my income isn't enough to sustain us, so fishing is a big part of our livelihood. And the income from fishing pays our rent, we have

payments on the boat because we are a business; we did make a loan.... On occasion we haven't been able to launch because of the surge on the ramp [Gina].

Now the ramp is touching the rock to lock it in place, there is no space between the ramp and the rock [John].

Its [coral] right in there, outside of the ramp, almost to the end of the pier and right at this section over here it's all coral and gets higher, and higher and bigger, so they were thinking that maybe the Ocean guys could dig the coral out and they could use it over there [Ma'alaea].... It's [coral] getting higher and that's the boat entrance coming in, if they are going to do this, hopefully they can do something for the entrance [Blondy].

I used to fish a lot with Uncle Andrew Park. I started fishing with him when we used to take the boat down on the sand and launch it from the sand before the ramp was put in. The ramp was a good thing for the fishermen, they could bring bigger boats. When we were launching from the sand, couldn't be big boats like now they use for fishing, it had to be skiffs, small kinds. [Now] 28 – 27 footers, there is maybe a 30 footer [Boise].

That ramp, when we first laid down that slab, a couple weeks after the *manini* used to come up, I don't know what attracted them to it but I know when growing up there were a lot of schools of *manini* out there...good eating especially fried [Boise].

We use [ramp] for *akule* purposes, like for us it's okay because our boat is small, at least it's useable but the boaters should be interviewed more... Greg Lind, Jr. he's the one in charge - something to do with Hāna Boaters; and there's Kit Nakamura, lot of guys, lot of boaters, you get Bruce Lee, Andrew Park, [Carl] Bertlemann has a boat [Blondy].

We have a lot of boaters and not mainly here from Hāna, some truck their boats in from Central Maui, the launch from Hāna, go fishing and when they are done, put their boats back on the trailer and takes them back to where they came [John].

I'm not one of those boaters that always go out there or maybe you see strangers out there and you talk to them, "Where did you come from, did you boat over?" "No, I launched from Hāna Bay". They might not like the idea of guys coming and fishing in their water. I live off the highway and I see strange boats coming in, not much, but they are.... Some of them, I'm pretty sure are looking it that way. If you are my friend, then it's okay, but I know how the others are going to feel, the others boaters, they may not like the idea, fishing our waters [John].

I know that right here, something I always thought would be a great thing is right out from the sand ramp is about eight feet of water, there's an old trade ship anchor, you know the kind you see in Ka'anapali, the big flukes and the big stem and then the cross piece with the eye. There is one right out there in eight feet of water and the fluke comes right out of the sand like this and I'm telling you the blade on that is like that. It's buried in the sand, it would be an incredible endeavor but I thought what a great thing, you've got to bring your crane in because that thing has got to weigh a couple thousand pounds, and you put it right up there on the grass, it would be great. I know I'm not the only one that knows about it out there. It would take some time to dig it out, it would be a great community project, the thing would be to lift it out onto the shore, and you need a crane. You are going to need a crane here, no doubt, and when they did that boat ramp they brought a crane in and I was thinking at that time [Capt].

That's what happened after they started doing the [ramp] construction, the green *limu* came up. It's green and slimy [Greg].

What we do now is when he has to deploy buoys he has to put the anchor on the boat in Wakiu, drive the boat with the anchor on, down and if there is some way to tie off we could have the truck and the backhoe to load it when the boats in the water [Gina].

General Fishing

We do all kinds of fishing, shoreline, deep water on the boat and we've been doing that all our lives, just about every day we fish if the weather permits. Get a lot of fish here in Hāna, Maui. It depends on what kind of fish, we go trolling for bottom fish or you go on the boat to go shoreline fishing or dive, all that kind of fishing techniques.

[Trolling] we catch *mahimahi*, *ono*, *ahi*, *aku* and sometimes marlin if they bite, just about any kind of fish that any boat catches deep water fishing [Bruce].

I remember harpooning; a lot of my uncles were masters at harpoon fishing. They were homemade out of bamboo or the *wiliwili* tree, they were honed down to a shaft and they incorporated a metal barb, a coil of line. You'd walk usually in the morning or late evening when the tide was low. You'd go along the cliff and water edge of the shoreline and look for feeding fish that came up for the *limu* and you'd go harpoon it. Haven't seen that in a long, long time, I remember as a young boy going with my uncles just down the country here, doing that and would spend all morning till mid-day, go early and *pau* by noon, we'd have a bag of fish just by doing that kind of fishing...*nenui*, *kālā*, big *uhu*, they'd come up on the side and feed on the *limu*. Occasionally, if your luck was good, you'd run into an *ulua*, a lot of that was *uhu*, *nenui* and *kālā*. I remember on the Waikoloa Point area, old man Kalalau, Rodney Kalalau, Matthew Kalalau, they were spear fishing like that, with harpoons, as well as throw net fishing [Hank].

I loved to fish; we fished off the rocks, with the grandchildren too. We had a very small boat that we brought over, my last Lockheed job I made \$6k and Les used that to buy our boat, it was an 18' Glasspar and it was used in movies down in Southern California, and Les found it, probably Long Beach. It was a movie star boat and we brought it over and the first fish we caught was Ono so we named it *Ono* [Coila].

I loved to fish, fished in Nebraska too. We went on the boat to catch *ono* and *mahi*, we caught thirteen *ono* one weekend during a fishing tournament. I had that little T-Bird, we washed about ten, just fit in there, and we cut them up into chucks just about like this and I drove down the road and gave them to everybody. I'd drive up to a house and asked if they wanted to fish and they'd ask, "How much is it?" [Coila].

Fish Prep

Manini out there...good eating especially fried... *oio* usually we eat them raw, *lomi* style. Some other people make fish cake with them, it's real boney so they have to grind them or scrap them off the bone. Normally we just fry them [other fish], that was my mother's favorite – *moi li'i* - baby *moi*. *Halalu* we used to fry them to or cut them up and eat them raw. *Kawalea* - that one is a bone fish, the same way you prepare fish cake or *lomi*, that fish has lots of bones [Boise].

Hāna Bay Surfing

And they do a lot of surfing in the center of Keanini, when the ocean is rough, the waves just build up in the center here and down in the Waikoloa area, they hold surfing tournaments there [Bruce].

You get Keanini Break, that surf break out here, that Keanini Break over towards Waikalua, the waves break out there and buffer the beach.... [Keanini surf break] it's shallow, there's some reef growing there and it's a shallow area and it is exposed to the North [Capt].

This is the place they call Keanini, that's a shallow reef and when the ocean is rough the place surges from Chain Rock all the way back here. You can go out there and surf, big waves, and it come here too, big waves and people surf all in here [Blondy].

Just about a month ago we were watching we were watching from up here, I mean waves, people were jumping from the deck to surf, because the things comes right on top, on the pier.... Only thing is when it's rough it's from out here, from the middle of the Bay from Chain Stone all the way to the middle of the Bay and outside of the Bay it breaks all the way in to Keanini and from Keanini to Waikoloa. From my part anything goes as long as it makes the people happy [Blondy].

1946 Tsunami

1946, one year after I was born. [Stories were] mainly about those people who died being that they were right on the shoreline down in the Haneo'o, Hāmoa area. I recall that during that time this family that lived down in Waikalua, the Kalalau's; their home was washed away during the tsunami so my grandparents, Francis and Maria Marciel,

provided them to stay up at the house at Kawaipapa. I don't know how long they were staying there but even they, as they were growing up, even when they got to adult age, they remember living there. [Kalalau's] Not Sam, his mother and father and the younger siblings of Sam, of Boy Kalalau, you know the one that went on the Hokule'a. Because he was off in the service already, he always talked about the Solomon Island and Guadalcanal, the South Sea Islands, but for those who remained back, they were all young too so they all relocated where my grandfather lived [John].

[Hāna Bay] The water went up to the second road and there were two warehouses, one on each side of the road, and they were washed away...and several ____sampan boats [Coila].

Limu Movement

In 2002, where I live in Koali there is a particular area called Mu'olea and I live right there and that's my back yard and I sustain off the coast line a lot. The County of Maui purchased land through TPL, Trust for Public Lands, and with other agencies combining in the effort. They had acquired the land and their management director was to involve local, or the lineal descendants of the area to create a Board, actually do the land management, ocean management of the place. So about 2004 we started, besides our efforts on the land, cleaning, giving back to the place, ocean reef surveys, we also created *opihi* surveys on the shoreline in our particular Mo'olea area and also incorporated the *limu* restoration. That's how we started [Hank].

Same as giving back, nowadays giving back is planting *limu*, way in the past I can't recall reading any literature about anyone planting *limu* like we do now days, that's a method incorporated from science through the community, these communities made the method better by using the native or natural implements to grow *limu*. Simply putting a little rock, you see a crevice, you stick a *limu* into that, you pinch the rock into the crevice, you lock it in, it's as simple of that, and it seems to have worked. I can vouch for three places here in the Hāna area that we've done that, *limu* out-planting and now we have these particular *limu* back in the spot where it used to be [Hank].

I still take in a lot of the older folks, their story, it's important to share it. Can't go to heaven, why take it all with you, you need to pass it on and pass it on to the generation next [Hank].

In our little place down country, Mo'olea, we communicate more these days with the local families as much as we can, communicate it out where we have gone, different families I speak about, where we've gone does not over-ride you and over harvest the same spot. That kind of communicating is more valuable these days, it was practiced a lot during my mom and dad's time, about taking care of your own back yard, meaning right where you live, that stretch of shoreline, however big it is, try take care of that spot. You'll see the difference as far as resources in abundance, it's like an ice-box, when you want something, it's there and it can go on and on forever if you think about it and take care of it [Hank].

Limu Festival

From 2004 we created an annual event in town to educate people about *limu* itself and learn the specifics of it and enjoy what it can give back to you; it's real medicinal in a lot of ways and people live off of it, especially in Hāna; again, just bringing it to the community but mainly to the younger generations so it gets passed on, the knowledge [Hank].

We've picked that area [Hāna Bay] because of the *limu kohu*, a lot of spots [*limu kohu*] grow in that area same with *limu pe'epe'e* and one type of *manawea*, or the *ogo* family of *limu*; so we haven't done it yet, a lot of the *limu* there was collected and brought into our event to show the invasive and native *limu* that grow there too [Hank].

We have other folks that come from off island, from Moloka'i and O'ahu along with our group here bring out all these displays of the different kinds of *limu* that is important to the people. We promote that, showing people how they look, how they taste, what habitat is good for growing it, how to grow it, etc. [Hank].

We've shown at least five types of *limu* and what types of fish relate to that kind of *limu* and kids get a kick out of it, because a lot of them don't know. It's an experience to see what those animals are and how they all join into one environment, the coastline itself [Hank].

Sarah Joe

They found the boat ten years after they left Hāna. [They left from Hāna Bay] with nothing but beer and t-shirts...[going] fishing. They came out here past Alau Island and someone had seen them coming in, the North wind came up and blew them too far away. It must be close to twenty years, they found the boat ten years after and after that. Babes and several people went down where they found the boat and they went to all the island asking them if anybody saw them coming in but no one did...There was a grave [on Palmyra] that they buried the guy, and the jaw bone was on top and they brought it up and found out it was Scott Moonman, it was a dental match....Russians did. I thought it was Yoshi Okada [who owned *Sarah Joe*] but I'm not positive [Coila].

Cultural Resources and Use. This category represents traditional Hawaiian cultural resources and practices and other ethnic resources and practices. The traditional Hawaiian cultural resources and practices, includes the pre-contact era, as well as cultural practices after contact. Cultural Resources can be the traditional *wahi pana* or sacred places, any cultural gathering place, or the tangible remains of the ancient past. One of the most significant traditional Hawaiian cultural resource is the *heiau* or place of worship. Other places of great significance for all cultures are the burial places of loved ones, dwelling places of deities and habitation sites of *ali'i nui*. The following sub-categories were developed based on responses by interviewees on what they considered cultural places and practices.

Ancient Battleground.

I heard spooky stories of the pier at night...night fishermen there, their hair would stand up behind their neck. It was a battleground there (ancient) and the spirits are still roaming around [Boise].

Ka'uiki Hill is so important to our history; Ka'uiki Hill makes Maui what Maui is, makes Hawai'i, we are always fighting, fighting. Just to conquer Ka'uiki Hill, a lot of history is there and it's important that we keep our sacred places, sacred [Nani]

Ka'ahumanu

The Ka'ahumanu Society – the Queen was born down by the lighthouse – so there is a connection with the area. Landslides wiped out the trail, but there still is a plaque about Ka'ahumanu. I've been there many times to the cave. It's against Kauiki Hill; there are big boulders in front but it is a shallow cave. My parents never tell us anything, but the plaque says it all. Ka'ahumanu's cave is about over here, closer to where the bridge was, about there [Boise].

I know the 'Aha Hui Ka'ahumanu does occasionally practice out there, chant and hula, but besides from that I don't think anyone is truly [Gina].

Ka'ahumanu was born in a cave, at the foot of Ka'uiki, not only Ka'ahumanu was born there, her sisters, she had sisters that were also born on Ka'uiki Hill...Kaukini, Kalākua (another sister who was a wife of Kamehameha also). We honor Ka'ahumanu for her steadfastness, how she was really before her time, the other people would call her women's lib, and that is part of who we are too [Nani].

There's a bronze plaque out there and right behind it was a little tiny cave in the hill, Kauika Hill, and everybody thought that that was the original but two old timers in Hāna have told me that you have to climb up to see the original cave and that it's quite dangerous and I've never seen anybody go up there. Because you can't see it when you are on the trail and I can't get up there [Coila].

'Aha Hui Ka'ahumanu started in 1990 ... It's challenging, not the political line, however just to get our ladies to appreciate who they are. And we have this humbling organization, more benevolent society that takes care of our people, our Hawaiian women. We find through our history when this organization was formed by Victoria Kamamalu, who was the wife of Kamehameha III, at that time we encountered a lot of disease and our people are very apt to catching diseases. Our resistance was very low, and when the foreigners came in, especially the whalers and the shippers, they brought a lot of disease and things that were just not healthy for our people. At that time our

population really dwindled quickly and it was mostly from disease that was brought in. So these women, Ka'ahumanu's nieces, Queen Lili'uokalani, Bernice Pauahi Bishop and Kamamalu, got together and formed an organization, they found it important to gather together and support these families who lost their mothers, their sisters, and that is when 'Aha Hui Ka'ahumanu was formed. They named it Ka'ahumanu for her strength and her steadfastness of who she was as a Kuhina Nui. We continue to strive to instill these values in Hawaiian ladies of today and it's really hard [Nani].

The next big step we are trying to do, and it's in our work-in-process, to put a statue up at Hāna Bay area [Nani].

At Ka'ahumanu cave there's a plaque that was put out there. It's level on a level ground, not high, you don't need to climb, it's right on the pathway as you go over to the lighthouse, it was just off of the pathway and there is a big plaque out there that we used to just warm ourselves in the sun. The plaque is big like me and we'd just lie in the sun, soak up the sun and just lean on her plaque, it's so beautiful. And the plaque was put there by a family who took care of that cave, oh my goodness. Red, I know it was a family to Uncle Chabby Philip, and I think it's his family, I think Red Young [Nani].

Cultural Properties and Practices

This category represents traditional Hawaiian cultural resources and practices and other ethnic resources and practices. The traditional Hawaiian cultural resources and practices, includes the pre-contact era, as well as cultural practices after contact. Cultural Resources can be the traditional *wahi pana* or sacred places, any cultural gathering place, or the tangible remains of the ancient past. One of the most significant traditional Hawaiian cultural resource is the *heiau* or place of worship. Other places of great significance for all cultures are the burial places of loved ones, sites connected to deities and *ali'i nui*. The majority of the ethnographic consultants considered fishing and gathering to be cultural practices which were addressed in the previous category Marine Resources and Use and must be considered to be a part of this section. The following are additional cultural properties and practices.

Ka'ahumanu Society

Chapter 11 started in 1990, but from day one when they were Chartered they always gathered on Kapueokahi on the wharf fronting the cave where Queen Ka'ahumanu was born on March 16th or 17th, around that time, to honor her birthday. We have a little ceremony there and we continue to do that. However, we were not able to go onto the pier and so we did it as close to the cave as we can. Today accessibility to the cave is no longer possible so we go to the end of the pier, where the pier begins and the road ends, we gather in circle, do our ceremony and toss flowers and leis into the water. It's always so beautiful, there are always times when the honu would come up, we'd see dolphins outside and then whales, most recently we had a family, a pod of whales. There's always a *ho'ailona* [sacred sign] [Nani].

Canoe Paddling

There are canoe racing [in the Bay] [Boise].

You got canoe tournaments, Aloha Week festivals, tournaments for fishing, pole fishing for the kids and all sorts of fishing you can do [Bruce].

Project Concerns/Recommendations. This section is included when ethnographic consultants share their concerns and/or recommendations about a project in general. The interviewees shared many concerns pertaining to both pier repairs/commercial pier and pier removal and impacts on the Hāna community, Hāna Bay and vicinity and traditional practices. The following sub-categories were developed based on responses of the interviewees.

Concerns: Hāna Vulnerability

You know as I do that Hāna gets cut off, it's easy, natural disaster and that's one of the things I'm working on right now. I was on the phone earlier with Red Cross and their containers out here. I talked yesterday to FEMA Office on O'ahu that there are three FEMA containers at the school. I've been stationed here as Captain since January [2013] and I'm working not only on the Address Project but preparing, preparing, preparing, for when it happens. I'm working with Civil Defense; I'm also the CERT, Community Emergency Response Team Coordinator for East Maui. I went through training last year over on O'ahu to become that. And I'm working with Civil Defense here in Maui County, we are hoping to get a CERT program started here in Hāna and I already have a list of ten people that want to be trained, it's just that the County has to fund it [Capt].

There are so many remote communities like Nahiku or Kipahulu or Kaupo, Waialua; they can easily be cut off, you get big rains and even here at the Fire Station the bridge that is right over here, with the big rain we had a year ago in March, we couldn't even cross this bridge right besides us. The water was over the bridge, the fire truck couldn't even pass over it [Capt].

Getting back on target with the pier - safety, longevity, possibilities of benefiting. Who is it going to benefit? Do you want to benefit the fishermen, do you want the possibility of bringing goods from outside if that was the only way in, because if a big disaster happens, the air drops, the helicopters are going to be busy and they aren't necessarily going to be able to come in to Hāna unless they are priority. They'll be busy, they will be busy doing many, many things even if they could fly; you just don't know, we've never been hit directly by a hurricane. What damage that would do to the airport and the helicopter just sitting on the tarmac, I don't know. Boat traffic, that's been used for centuries and it will still be used, having something that's super strong, bomb proof if you will, that will last and everyone benefits from - then you have a winner. And you want a win-win situation and yes, it will cost a lot of money, most certainly [Capt].

The way it is right now, someone goes out on that pier and falls through a hole that's in that pier. Good chance for lawsuit, even if they have the signs, even if they have the fencing, it is still a hazard. I don't think there are signs on the ocean side warning people not to dock here and not to climb on board; you could easily have that happen, there's a lot of potential, a lot of liability there [Capt].

Concerns: Ka'uiki

There's only one thing that I told the boys up here about, if they are going to demolish this, how? Are they going to use dynamite? This hill is only cinders, what's the impact going to do underneath. Anything to do with demolition, people can only see the top but they don't know what's happening underneath and it might affect the whole hill. That's one situation that I'm concerned. When they demolish this thing [pier/deck] are they going to move it or they going to use it? [Blondy]

Because if we expand it to the whole world we are not going to be as sacred as we are, and especially this area, Ka'uiki Hill is so important to our history; Ka'uiki Hill makes Maui what Maui is [Nani].

Concerns: Impacts

I believe any type of disturbance that occur would definitely bring a negative impact to our lifestyle right there, just the stirring up and movement of rocks cause different things to occur, causes the current to go differently, caused the *limu* to die and by all of that it would take hundreds of years for the fish to come back just because we don't have their food.... Just because we don't have their food, why would they come, they'd go someplace else and eat. And if the purpose of restoring whatever the pier thing is, maybe we should look at other alternatives [Nani].

For otherwise to rebuild and allow, for in case we get isolated, I think that's a Catch-22 just because we are going to rebuild and we don't, there a big thing that is there. What's the purpose? We are going to wait for an isolation situation come along where we are going to use it, I don't think so. When that happens, if you are living in Hāna you'd better be set for being here for a long haul [Nani].

I think that [pier construction] would be a big impact for our community over here, I disapprove. I want to see some changes but not the whole thing [Bruce].

We have an airport and only two small planes come in, we could utilize that better I think. It used to you know, when I was little, we had Hawaiian Airlines bring in cargo and it's a small fixer upper than the whole wharf situation [Nani].

I think I'm talking for our people in the community and each and every family here, their families learn how to swim, dive and fish here in Hāna Bay and we don't want to see too many changes. We'd like to try and keep it nice and quiet and calm how it's been for many years [Bruce].

Our main concern would be closure of the ramp too because we were seriously affected when they closed the ramp; they closed the ramp for six weeks. Fronted and backed by periods where he had to leave before 7:00 a.m. and come in after 5:00 p.m., and sometimes the fish aren't biting so you are out there all day burning gas. There's no fish but you can't come in until after. And the financial part of having the ramp closed was, we planned for it, we prepared for it but still having six weeks off during the peak fishing time. I would choose launch times over a complete closure. If it came down it, we would prefer launch periods, where we got to go out before 7:00 a.m. and back after 4:00 p.m. rather than have it completely closed. Because then at least we are able to still provide an income and mooring isn't a good option out there because the moors are derelict [Gina].

Concerns: Pier Condition and Construction Issues

What I don't want to see is the pier falling down and getting all degraded [Boise].

All the people that I mentioned, I know they want improvement there; I'd be shocked to hear that they didn't want change. It would be a blessing for Hāna to have some improvement there [Capt].

Two or three years ago we had a meeting up here [Akule Hale] and we had DLNR and they were talking about doing the pier, but seeing is believing. I know they had a talk about it [Blondy].

I think the community would like to know, I think they'd like improvement on the pier. The thing is how the size is going to be, this issue came out about two or three years ago, about the size, they think about cutting the size. They should talk to the community some more, for my part, I'd really like to see things happen like that, it's going to be for the younger generation, we are old already. I don't have boats, only small boat and nets, that's all. I like the improvement for that, if they are really going forward with that [Blondy].

When I first worked out here, the Hāna Pier, you could walk out there and utilize the pier, I don't know the true history but I heard it was closed down because of ill repair. The difficulty actually is the ships coming in here - I call it [water] sloppy. As for the actual history as why it stopped traffic, I know it was used for quite a while but as all things throughout Hawaii as other placed like Hale O Lono [Harbor] on Molokai that was closed down. They have similar structuring, there are docks there where they put steel rebar in the cement and it rusts from within the inside and it cracks the cement and that is clearly what's happening to the Hāna Pier. I've been under water at the Hāna Pier and looked at the structuring and it's definitely fatigued and whether it can be reused and rebuilt, I'm in question of that [Capt].

The storm, probably five years ago or more, when they had a big swell come in and blew holes in the surface of the pier, and that's why they closed it off because such big holes, the waves were actually breaking, practically, on top of the pier and certainly because of the surge pushing underneath, it blew holes in the pier.... I'm surprised it didn't fall, like Mala [Wharf]. Hurricane Iniki, I believe, took out Mala and really took out half the pier, the same kind of structuring, cement had steel with the rebar in, the rebar rusted and expanded and cracked the cement, which weakened Mala's pier and a big storm took out almost half of it [Capt].

My gut is that the Civil Engineer is going to go, "there's no way you can just build a new deck", because of the foundation. I'd be so surprised to hear them say otherwise but if it was, that those things were sound and you could build on top [Capt].

I know the pillars are no good, the whole situation underneath. It's almost like Ma'alaea, still standing. This one here, some of them is all dropped already, some of it is gone. Right out here you have a big hole, and over here where you step to the boat is damaged and at the beginning part of the gate is damaged but it doesn't stop the kids [Blondy].

Again, if the second phase happens, the pier or the wharf, people do want to see it as it is, I personally want to see it the same itself and to totally have it changed it would take some work to make it safer but not change anything else. Already we've had bad surf come through it, I know it's degraded itself and it's not a very good spot for folks to go on and fish off [Hank].

I would think so [remove deck] and this part go here so it would block the surge, just the way it is, the size is good enough right now, we don't need it go all the way in because it will damage the reef. And that much we don't want to do [Bruce].

It's just the idea of how we are going to make the surge [slow down]. I think this part [fill under bridge] might stop the surge, only when it's rough the waves get big and come up the road over here. I think it would be enough, I think the breakwater like this would be fine but you need to get the input from the old timers [Bruce].

I know the old concrete that made before was way better and stronger than what they have now. When they took apart that bridge they had it in pieces, perfect, nothing wrong with the bridge except the base, the thing it was sitting on was cracked but the bridge itself was..., they had the hardest time to take it apart. I don't think too much of them [pillars] are good. I don't know if you'd be able to put rebar over that, treat that like a filling. But even for a breakwall you might need more concrete than that. Boulders [might work]. Just that concrete right there, I don't think it would be enough, it's pretty deep off there [Greg].

Just leave them [pillars] and fill it in; that would work. And would have to pay pretty high if you could keep it that height because when the north swell comes, the swells comes right in and right out [Greg].

I like the idea of just dropping and not stir up things, I support that thought [Nani].

I heard people talking before that if they ever did the wharf they would just do the 'L' shape, not the outside part. Less money to spend, that was mostly for the train tracks; would be nice if you could drive on it, for emergency [Greg].

But plenty of people don't want it to come down... They aren't even supposed to be on that thing because the rebar is all broken [Greg].

They want to leave it but it's a safety concern [Gina].

Do not do the same people. Global, this is the second person doing the ramp and everything they do is slow [Greg].

[Global] they are cheap and inefficient, poor workmanship. That was part of it [Gina].

Recommendations: Listen

Whoever they find to do the design, see if they can help the Hāna people can help. Show the Hāna people and listen to us, like the ramp. If they listened to us they wouldn't have that problem, wouldn't have that big drop on the back. They thought it would be easy so when the boat trailers would go off the boat just floats off and makes it off the trailer. It was probably somebody who lives a hundred miles from the ocean, in the mainland, that never has seen the ocean in his life. It's like the bridge they did over there, the one the earthquake broke. The engineer came from the mainland, drew the plans, the bridge went straight across into the wall. After they finished the bridge, they opened it up and the fire truck couldn't go around because the thing went straight to the wall, if they didn't it little bit more the thing would have around the corner. But they didn't talk to the people who lived here all their lives [Greg].

It's just like the ramp, they like meetings, we tell them what we want, and it didn't happen. \$3.8 million on the ramp and then last month they had to break down the whole step for two days it costs them \$32k to return to redo it because everything was a half inch off for the handicap step; you don't even need a step. If you are handicap, we have the worse surge in Hāna, you park your boat next to the thing like a day like this and you get a hard time trying to get a handicapped person on the boat. That thing will be rocking and rolling, in Hāna handicapped people jump on the boat at home and they reverse on the ramp and go fishing and when they come home they stay on the boat, you put the person on land on the boat. If they make that breakwall it would make the ramp better [Greg].

Whoever is going do the pier, maybe they should come forward and have more meetings with the community [Blondy].

Concerns: Reef Issues

Well there's no reef underneath it[bridge/deck] necessarily either so it actually facilitate more homes for fish. My concern would be this area right inside here, just making sure that if they are doing construction on the breakwall, having access around they might need to check the typography over here because Global did that and they "relocated reef". My undergraduate was Natural Resource Management and I contacted some of my professors and nobody has ever heard of "reef relocation" especially without it being managed by a Marine Biologist and where they put it wasn't exactly ideal either [Gina]

All they did was scoop coral from one area and dumped it on the other [Greg]

When my husband comes in [on the boat] and they have to kind of hug the wharf because there's reef over here and then stay in this area because there are high rocks and actually extremely shallow in this area [Gina].

Under the pillars, in the bay out here towards the lighthouse, a lot of reef. I noticed when they did the ramp they took out part of the reef and moved it, that's creating a void where if you not *akamai* with it, boaters have contacted it with their boats because it's now in a different place. That type of work you need more input from the fisherman and folks that really know the bottom of the Bay here and the reef itself. Have their input on how you want to do things; try not to kick up too much dust while you are doing it [Hank].

I'm just one voice toward this, a breakwall seems fine and how you put the old pier into the ocean needs to be well thought out. A lot of places are doing that, creating man-made reefs and that's good but there is also a living ecosystem there that's taken a long time grow; re-grow from the past area from ships being in the port. Try not to make too much damage [Hank].

Concerns: Outsiders After Reconstruction

I don't really know, I only can foresee and I hope that I'm wrong, by them reconstructing the pier, we are not opening up for other boaters to come in and moor at the pier like I've noticed some of the other places around the island, things like this are happening by allowing boaters to moor at their pier and the place gets messed up by them unloading whatever they don't want on their boats into the water and it drifting onto the shore. That's my opinion as to not being in favor, if something can happen, I don't really know the division whether they are going to allow moorings to happen, people to utilize the pier, to that type of advantage [John].

We just don't want the big pier built for the big cruise ships or the big boats to come in, that's the main thing and they are going to try to push for that, if anything happens the bridge closes and they have to bring in our supplies in on a barge [Greg].

Folks look at that as the door opening to something we don't want more of that, accessibility, for ships to come but the last outage, earthquakes, the bridges were locked in, Kipahulu was locked in and help came via the air to help people keep going with supplies [Hank].

Concerns: Ramp and Surge Issues

Well the first phrase with the ramp itself, there was a lot of heated discussion to the design about it, I haven't gone to the meetings but through the folks that I know that went to it they discussed how the design was they weren't too keen on how it came all about [Hank].

I want to see they do something about that boat ramp to stop the surges, the surge coming in and as much as possible smaller pier, just for people to go on and break wall if its wide enough for people to go on and fish from, that's sounds better too [Boise].

Reducing the surge, whatever traffic, is to me one of the most important things to happen because if a ship was, I don't know the drafts compared to the ships of old to the ships of today; there are some that are deeper than others but my thought is that they'd anchor off shore in deeper water and then have a smaller boat shuttle the goods to a safe boat ramp area. Which can be built on, the way they have built right now, it can be easily added on and extended out into this corner and if you just build up the seawall to protect. Because the surge comes in from the East; from the North it would reduce the turmoil right there and you would have a lot of happy citizens and it would be safer and safety is the issue. If you just rebuild the deck you are still going to have the surge where all the boats come in [Capt].

Nothing was wrong with the ramp it's just that they had to make it handicap accessible. I told them not to touch the ramp. The ramp was better before than what they did to it now, it's narrower and the thing drops off way at the bottom. At low tide, when the boat comes in with fish, the trucks have a hard time pulling the boat up. That's what we are worried about, that we are thinking that they might make it better but they make it worse. Like the ramp, we told them to leave it alone. They said every harbor has to have [handicap access] but they cannot give us a water hose to wash down our trailer so the trailer stays there all day, all salted on [Greg].

On this part of the ramp, opposite side of the ramp facing the light house, when they did the ramp they put boulders, and when the north swell came the water came right on top all over the rocks/boulders and all over the ramp. [New boulders] makes like a ramp for the water to come up when the big waves come...only when it gets the big, big swells. You'd have to make an exterior breakwater creating a speed bump for the waves a little ways out [Greg].

Working as a Fire Captain here and I'm on the Rescue Boat Committee and also the Watercraft Committee, I deal with training at the Hāna Pier and the personnel here in Hāna with the Watercraft and we launch at Hāna Pier. 99% of the time we are going to launch at Hāna Pier and we use the boat ramp and it's improved a lot. There is a big surge in there, no matter what Jeff did, I really was hoping that the surge would improve, which means it would be less because of what he did. He brought in a massive amount of big boulders on the *makai* of the parking area and I was really hoping the surge would be less, but its hasn't changed, really. You can ask any of the boaters, the small boat operators that trailer their boats, when they go to launch there the surge is an issue; it really is a big issue [Capt].

When it's a big surge, it's dangerous; people are going to get hurt. And being in the Fire Department, public safety, that's my main concern especially for my men out there doing the training. And often times we've actually launched at Hāna Bay at the old sand ramp at the park area. Its further towards the ramp there's that opening in the cement, there's a shower of there, from what I've been told it used to be the boat ramp there. They call it the "sand ramp" because it's all sand and when there is a big surge that's what we do, we utilize the sand ramp instead of the pier, the boat ramp [Capt].

We were just talking at lunch about an old utility truck that we use for towing watercraft and launching them. And our Fire Chief was not very happy about the corrosion, about the undercarriage, because of the surge. You are launching the boat and the surge comes up and it goes well above your wheel wells on your trucks, all the way to your front tires even [Capt].

We didn't see any DLNR when they were building the ramp, they stayed far away because they knew everyone in Hāna was hoping all the guys wasn't going to use the ramp [Greg].

The turnaround was made much more narrow, the boat turnaround in this area, was made much narrower after the construction by Global. Launching has become more difficult because they changed the pitch on the ramp, so it's much steeper and with the *limu* that's built up there it's hard for the trucks to have traction so we sometimes we actually have to use two trucks, one with the trailer and another truck to pull the both of them, mostly during extreme low tides. On occasion we haven't been able to launch because of the surge on the ramp. I don't know if you interviewed Keith Nakamura but his boat was almost put on top of the gangplank there, the walk way because of the surge. I think just two months ago maybe.... It's functional but having experienced other harbors or ramps, you know even Ma'alaea, Nawiliwili, Big Island, we were in Kona, Kahului Harbor; we've definitely got the steepest ramp and the least amount of facilities, no bathrooms, no wash-down, and one of the most difficult ramps to launch out of, very narrow and very steep. I've often backed him up; I know it's very narrow and very steep [Gina].

Because what it does it [surge/swell] comes in through here because of First and Second Rock there, it becomes a ricochet affect and we've seen it pretty much to the point where we're telling kids to get out of the water because the surge is so steep that, especially now with that walkway kids like to swim underneath it. They like to play around underneath but with the surge it will knock them right up to the ceiling of it. That's been our largest concern is having the kids swim underneath there [bridge/ramp area] [Gina].

Concerns: Alien Species

Ever since they did they construction the *limu* there is all [alien]. A barge from O'ahu moored over there and this green slimy *limu* that Hāna Bay never had [is now there] [Greg].

It's green and slimy [alien *limu*]. They brought a barge over with a big excavator on top and the excavator was too big to bring in over the bridges so they brought one over from O'ahu and had it tied up to the wharf and we think that's where it [alien *limu* on the ramp] came from [Greg].

Different *limu* came in. The ramp, they brought in a barge and that's what I think it's from. They had the barge moored.... That's what we think, that's the only thing that was. You know a boat coming in and mooring overnight or couple of days, that's not going to have enough time for *limu* to take hold but that barge was there for months. And that's long enough for existing algae to spawn and take hold.... Broad green leaf, green broad leafed *limu* that Hāna Bay never had and that's what is making the ramp slippery. [To remove] you'd have to go out there and scrap it down by hand but it may have spawned already [Gina].

On the ramp there's invasive *limu* that is growing there, the hook *limu*, probably got here by foot, dive gear, who knows it might have been chipped off of a person's boat while moored here over night and now we do have that invasive species of *limu* in the Bay itself. It's hard [to get rid of] unless you get a real low tide and let the sun work on it, like those past dry days, low tide days where a lot of the shoreline was drying up, the *limu* beds, because of exposure to the sunlight. Manually, that's tedious work. It can be [a threat], it will take over substrates or parts of the shoreline if *limu kohu* is not there, *limu kohu* dies back once a year, the tide gets a certain height and waves get a little big, *limu kohu* will clean itself or break away and go down the shoreline. If the tide doesn't it goes and it's gone forever and then the more aggressive or invasive *limu* can attach itself in a normal tide [Hank].

Suggestion: Breakwater

I thought about that even when they renovated the new ramp, I kind of looked and said way back we didn't have a pier and the pier was brought in during the plantation for their usage and now I don't think we need a pier, the pier is going to be so expensive to renovate or restore. Why don't we do away with the pier and do a breakwater type? I was looking at the breakwater here but I think it's too close to where the launching is but out here, sure, I'd love to see that, depending on how they design it. I'd go along with that, I think that would be better than restoring the pier. The breakwater would be nice but we'd be worried about not being able to go out fishing [Greg].

I e-mailed you [DOT] about my idea, and I don't know if it's solely my idea and I've talked to others about it, is creating a breakwall. Your [DOT] goal would be to redo and my idea is to drop it and create a breakwall and reduce that surge on the boat ramp area and from there you could build a dock and if it's for emergency goods to get in by ocean, I don't know what size, if you are talking about a big container ship or what but I don't know the depth of the water for the container ship, I don't know if it's going to be deep enough where they would feel comfortable getting

in there. I know it's about thirty feet deep, maybe a little more, still I know they are still going to be concerned [Capt].

I'm just throwing this out there, if I was in charge and money wasn't an issue, what I would like to see is a breakwall, because I just can't imagine the Core of Engineers approving because of the way it was built with the rebar [Capt].

You need a breakwall. It's the basics of any boat ramp, Kihei boat ramp, you can go to Ma'alaea, and they have a breakwall, Kahului Harbor, where they all have breakwalls. It eliminates the surge and it makes it possible to have really smooth water for launching and landing. And I want to tell you that it's dangerous [Capt].

I'm afraid that without strict controls, you can have controls but if nobody is there to monitor their control anyone can come in during the night, take off in the early morning. The breakwater would be great. I'd go along with that, I think that would be better than restoring the pier. I'm afraid that without strict controls, you can have controls but if nobody is there to monitor their control anyone can come in during the night, take off in the early morning. The breakwater would be great... now if they are going to have a breakwater, it's possible that they can put some catwalks where they can unload [John].

As far as a breakwall, that's been a concern now because the surge comes through the bridge and caused a lot of boats to hang up on the ramp itself or gets pushed into the ramp when you don't want to. The modern day design seems okay, incorporating a lot of breakwall would solve the problem of the surge itself but again it's how much more of this second phase is really true [Hank].

After the pier it goes deep but if it grows over to the launch it will be disrupt the area at the launch. If you demolish this [pier deck] it will drop right into the deep area, I don't think the coral - the reef, is going to be that high to disrupt the boaters. I think the boaters will like to not have this and if you take this away it will give them an advantage to launch. When they come back in, they can come in this area, it will be away from the reef, the reef won't disrupt them from coming in or going out [John].

Pretty much everybody will go for the breakwater because once they know that the big boats can come in on the pier, that's only one invitation for more building in Hāna...that [breakwall] would help us out plenty. It would cost way less [Greg].

That [breakwall] would help us out a lot and still provide fishing areas for people. Like I said we haven't been able, because of the surge and you can go down there and see when there is a high north swell the tides actually come up on the road, all the way up the ramp and onto the road and we aren't able to launch those kinds of times, so when there are period swells [winter months] [Gina].

Erosion too because they say that when they do breakwaters that it sucks it up from the exterior side sand and re-deposits it on the inside but I don't think it will be much of an issue because there are no sandy beaches over here so you don't have to worry about re-deposit and it would protect the inside of the Bay from erosion. It usually occurs with jetties, when they install jetties on the incoming end they use sand.... The jetty is usually straight but a breakwater is curved. Similar to Ma'alaea Harbor, it's the same issue with Ma'alaea Harbor in that the Kihei side didn't have much sandy beach and it actually formed inside of Maalaea Harbor, inside the nook of the breakwater, is a small sand beach warren. It's the opposite, there was no beach here but on the inside of the breakwater a small sand beach formed but tiny, maybe like a hundred feet long. My dad used to live in Ma'alaea Harbor, I grew up down there too, I spent my summers [Gina].

All we heard before is that they wanted to rebuild the wharf to allow the big ships to come in just in case the bridges were to close down they could come up and give us our supplies, I was in Kipahulu when the thing was shut down, the helicopter had to fly it in, but it would be nice to have a platform out there on the breakwater, not big [Greg].

I guess you read my mind already. I had that same thinking. We could do breakwater on the bridge angle to the left and make a catwalk on the top where people can still go fishing and our kids can learn how to swim. Because the surge right now is really bad and our boats have a hard time getting in and out of the water if the surge is strong. What I was thinking was that this half, we could tear it down and let the fishes do artificial reef and as far as doing a

breakwater to cut the surge out. I don't know how they do it but if we can leave some opening on the bottom of the breakwater where the water still can go underneath, where we can still get a rotation in the area of the breakwater; where if you close it up down from the bottom all the way up... maybe just this part [leave open]. Our surges come this way but then again I'm not an engineer and don't know how to design these things, a lot of the breakwaters they go them all the way down. Because right now they are afraid of people going under there [bridge/deck] and it might fall [Bruce].

We'd be okay [with breakwall], because it is not going to affect us; it's going to affect the boaters. I doubt if the boaters want to go all the way out over there because rough, because some guys go when it's choppy because they want to but going around here that is the worse issue. It depends how far that way they are going, how far in and if they only come here and look, but would be nice if they do something, try call the boaters. I'm going to talk to some of them to see their expressions [Blondy].

That [breakwater] sounds like a good idea because we'd still be able to go up there and fish and it would be good for the boaters because I know when there is a surge and all kinds of launching coming up. I worked with Ige Construction building this ramp here, the first time we put in the ramp, we could see what the pier was doing with the surges and the waves coming through, they were talking about if they could just block this side but I think the surge would come from this way too [Boise].

They need to bring it down and bring piles of rock like in Kahului Harbor, and it's just how they do it. Even Lahaina, they slowly built rocks up and dump more rocks and design a breakwall which will reduce because the swell goes right through the pillars and comes right in and it goes sometimes so far up [Capt].

Any ship or any boat that would like to dock on this would become the Lee side versus Windward, if you made that breakwall, the Lee side would be the preferred placement for any kind of boat docking and as I said, what could happen is you could just extend the catwalk out and make this longer, it's fairly deep water and they could be in calm water, which also is very important for offloading gear and passengers for that matter. I've taken care of hundreds of passengers over the years doing charter work and getting them on and off the boat, and even gear for that matter, safety is one and protection of their property and if you are dealing with surge that's a huge issue when you are offloading material or passengers. Your timing has got to be right; it can be scary and you wouldn't want to unload anything because it's just too [much of] surge [Capt].

September 11, 2016 Update and Interviews:

With the help of Ms. Esse Sinenci nine [Ms. Coila Eade was recently deceased] former interviewees were contacted regarding the best day to have an update followed by individual interviews. They agreed on September 11, 2016 a Sunday as most people worked and the previous weekends had conflicting events. Ms. Sinenci planned and prepared a light dinner at Holani Hāna. Only three interviewees were able to attend: Capt. Gale Notestone, Roback "Boise" Kawaiaea, and Frank Sinenci who spoke for his former Holani Hāna partner Coila Eade.

Two handouts were given to each person for review while they ate dinner; Hāna Pier Deck Removal Project Description/Construction/Methodology (Aug 2016) and Preliminary Summary of Project Impacts to *Akule* Fishery (9-8-16). After dinner each person was interviewed and shared their *mana'o* (thoughts/feelings/comments) about these two handouts and cultural impact(s) of removing the pier deck.

Follow-up included mailing letters and the two handouts to the other seven people. To date only one responded by telephone, John Kahalehoe.



Roback 'Boise' Kawaiaea. My name is Roback John Kawaiaea, born and raised in Hāna; I retired from the County of Maui, Highway's Division, Hāna District. While being brought up in Hāna, as a young boy we used go down to the Bay every time and go swim and fish, and whatever, that was our play ground in our younger days. Right now, as far as the demolition part is concerned, I think it will cause a big impact not only on the pier area is concerned but I think on the whole Bay it-self. I don't think they'll be able to contain all the sediment and debris that will be caused by the demolition. I think the reef and the fish, the limu and opihi, whatever is down there, that will be impacted too while this demolition is going on, or during the demolition and many years after the demolition. I would just knock it, drop it right there and use it as a breakwall. I know your guys [DOT] main concern is safety and it's kind of hard to keep people off there, they love going on the pier, especially kids jumping off and swimming and stuff. I hope there is another way besides just taking everything away. That is my concerns.

Akule Impact. We was brought up on akule from the time we were small. It was part of our life over here especially when the akule come in. I think by this demolition work, I don't know the impact as far as the akule is concerned but I think the impact wouldn't be like that what it is now. I don't know if they spawn over here, I don't know why they come into the bay every time. Out of a year I say four or five months I think and not every time. When the fishermen see them, they go and surround them, fishing is they get lucky. I remember one time akule wasn't here for over a couple of years, nobody knew what happened and I think one time it was longer than that that the akule didn't come into the Bay or around here. I think the demolition would cause some concern about the akule coming in.

Cultural Impact. As far as cultural, I know the Ka'ahumanu Society uses it as a sight when they go do their thing for Ka'ahumanu because she was born on Kauiki Hill and probably during that demolition might cause slides and might just cover up the cave area and stuff like that that might be a concern as far as cultural. Right now, growing up in Hāna we used to go to the lighthouse and around there, we got some good fishing spots on the other side. Right now, got to swim, the trail just keeps falling down, we always past the cave where Ka'ahumanu was born and get her plaque and everything. The last time I went back there we had to climb down and walk in that small little bay where there is the red sand to get across and climb up to go to the lighthouse. I haven't been there lately it was hard already to get across; the trail was just falling and falling.

More Slide Area. Slide, yeah. I don't know if it was caused from the wind and trees on top were just shacking, that whole place is kind of scary as far as far as passing underneath. That's why the Ranch had put up fencing, I remember rocks coming down and hitting cars.

Highway/Road Maintenance. I was an overseer for Hāna District we maintained all the highways from Hāna to Ulupalakua and some of the residential areas, Ke 'Anae and Nahiku, we did most of the maintenance. I do think we maintain that area, the Hāna Bay area. The State also has a district from Hotel Laundry that strip coming down called Uakea Road, that's all State road come all the way down to the bay to where the culverts area. So they maintain the culverts on this side and the County maintains the culvert that goes directly to the bay. We take care all the way through the end of Helene Hall and we do maintain all the way but that was the Ranch and State but we helped them but we just maintained the road, the main County road only goes to the end of Helene Hall. They would probably have to get permission from the Ranch [for work/staging area], I figure that would be the closest area, and the Ranch also owns other areas. They probably would have to go through Parks and Recreation for the grassy area, if the parks would let them park over there. I think through the State DOT to park closer to the ramp.

Community Impact. I think the community wouldn't have too much access to the bay area as far as going down taking our kids swimming, I think they would probably need to close off the whole bay if they going to demolish. The fishermen, they wouldn't be able for launch their boat and go out fishing. It's kind of hard right now seeing them doing the demolition and fishermen going out and coming in unless they set certain time for them to go out and come in. Over here, if the water's nice, that's the only time they can go out so if they are working, these guys cannot go out; I think that's going to cause a problem.

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Capt. Gale Notestone. My name is Gale Notestone and I'm a Fire Captain here in Hāna. I lived in Hāna going on sixteen years and I've been working in Hāna going on twenty, and I did an interview with Maria Orr about the pier and my recommendations at the time was to drop the pier and make a break wall and I know that I'm not the only one who has that idea. I highly recommend that the State Department of Transportation and the ones who are going to make that decision, to do that, it will benefit the community; it will leave something in place of the pier, there's a lot of ideas out there, but to just remove it and leave it bear. It's actually a historical place and we understand the liability and that is an issue. The break wall is the common sense, it's needed. I work for the Fire Department and we struggle with launching our rescue watercraft every time we launch and when we come back in. It's a challenge even when it's a calm day with the surge, and having a break wall will make things so much better. With a break wall the people of our community will be able to walk out, swim off of, fish off of, actually go out and look back at Hāna, which is a nice viewing vista of Hāna. It's almost like you are off shore when standing out there. I believe that also instead of removing, the proposal that I see today, is that you going to remove the deck and you are going to put it on barges and haul it away. That is a very expensive ordeal, where you can use the aggregate from the demolition as part of the break wall. I know the Department of Transportation is very aware of Mala, it was knocked down by Hurricane Iniki, and it is one of the best dive sites on West Maui as well. I'm a boat captain as well for thirty years and I know that's one of the premiere spots for scuba diving. Doing that here for Hāna, I can say that the people of Hāna that dive and fish would love that.



Demolition Process Impact. First of all not removing the piles, I can understand not removing the piles because of the coral but it does create a hazard for mariners, even though it going to be four feet below the low-tide mark. That doesn't mean you aren't going to have a sail boat come in with eight to ten foot draft and possibly hits one of those piling, they would have to be marked. We have no idea what would happen with the boat ramp if you just leave it exposed, more exposed than it is right now. Boaters will certainly have more of a challenge not having any protection at all, damage their boats and you are going to get a lot of complaints. It's going to be a sad sight; people who have lived in Hāna for generations and look out and not see a pier or something, it's like the Twin Towers. Today is the fifteenth anniversary; we built something in place of it right away because it was such a land mark. I think getting the community together, makes a movement, people coming together for a break wall. I've talked to many, many boaters as well, Carl Bertlemann for one, he's one of our boatmen here, and if you did a survey you'd find everybody in agreement.

Certainly, the debris from the demolition washing ashore. I know in the proposal there's going to be booms to catch what you can, they are going to clean beaches. How long is it going to take and the inconvenience of the people that enjoy Hāna Bay and what is that? How is that going to impact the people of Hāna? I swim there, I didn't see in the proposal how long it will take. Six months, that would be a long time to have Hāna Bay closed. I would imagine that they'd even have to close the boat ramp and I know that you'd have a lot of angry fishermen about not being able to go out to up to six months. Then you have the noise, the barges sitting off shore for six months, the crane. What is the cost of removing all this material? Loading it on a barge instead of just dropping it, creating an artificial reef that would be so valuable for everybody that enjoys fishing, going after lobster, opihi.

Marine Resource Impact. I think initially it would be a shock to the system like any event like that whether it would be a storm or manmade destruction; it will certainly be a shock to the system, the ocean and the inhabitants there. I was happy to see the impact statement of about the akule, it would have no effect, in actuality it seems like it would be a good thing because it provides more light and create more vegetation. I think Hāna Bay would be in shock for quite a while not having that pier and the demolition done, it would take a certain amount for it to settle and reestablish itself. I know, believe that it would reestablish itself. Just like the big oil spills, a huge catastrophe but Mother Nature has a way of restoring itself. You remove the pier, you won't be able to restore it, and it would be good to leave something in memory of the pier.

Cultural Impact. There's concern about the line of sight for Ka'ahumanu's birth place, with that I would erect some type of permanent fixed marker...and they can use that as a reference point to find their line of sight and that can be easily done by our GPS technology but that would have to be done before hand of course.

Community Impact. It would be a long time; however long it takes it will be affecting everybody that lives here. On top of that, me being in the Fire Department, us not being to use the boat ramp, if that's a possibility, that would be a challenge. We can [launch from the shore], but on a ramp is preferred.

That's all I can think of at this time. I sure appreciate your efforts; there are some good people here tonight that have a lot to say about it, Mr. Sinenci for sure.

###



Frank Sinenci (Ms. Coila Eade's Holani Hāna partner) is part-Hawaiian born and raised in Hāna, Maui. Frank retired from the Air Force several years ago and is currently a master *hale* builder and *kumu* (teacher). His *hale* can be seen all over Hawai'i.) That I didn't like? Yeah! The part about the akule, and the sounds that the cuttings going to do; might be that the kids cannot go down there and swim during this time. It's (pier damage) been this way for twenty, thirty years, sure it's falling in, the major impact if they do anything to the pier right now; it will have major impact on the community itself.

The fishermen. Yeah, of course. I think with all the sounds there it might disturb the akule from spawning in our shallow waters.

Cement Dust. The cement dust, I don't know how they going keep all that cement dust, if they are worried about cement dust. It's going to remain as sediment in our bay anyway. Using some kind of bags and all, I don't know.

Coral. I mean eventually the coral and the natural thing in the ocean, either the fish is going to eat the coral or it has its natural demise. So what they going do? Break the coral off and place it in another place? That's kind of ridicules.

Pier. I think the pier should stay the way it is right now. There's ways to build abutments and let the pukas fall in, put more rocks and we don't have to cut the holes and let the pukas fall where they may. Why worry about the pukas if they were going to cut the whole thing up? I believe that there's a natural way to do it and I'm not afraid to get in front of PhD Engineers and tell them, I've faced engineers and I think I can hold my own, engineers against natural Hawaiians things that we built like major heiau and fishponds. I've studied the ocean more than most people; I live right on the ocean. I think they should listen to Hāna, not the politicians, Hāna. Sorry about that Kalani.

###

John Kahalehoe (telephone). Akule. The *akule* don't come in like they used to spawn. Maybe the big fish catch them before they come in. Maybe spinner dolphins. I'm ok with the pier being demolished.

###

CIA SUMMARIES and ASSESSMENT

This cultural impact assessment (CIA) is based on two guiding documents: Act 50 and Environmental Council Guidelines (1997) [see Appendices A & C]. H.B. NO. 2895 H.D.1 was passed by the 20th Legislature and approved by the Governor on April 26, 2000 as *Act 50*. The following excerpts illustrate the intent and mandates of this Act:

The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the “aloha spirit” in Hawai‘i. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.

Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.

The purpose of this Act is to: (1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and (2) Amend the definition of “significant effect” to include adverse effects on cultural practices.

Summary of Findings

The following summaries are based on the information presented in the previous sections: the traditional (cultural) and historical literature background review and the ethnographic data and analyses. References are not cited unless it is new information and not already cited in the text above. These summaries condense the information above, but also serve to focus on a few significant individuals and events in history in relation to the project lands of Hāna Bay Pier in the *ahupua‘a* of Wananalua, Hāna District, Maui Island. It will give a broad overview of land, water, marine and cultural resources and uses in the general area, as they reflect cultural resources (properties) and practices and access to them, as well as share the concerns and recommendations of the interviewees.

Summary of Significant People and Events. According to traditional and historical material, most of the land in Hawai‘i has gone through land modifications over time, including the lands of Wananalua Ahupua‘a, and have witnessed the comings and goings of many significant people. Some of these people may have contributed substantially not only to the history of this area, but of Maui Island and the rest of the Hawaiian Islands as well. There were several people and events noted in the oral histories. Some of these significant entities traversed these lands or vicinity.

Legendary Entities. The mythical residents of Hāna were:

- Maui-Loa and his mother Hina who resided at Pu‘u Ka‘uiki. Maui-Loa was a navigator who first settled in Hāna, and later elevated to “deity” status because of his many accomplishments; his feats were recounted and became legends. The island of Maui is named after him.
- Other legendary visitors were Kanaloa, who contributed to the progeny of Maui;
- Pele and Hi‘iaka. Volcano or fire goddess Pele left evidence of her visits in the form of *pu‘u* which dot the landscape, as well as legends connected to these *pu‘u* or volcanic cinder cone vents.
- Puuhele, younger sister of Pele and Hi‘iaka, was born a bloody foetus. The sisters threw her away without their parent’s knowledge. She took on a human form and traveled eventually coming to Wananalua where

she made a vow to stay. Kaihuakala (mountain in Aleamai) saw her and confronted her; Puuhele was killed and buried. With her divine power a hill arose. Kaihuakala named it Kauiki.

- Also of note, is Ku‘ula and his son A‘ia‘i. Ku‘ula is credited with building the very first *loko kai* or ocean fishpond in the Hawaiian culture. He was raised to the status of fishing god, and many *ko‘a* or fishing shrines are known today as ‘Ku‘ula.’ His son A‘ia‘i carried on his work. He created several fish houses in Hāna, including an *aweoweo* (*Pracanthus boops*) house off the cove fronting Pi‘ilanihale Heiau. ‘Ai‘ai went over to the bay of Wananalua, the present port of Hāna, with its noted hill Kauiki and the sandy beach of Pueokahi. Here he made and placed a *ku‘ula*, and also placed a fish stone in the cliff of Kauiki that is the *ko‘a* known as Makakiloia. And the people of Hāna give credit to this stone for the frequent appearance of the *akule*, *o‘io*, *moi*, and other fishes in the waters.
- The *mo‘o* deity Kihawahine is also legendary with connections to many places (e.g. Moku‘ula in Lahaina), as well as other islands. Kihawahine was/is also the primary *aumakua* of the ancestors and descendants of Pi‘ilani. Kihawahine [generations after the *mo‘o* La‘a] is an ancient goddess who takes the shape of a *mo‘o* or lizard creature. She was worshipped by the *ali‘i* of Hāna and greater Maui. She is usually a female *ali‘i nui* who has died and is transformed by the other *ali‘i nui* into an ‘*aumakua* or personal deity of the ‘*ohana*. Her *kahu* or keepers/guardians watched over her and presented her with offerings of *kapa* (bark cloth) and other things. There were many *kapu* (restrictions) relating to her; one of which was on the last day of *Makahiki*. One of the last known designated *mo‘o* was Kala‘aiheana (*the la‘a mo‘o of the cave*) the youngest daughter of Pi‘ilani and Laielohelohe.
- The god Kāne whose coconut trees were at the base of Ka‘uiki (Na-niu-a-Kane, two stone pillars in the sea) is connected to the project area and vicinity;
- Ka-pueo-kahi the owl deity of Hāna Bay and Kapo‘ulakina‘u who became his bride;
- Ku-hele-i-moana and his wife Mapuna-i-aala (daughter of Haumea), Akalana (Wakalana), the Maui brothers, and the Aikanaka to Laka group all centered about the hill Kauiki.

Ali‘i Nui

There are several famous legendary *ali‘inui* connected to the project area and vicinity:

- Hawaii (Hawaii-Kuauili or Hawaii-a-Kanekapu) a famous navigator lived at Mapuwena (Mapuena), Ka‘uiki facing Kapueokahi; his descendants who lived on the island to the east named it after their ancestor;
- Puna and Hema [progenitors or genealogy branches] were chiefs who were born in Hawaii-kua-ula [-uli], at Kauiki;
- The warring or infamous Hua who was credited with many atrocities - he built at least two *luakini* heiau in the ahupua‘a of Wananalua which are now the foundations for the Protestant and Catholic churches. More significantly, he is the ancestor of Hānala‘anui and Hānala‘iki.
- Hānala‘anui and Hānala‘iki became the progenitors of prominent *ali‘inui* or ruling chiefs of the islands of Hawai‘i and Maui, but also of many *ali‘i* of O‘ahu, Kauai, Molokai and Lana‘i. Hawai‘i *ali‘inui* Liloa and his son ‘Umi-a-Liloa, and Maui *ali‘inui* Kakae, Kaka‘alaneo, Kahekili I, Kawaokaohele, Pi‘ilani, Lonoapi‘ilani, Kihapi‘ilani and Kamalalawalu to Kahekili II and his son Kalanikupule, as well as Kamehameha I from his supposed biological father Kahekili II, are all descendants of Hua through his descendants Hānala‘anui and Hānala‘iki.

It appears that the *ali‘inui* or ruling chiefs of Maui had a long and continuous relationship with Hāna even though they also lived elsewhere. Pi‘ilani’s *ohana*, from his great-great-grandfather Kaulaheanuiokamoku I held court in Lele or Lahaina and Wailuku/Wahe‘e, but retained family lands and ties in Hāna, especially Pu‘u Ka‘uiki in the *ahupua‘a* of Wananalua. Pi‘ilani’s father Kawaokaohele is credited with uniting the polities of Maui, creating a relatively peaceful realm. Kawaokaohele also made regular visits to the Hāna district to relax and to check on personal resources, as did Pi‘ilani. Pi‘ilani enjoyed a very peaceful and productive rule. He built and maintained fishponds in Kawaipapa, was a noted water manager--creating many complex ‘*auwai* in the Hāna district, and started the famous paved King’s Trail or Highway which made trekking to Hāna much easier. Pi‘ilani’s sister Popoalaea became the subject of a well-known legend in Hāna, ‘The Legend of Wainapanapa.’ It is in this legend that we

first become acquainted with Pi'ilani the person, said to be a quiet, gentle person who cared very much for his sister.

Kawaukaohela was born, also his sister **Keleanuinoanoapiapi**, She lived with Kalamakua [Halawa/Waikiki, O'ahu] and had **Laielohelohe** who married **Piilani**. They had sons **Lono-a-piilani** and **Kiha-a-piilani** – their descendants were the royal line of Maui; Daughter **Piikea** married Umi son of Liloa; and daughter **Kalalaiheana** was designated the role of deity Kihawahine....

The following are *ali'i ai moku* of Hāna:

- Ali'i nui Eleio of Hāna during the co-reign of Kaka'alaneo and Kakae
- Ali'i nui Kalahaeha
- Ali'i nui Lei
- Ali'i nui Kamohohalii
- Ali'i nui Kalaehina
- Ali'i nui Ho'olae (chief of Kauiki)
- Lesser chief Kalaikini (who plugged up the blow hole with *kaui* spears ca. early 1700s - Thrum 1923:68-69)

The following establishes Piilani in Hāna as well as other significant people and places and illustrates his connection to Wananalua and Ka'uiki:

Wananalua was the ahupuaa of Piilani (The house was Kauhi's)
Blow hole of Kalalau was the shark's tail.
Kakakeone was the dawning, the place where the high, *kapu* chiefs were born.
Paliuli, a sacred hill.
Kawalakii, the place where Piimaiwaa smote his club.
Kamaalewa, the chief who guarded the hill.
Kahulili was the spot where the burning occurred.
Peapea was the person who was burned. Kauhi was the second who dies up there.
Palenakalani, Kaulahea's village.
Mapuena was a house. Hawaii-kuauli was a part of Hawaii.
Makaokiloia was a woman.
Kapohakau, a cave.
Wanakaloa, a birth place. Kapueokahi, a cave.
Hinalua at Keahomakalii was an ancestor.
The base of Kauiki has a cave.
Mokumana, at Kapueokahi, is a port.
Punahoa, a spring.
Anini, a surf.
Waikoloa, a river.
Nanualelei, is a cape.
Wananalua, a hill.
"Hāna of the low sky," was a saying of Kauwai's.
Kuakaha, a maika playing field.
Paniu was the village Kamakolu, a woman.
Honuaua was a *heiau*.
Pu'u-o-Kahaula was a famous hill.
Alau, an island in the sea.
Puhele, a surf for chiefs to surf on.
Kumaka, a bathing pool (and the) name of a woman [sister of Kawaipapa chief].

- Ho'olaemoku, Hāna *ali'i*;
- Koleamoku (daughter Ho'olaemoku) was betrothed to Pi'ilani's first son and heir, Lonoapi'ilani, but became Kihapi'ilani's second wife. Pi'ilani's sons Lonoapi'ilani and Kihapi'ilani disrupted the peace after their father died in Lahaina. Their constant competition became more than sibling rivalry. While in Hāna, Kihapi'ilani tried to acquire the lands of Honoma'ele, Ka'eleku and Wananalua through a reconciliation process between his wife Kolea and her father, Ho'olaemakua. Ho'olae refused to grant this as these were the "war lands" where *ohia* wood came from Honoma'ele, the 'ie'ie and black slinging stones from Ka'eleku, and the *ko'i* stones, fresh water spring and the fortress Ka'uiki, from Wananalua. Lonoapi'i soon found out that his brother was in Hāna and sent someone to capture him. Kihapi'ilani fled to the Big Island with his first wife, Kumaka, seeking the protection of *ali'inui* 'Umi-a-Liloa who was married to Kihapi'ilani's sister Pi'ikea. He left his second wife Kolea and their son Kauhiokalani in Hāna;
- Lonoikamakahi visited Hāna during the reign of Kamalalawalu, son of Kiha-a-piilani;
- Kauhiakama, son of Kamalalawalu and Kapukiniakua;
- Kalanikaumakaowakea, son of Kauhiakama and Kapukinia-a-Liloa;
- Lonohonuakini, son of Kalanikaumakaowakea and sister Kaneakauhi;
- Kaulaheanuiokamoku II, son of Lonohonuakini and Kalanikauanakinilani (of Hāna);
- Kekaulike, son of Kaulaheanuiokamoku and Papaiania II (of Hawaii);
- Kamehamehanui, son of Kekaulike and half-sister Keku'iapoiwa Nui;
- There was a short respite from war during part of the reign of Maui *ali'inui* Kamehamehanui when he "gave Hāna up" to his relatives from Hawai'i Island and lived in peace in West Maui. However the peace ended when he died. The battles took on new fervor, as relative fought relative, each vying for paramount power;
- It was during this period that Ka'ahumanu, the future wife of Kamehameha I, was born in a cave at the base of Pu'u Ka'uiki [her sisters Kaukuni and Kalākua were also born there]. She lived for a while at the Pu'uhonua Kaniomoku [somewhere above the present Hāna Medical Center]. Her parents Keeaumoku and Namahanaikaleleonalani [Hāna chiefess and widow of Kamehamehanui] fled to the Big Island for safety;
- Ka-heihei-maile Hoa-pili-wahine (sister of Ka'ahumanu) was born in 1778 at Kawapo'ele at Pihele Kawaipapa, Hāna;
- Big Island *ali'inui* Kalaniopu'u repeatedly raided and devastated the Hāna District, much to the consternation of his brother-in-law Kahekili;
- Kamehameha I first came through Hāna as a young warrior of Kalaniopu'u. He was in the Hāna District when Captain Cook briefly anchored off the Maui coast in 1778. After the death of Kalaniopu'u, the battles continued. Kamehameha I came through Hāna again, but this time he came with newly acquired paramount power of Hawai'i Island, as well as western technology and western advisors;

Contact/Historic People of Hāna:

- Captain Cook traveled past Hāna during the reign of Kalaniopu'u;
- Mahele Awardees, Royal Patent Awardees, and Land Grantees: See pp 74-76;
- Early Missionaries: Rev. Daniel Toll Conde, Rev. Mark Ives, Rev. William Harrison Rice, Rev. Eliphalet W. Whittlesey, Rev. William Otis Baldwin, and Rev. Sereno Edwards Bishop;
- Early sugar plantation personnel: planter Lindgren, sea captain and ex-whaler George W. Wilfong, August Unna, William Needham, Thomas Cook, A. B. Howe, Gerrit P. Judd, M. S. Grinbaum, W. G. Irwin and C. Brewer;
- Early shipping people: Sam Wilder, agent for government-owned *S.S Kilauea* that docked at Hāna Pier; Captain William Matson who organized Matson Lines – their schooner *Annie Johnson* berthed at Hāna Pier;
- Cattle rancher, hotelier and S.F. Seals part-owners Paul and Helene Fagan.

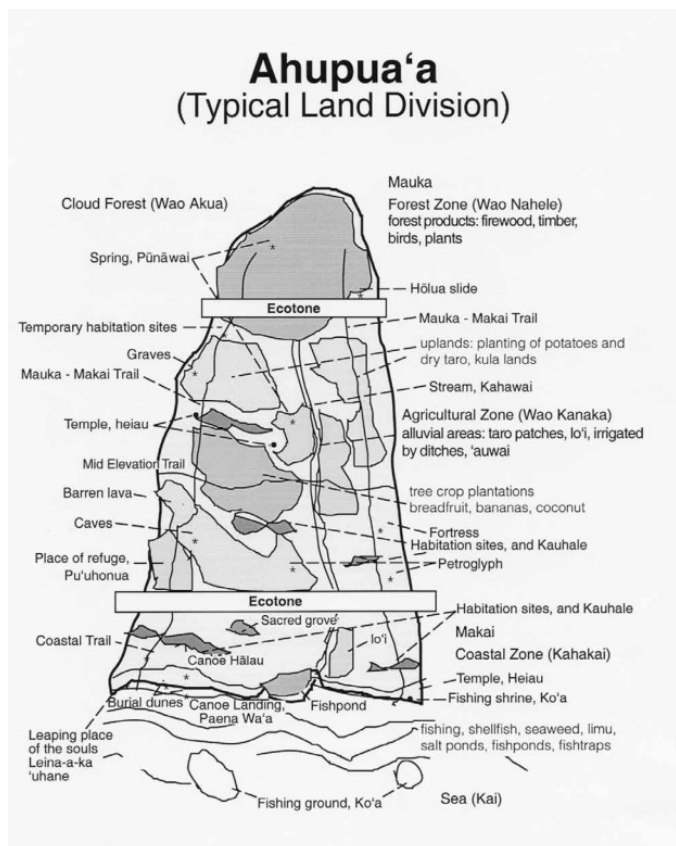
Summary of Land, Marine and Cultural Resources and Use of Project Area

Various resource use patterns are physically evident as well as recounted in the literature. The physical evidence remains in the form of landmarks, stone ruins that are fortunate to have been preserved relatively intact and cultural material remains (surface and sub-surface). Clues regarding function and use

can sometimes be extrapolated from the stories, songs, chants and ethno-historical observations that were also fortunately recorded or passed on; and the continuing cultural practices of today's people of Hāna.

Ancient Use

According to the literature, the Hāna District was well known and sought after for its abundant resources, the food crops, as well as the products from different ecological zones. Both wet and dry methods of growing taro were employed. Other traditional crops grown were sweet potatoes and bananas, as were breadfruit, *mamaki*, *awa*, and *noni*. The following Figure 7 illustrates a typical pattern of an ancient Hawaiian lifestyle from the ocean to the mountains (Minerbi 1999, slightly modified by Mueller-Dombois 2012); however, not all activities were carried out in every ahupua'a – a lot depended on the environment and natural resources.



The prominent resources of the Wananalua Ahupua'a was Hāna Bay, Pu'u Ka'uiki, the sloping well-drained *kula* lands, and the *ma uka* forests.

Although Wananalua and vicinity does not have any permanent streams, it is well known for its morning and overnight rain showers that would have allowed the upland *kula* agricultural and tree crops to thrive.

The rich marine resources would have more than supplemented the seasonal crops. Hāna Bay had an abundance of fish, *limu*, crab, lobster and *opihi*.

The plethora of stories that were passed down through the centuries not only speak of these abundant resources, but of the "gods," *ali'i nui* and people mentioned above who benefited. They also tell of the many battles fought by the people of Hāna to protect their sacred places, resources and lifestyle.

Contact/Modern Use

Contact with foreigners brought about devastating changes to Hāna and Wananalua. Perhaps the greatest change was the decimation of large populations within the Hāna District due to a variety of diseases. It was recorded that entire *ahupua'a* were extirpated by smallpox and measles alone. Additionally major shifts in the political control of the Hāna District, the Island of Maui, and the rest of the Islands through warfare that was facilitated by foreign technology and assistance created more devastating changes. The new political regimes included numerous Western values and systems that were incorporated into the local lifestyle. The *kula* land subsistence crops were replaced by primarily sugar cane mono crops; and missionaries were given large chunks of land to set up missionary stations, western churches and western schools. These actions further destroyed many sacred places such as *heiau*, shrines, burials and access trails to forest resources. The fishing grounds and lifestyle were compromised with modern facilities needed for the growing sugar plantation industry. The Hāna people became assimilated with a variety of ethnic groups brought in to supplement the dwindling local population and plantation work force. In the

mid-1900s the plantation town of Hāna changed again with the end of the sugar era in Hāna to the beginning of the cattle-ranching/tourist industry. However, through it all the community of Hāna has been able to hang onto a lifestyle that includes traditional cultural practices of the Hāna ancestors albeit on a smaller scale. They complement their modern western lifestyle with hunting, fishing and gathering practices and some home gardens. And they continue to honor their ancestors and *wahi pana* in several ways.

Ethnographic Consultants: Marine Resources and Use

Ten people were originally interviewed because of their specific connection(s) to the project area. Three interviewees are directly involved in *limu* restoration in the Hāna District including Hāna Bay; three interviewees monitor fishing buoys; and one interviewee participates in ceremonies at Ka‘uiki with the Ka‘ahumanu Society – they are noted here but not included in the following Table of fishing practices. Although recognized by some interviewees as culturally important, other marine resources found in the Bay are not included in the table (e.g. *honu*, dolphins and whales). Table 8 illustrates the fishing practices of seven part-Hawaiian interviewees and/or their immediate family member(s). Table 9 illustrates gathering practices of the seven part-Hawaiian interviewees. Table 10 illustrates the type of boats used by the interviewees and their launching method (ramp or sand).

Table 8. Ethnographic Consultant Cultural Fishing Practices (7 of 10).

Interviewee	Bay Net Fishing	Pier pole Fishing	Deep Sea Fishing	Shoreline Fishing Pole/Throw net	Harpoon - Spear/Dive Fishing
Hank Eharis	NA	<i>u‘u, aweoweo, aholehole, papio, moano, munu, moano, akule, o‘io</i>	<i>ulua/onaga</i>	<i>ulua</i> (pound pound)	<i>uhu, nenui, kālā.</i>
John Kahalehoe	<i>akule</i>	NA	<i>aku, ahi, ehū, kawakawa opakapaka</i>	striped Sergeant fish, <i>manini, aholehole, enenuē,</i>	NA
Blondy Kaina	<i>akule, onaga, manini</i>	<i>enenuē, menpachi, aweoweo, ahole,</i>	NA	<i>enenuē, menpachi, aweoweo, ahole,</i>	NA
Boise Kawaiaea	<i>oio</i>	<i>ahole, menpachi and aweoweo, halalu</i>	Yes	<i>oio, moili‘i, ulua, manini, ahole</i>	<i>oio, ahole, kole, kumu</i>
Nani Lay	NA	Dad fished here	Husband/Yes	<i>Ulua, ahole</i>	<i>kālā, palani, manini, po‘opa‘a, hinalea</i>
Bruce Lind	NA	<i>o‘io</i>	Yes	<i>mahimahi, ono, ahi, aku, marlin, enenuē</i>	<i>ahi, kawalea, menpachi.</i>
Greg Lind, Jr.	<i>o‘io, akule</i>	<i>menpachi, o‘io, enenuē</i>	Yes	<i>aholehole</i>	everything

Table 9. Ethnographic Consultants Cultural Gathering Practices (7 of 10).

Interviewee	Gather Limu	Gather Opihi	Gather Crab	Other Ocean	Other Ka'uiki
Hank Eharis	<i>kohu, pe'epe'e, manawea</i>	NA	NA	FAD monitor Limu Festival	access trail*
John Kahalehoe	<i>kohu, pepe</i>	<i>opih</i>	NA	Swimming, Other gatherings	access trail
Blondy Kaina	<i>kohu</i>	<i>opih</i>	NA	Other gatherings	Akule Hale*
Boise Kawaiaea	<i>kohu, pe'epe'e</i>	NA	black	Swimming, Other gatherings	access trail
Nani Lay	<i>kohu, ele'ele</i>	NA	NA	Swimming, Other gatherings	Ka'ahumanu ceremony/ access trail
Bruce Lind	<i>lipoa, lipepe, kohu, nei (opih limu)</i>	<i>opih</i>	<i>a'ama</i>	Swimming, Other gatherings	access trail
Greg Lind, Jr.	<i>kohu</i>	<i>opih</i>	Yes	FAD monitor Limu Festival, swim	access trail

*The access trail is used to get to marine resources for gathering (e.g., *limu*, crab); the Akule Hale is where akule schools are spotted, the fishermen gather here socially and to process their nets.

Table 10. Ethnographic Consultants: Boaters/Ramp Users

Interviewee	Boat Type/Size	Boat Use	Personal Commercial	Ramp Launch	Sand Launch
Coila Eade	18' Glasspar	Rec/Fishing- <i>ono</i>	Personal	NA	Yes
Hank Eharis	Big boat?	Deep water Fish/FAD	Commercial	Yes	NA
John Kahalehoe	Friend's	Fishing	Personal	Yes	Yes
Joseph Kaina	Small boat	Fishing	Community	Yes	NA
Boise Kawaiaea	Friend's skiff	Fishing	Personal	Yes	Yes
Nani Lay	Big boat – husband's	Deep water Fishing	Commercial	Yes	NA
Bruce Lind	Big Boat	Deep water Fishing/trolling	Commercial	Yes	Yes
Giovanna Lind	NA	Deep water Fish/FAD	Commercial	Yes	NA
Greg Lind, Jr.	25 footer	Deep water Fish/FAD	Commercial	Yes	NA
Gale Notestone	Rescue Boat	Rescue	Community	Yes	Yes

Ethnographic Consultants Concerns/Impacts.

The following Table 11 notes the concerns and impacts of demolition/removal of the ethnographic consultants during the 2013 interviews. Over four generations have utilized the Hāna Pier/Wharf especially for fishing.

Table 11. Ethnographic Consultants: Concerns/Impacts of Pier Repair, Demolition or Removal (2013)

Interviewee	Ka'uiki	Marine Resources	Hāna Bay	Ramp Launch	Community
Coila Eade	There's a bronze plaque out there and right behind it was a little tiny cave in the hill	—	The pier is used in the canoe races at the start and end; I would like to see it stay there	—	This [pier] is where the children would jump off into the water and my grandkids loved it.
Hank Eharis	—	The impact is great because there is so much recovery of the reef itself that's been growing the last thirty five years; Try not to kick up too much dust; Off the pier now, still have a lot of the red fish at night, the <i>u'u</i> , <i>aweoweo</i> , the moonlight nights you can get a lot of <i>aholehole</i> , <i>papio</i> , the goat fish like the <i>moano</i> , <i>munu</i>	Need to protect against surges; Need input from fishermen	People weren't too keen on design; On the ramp there is invasive <i>limu</i> now	No changes to Pier
Joseph Kaina	This hill is only cinders, what's the impact going to do underneath. Anything to do with demolition, people can only see the top but they don't know what's happening underneath and it might affect the whole hill.	I don't know if they are going to dredge that reef, it's historic, Keanini;	—	—	Whomever is going to work on pier should meet with Community
Boise Kawaiaea	Cave where Ka'ahumanu was born; Trail; Fish spotting place	Need a place to fish from; they pole out from the pier and hook <i>o'io</i> ; Night fishing from the pier we would get <i>ahole</i> , <i>menpachi</i> and <i>aweoweo</i> – one year there was <i>halalu</i> – baby <i>akule</i> .	Pier area was an ancient battleground; There are canoe racing [in the Bay]; I really don't want to see that pier disappear;	Need to stop the surges; Two rocks where we all learned to swim	—
Nani Lay	Sacred; Important to history of Maui; Ka'ahumanu and sisters born in a cave, at the foot of Ka'uiki	Any disturbance negative; <i>limu</i> can die	Accessibility to the cave is no longer possible so we go to where the pier begins and the road ends, we gather in circle, do our ceremony and toss flowers and leis into the water.	Swimming to Second Rock was a form of graduation; From Hāna Bay to the Lighthouse was another graduation	—
Bruce Lind	—	They pole out from the pier and hook <i>o'io</i>	Need to block surge; Canoe tournaments, tournaments for fishing, pole fishing for the kids and all sorts of fishing	Any closure would have serious impacts e.g. financial; Mooring not a good option	Impact; don't want any changes

Giovanna Lind	—	[Dropped deck] can facilitate more homes for fish; [Construction] barge brought in alien <i>limu</i>	Fishing off of the wharf, it is usually where we take them to teach them how to fish;	On occasion can't launch because of the surge on the ramp	No changes; biggest concern is having the kids swim under the bridge when there is a big surge
Greg Lind, Jr.	'Aha Hui Ka'ahumanu does practice out there, chant and hula	Concern about alien species of <i>limu</i> brought in; Plenty of night time fishing off the wharf, <i>menpachi</i> ; We'd go dunking off the wharf for <i>o'io</i> , the end of the wharf and hook <i>enenue</i>	Fill the pillars-need surge protection	Worse surge in Hāna; The ramp is worse than before	Listen to the Community
Gale Notestone	—	—	Need to reduce the surge	Build up the seawall to protect because the surge comes in from the east; There's a big surge there now; Safety issue	—

Follow-up Contact/Interviews: Impact of Deck Removal

It was recommended (2013 CIA) that more meetings take place with the Hāna fishermen and boaters especially regarding a new re-structure design and that a mitigation and contingency plans be developed to alleviate impacts. Therefore more community meetings were conducted by DOT staff. It was concluded that the community of Hāna did not want a commercial pier in Hāna. As a result of the community's input DOT-H proposed the following action in order to protect public safety:

The proposed action is to remove the superstructure of Hāna Pier and access trestle at Hāna Harbor Maui, Hawai'i. The concrete pier and its access trestle are currently condemned due to the deteriorated condition of its superstructure (i.e., deck, beams, pile caps, and trestle guardrails). The existing piles would remain in place to avoid adversely impacting corals that have colonized on the piles.

In 2016 DOT-H requested that the 2013 CIA be revised or updated to include follow-up contact and interviews with the original ethnographic consultants (interviewees) regarding the impact of the deck removal of the Hāna Bay Pier. Unfortunately one consultant had recently passed (May 2016), however her business partner offered to share his *mana'o*. The other nine people were contacted and agreed to participate in a presentation followed by individual interviews on September 11, 2016. Sadly only two additional people attended and all three were given two handouts to review before being interviewed; Hāna Pier Deck Removal Project Description/Construction/Methodology (Aug 2016) and Preliminary Summary of Project Impacts to *Akule* Fishery (9-8-16). Follow-up letters and handouts were mailed to the other seven people, but only one person responded back by telephone. Table 12 summarizes the results of the follow-up contact with the original ethnographic consultants regarding the impacts of the *Hāna Pier Deck Removal*.

Table 12. Ethnographic Consultants: Impact of Deck Removal (2016)

Interviewee	Preference/Methods	Marine Resource Hāna Bay	Kauiki	Cultural	Community
Coila Eade*	NA	NA	NA	NA	NA
Hank Eharis	---	---	---	---	---
John Kahalehoe	Remove Deck	Akule not coming in like before	---	---	---
Joseph Kaina	---	---	---	---	---
Boise Kawaiaea	Drop deck to create Breakwall	Big impact on Bay and resources Won't be able to contain cement sediment and debris Concern for Akule	Danger of cinder slides during demolition	Impact line of sight for Ka'ahumanu Society May cause birth cave to be covered up	Kids won't be able to swim Limited Park use Impact/limit fishermen
Nani Lay	---	---	---	---	---
Bruce Lind	---	---	---	---	---
Giovanna Lind	---	---	---	---	---
Greg Lind, Jr.	---	---	---	---	---
Gale Notestone	Drop deck to create Breakwall which will create new habitat Need surge protection Leaving only piles is marine hazard	Shock to system and Hāna Bay	NA	No line of sight for Ka'ahumanu Society Need Fixed Marker	Community will lose a Landmark Inconvenience Fishermen lose income and sustenance
Frank Sinenci*	Remain As Is Fill holes with rocks	Demo sounds will affect Akule Akule can't spawn Coral natural demise Cement dust will remain as sediment	NA	NA	Major impact Kids can't swim

Cultural Impact Assessment:

According to the Environmental Council Guidelines, the types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, religious and spiritual customs. The following actions were taken to meet the EC Guidelines Criteria for conducting this cultural impact assessment based on the SOW:

- 1) *conduct historical and other culturally related documentary research;*

Documentary research, particularly on identifying traditional and cultural uses of the area, was completed. Much of what is known about the traditional and cultural uses of the area comes from written records that tell of its prehistory (e.g. *mo'olelo*; 19th century ethnographic works; and missionary journals); the stories associated with early coastal and upland area uses by early Hawaiians; and scientific studies (i.e., archaeological, marine, botanical, geological, biological).

- 2) *identify individuals with knowledge of the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua'a; or with knowledge of the area potentially affected by the proposed action [e.g. past/current oral histories];*

The project lands have been in continual use since ancient times, however, not in exclusive *kanaka maoli* use since Contact. The interviewees were selected because of their use and knowledge of the project area.

- 3) *identify and describe the cultural resources, practices and beliefs located within the potentially affected area;*

Archival research in Cultural and Historical Background Review and ethnographic research (Ethnographic Data Review and Analysis) produced the data utilized to identify and describe the cultural resources, practices and beliefs located within the potentially affected area in the *Summary of Findings* above. The cultural resources, practices and beliefs were also illustrated in Tables 8-12 above.

- 4) *and assess the impact of the proposed action on the cultural resources, practices and beliefs identified.*

The initial undertaking presented to the Hana Community included two scenarios (action/undertaking) for evaluation for cultural impacts 1) the restoration for commercial use - including for emergency use or 2) complete removal of the Hāna Bay Pier. People were selected from the Hāna community to be interviewed for the CIA. The criteria for selecting these interviewees were that they lived/worked in the Hāna community, were knowledgeable practitioners (i.e. fishing, cultural, boaters) and/or were knowledgeable about the history of Hāna, especially the Hāna Bay/Kau‘iki area.

Each action or undertaking was evaluated separately. The unanimous conditional response was not to completely remove the pier structure so that modified cultural and traditional practices could continue. The interviewees expanded on this sentiment. They would like to see a ‘usable structure,’ but not the pier styles that were originally proposed to the community for a number of reasons. The interviewees suggested a breakwater style structure that would obstruct and redirect the northeast surge thereby protecting boaters who launch from the pier ramp and protect swimmers on the bay side of the pier. Their breakwater design would include a docking segment for emergency access (e.g. evacuation, supply, etc), pole fishing, and cultural ceremonies. It was initially (CIA 2013) recommended that more meetings take place with the Hāna fishermen and boaters especially regarding their suggested pier structure re-design and that mitigation and contingency plans be developed to alleviate any impacts. The following are their thoughts/suggestions:

- 1) Safety issues were paramount for both boaters and other pier users. The remodeled ramp has not helped; the current design is too steep, too narrow and exacerbates an already dangerous surge problem;
- 2) The suggested size of the reconstructed pier within the lower-end acceptable range will still allow a commercial (outsider) use of the pier, which the majority of the interviewees don’t want to see happen as it will not only have a long-term impact on cultural fishing and gathering practices within Hāna Bay and vicinity, but also on other Hāna resources;
- 3) Surprisingly a new design surfaced from several users who wanted to know what other users thought and therefore adds a third alternative. They would like to see a breakwater style that would obstruct and redirect the northeast surge thereby protecting boaters who launch from the pier ramp. It will also protect swimmers on the bay side of the pier. The breakwater design would include a docking segment for emergency access (rescue, supply, etc), pole fishing, and cultural ceremonies;
- 4) The expense for a remodeled/restructured pier similar to current design would cost more money than the smaller breakwater concept which would reuse the deck and pillar material by creating artificial reefs for shoreline fishes.

Pier Deck Removal Potential Short-Term and Long-Term Impacts

The current proposed project to remove the superstructure (i.e., deck, beams, pile caps, and trestle guardrails) and the access trestle has the potential to create short- and long-term impacts to fishing (subsistence and commercial), gathering, and cultural practices, as summarized below. However, this proposal would have a shorter construction duration and less impact to the marine environment than the previously proposed pier improvement project.

1. Fishing impacts (commercial/general) (short-term, demolition period impacts unless noted):
 - Time restrictions for launching and docking (depends on weather conditions and fish availability);
 - Pier removal activities/equipment may hinder egress and regress of vehicles trying to launch or dock boats;
 - Pier removal activities/equipment may restrict parking for vehicles after launching boats;
 - Construction activities could reduce water quality in the area and cause subsequent impacts to marine resources;
 - Loss of perceived wave surge protection (removal of the deck thought to intensify the surge for boat launchers) (long-term impact);
 - Loss of fishing from pier deck (impact primarily on families and seniors with no access to boats) (long-term impact);
 - Beneficial impact: improved lighting in water column will improve fishery habitat (long-term impact)

2. Cultural impacts on traditional practices (short-term, demolition period impacts unless noted):
 - Access limitations for the Ka‘ahumanu Benevolent Society to conduct ceremonies in the vicinity of the birth cave due to demolition activities/equipment;
 - Limitations on community to access the cove area for gathering *limu*, *‘opihi*, and *or crabs*;
 - Loss of access for coaches of traditional canoe paddling crews (although they are now illegally accessing the pier) to have a broad perspective from the pier of several canoes at one time (long-term impact);
 - Loss of access for recreational activities (e.g., jumping off pier) that have become part of community cultural practices (although the activities are now prohibited at the pier) (long-term impact);
 - Loss of line-of-sight access for Ka‘ahumanu Benevolent Society ceremonies (though they do not currently use the pier) (long-term impact).

3. Pu‘u Ka‘uiki impact (short-term, demolition period impact):
 - Potential cinder slides from demolition activities (Pu‘u Kauiki significant *wahi pana* is a cinder cone that has recently had major slides that have been re-enforced with concrete slabs).

Pu‘u Kau‘iki Impact/Justification

There is a potential impact on Pu‘u Ka‘uiki during deck removal because of the unstable cinder, which is already an issue. Based on all the *mo‘olelo* about Pu‘u Ka‘uiki it is a very special *wahi pana* (cultural legendary place) and should be protected:

- 1) Pu‘u Ka‘uiki the cinder cone was created by Puuhele the younger sister of volcano goddess Pele and sister Hi‘iaka and named ‘Ka‘uiki’ by Kaihuakala (mountain in Aleamai) who had killed Puuhele and buried her in that location;
- 2) Pu‘u Ka‘uiki was the home of several deities such as Hina and Maui-Loa and welcomed visiting deities such as Kāne, Kanaloa, Ku‘ula, ‘Ai‘ai, Kihawahine who was and is the ancestral *aumakua* of Pi‘ilani and his descendants, Ka-pueo-kahi the owl deity of Hāna Bay and Kapo‘ulakina‘u his bride, and Ku-hele-i-moana and his wife Mapuna-i-aala (daughter of Haumea);
- 3) Akalana (Wakalana), Aikanaka to the Laka group all centered about the Pu‘u Ka‘uiki the ancestral lands of Pi‘ilani and his ancestors such as Kaulaheanuiokamoku I, Pi‘ilani’s great-great-great grandfather;
- 4) Other famous residents of Pu‘u Ka‘uiki were progenitors Hawaii (Hawaii-Kuauili or Hawaii-a-Kanekapu) who lived at Mapuwena (Mapuena), Ka‘uiki, Puna and Hema (progenitors or genealogy branches) were chiefs who were born in Hawaii-kua-ula [-uli] at Kauiki, and the warring and infamous Hua who built at least two *luakini* heiau at the base of Pu‘u Ka‘uiki but more significantly, was the ancestor of Hānala‘anui and Hānala‘aiki progenitors of the royal lines of Maui and Hawai‘i Island with *ohana* connections to O‘ahu and Kauai;
- 5) Pu‘u Ka‘uiki was a fortress during the time of Ho‘olae, chief of Pu‘u Ka‘uiki and father of Koleamoku second wife of Kiha-a-pi‘ilani and continued to be a *wahi pana* as the legendary fortress Post Contact that kept Hāna safe from invaders for decades;
- 6) It was also a safe haven for Na-mahana-i-kaleo-nalani, daughter of Kekaulike historic king of Maui, former wife/widow of her half-brother Kamehamehanui [they were the parents of Pe‘ape‘a-maka-walu who lived on the summit of Ka‘uiki and who was killed on Ka‘uiki from an exploding powder keg], Namahana was later the wife of Ke‘eaumoku son of Keawepoepoe of Hawai‘i Island – there were the parents of Ka‘ahumanu who along with two sisters Kaukini and Kalākua were born in the cave Paliuli in the north side of Pu‘u Ka‘uiki.

Recommendations

- The Interviewees feel the pier deck structure provides surge protection to launching/docking boaters and swimmers. They also feel that by reusing the deck pieces by dropping them between the remaining pillars will provide even more protection should the deck be removed. This would also provide additional habitat opportunities for the traditional marine resources of Hāna Bay. Therefore a study to explore the feasibility and validity of this suggested mitigation action is recommended.
- Monitoring of the northwest face of Pu‘u Ka‘uiki for cinder slides should be conducted during all phases of the deck removal. Pu‘u Ka‘uiki is a *wahi pana* or traditional sacred place for the ancient

gods, demi-gods and *ali'i* and their descendants - some who currently still reside in Hāna or the Hāna district;

- Monitoring of the two huge boulders adjacent to the boat ramp should be conducted during all phases of the deck removal – these boulders have cultural significance for the Hāna community;
- Monitoring the concrete debris during deck removal and for a period of time after to check for concrete sediment, especially on the coral reef and other areas where crabs, lobster, *opihi*, and *limu* inhabit;
- Provide a safety device on the remaining pillars so that outside boaters will avoid the area;
- Consult with community and fishermen to avoid or minimize impacts related to ramp access during deck removal; and
- Transfer pier jurisdiction to an agency that does not have a requirement to allow use by commercial vessels and would be repaired to be utilized for cultural practices.

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APPENDIX A
Act 50 SLH 2000

A BILL FOR AN ACT RELATING TO
ENVIRONMENTAL IMPACT STATEMENTS
HOUSE OF REPRESENTATIVES H.B. NO. 2895 H.D.1
TWENTIETH LEGISLATURE, 2000 STATE OF HAWAII
A BILL FOR AN ACT

RELATING TO ENVIRONMENTAL IMPACT STATEMENTS.
BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. The legislature finds that there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawai'i's culture, and traditional and customary rights.

The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the "aloha spirit" in Hawaii. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.

Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.

The purpose of this Act is to: (1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and (2) Amend the definition of "significant effect" to include adverse effects on cultural practices.

SECTION 2. Section 343-2, Hawai'i Revised Statutes, is amended by amending the definitions of "environmental impact statement" or "statement" and "significant effect", to read as follows:

"Environmental impact statement" or "statement" means an informational document prepared in compliance with the rules adopted under section 343-6 and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic [and] welfare, social welfare, and cultural practices of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

The initial statement filed for public review shall be referred to as the draft statement and shall be distinguished from the final statement which is the document that has incorporated the public's comments and the responses to those comments. The final statement is the document that shall be evaluated for acceptability by the respective accepting authority.

"Significant effect" means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State's environmental policies or long-term environmental goals as established by law, or adversely affect the economic [or] welfare, social welfare[.], or cultural practices of the community and State."

SECTION 3. Statutory material to be repealed is bracketed. New statutory material is underscored.

SECTION 4. This Act shall take effect upon its approval.

Approved by the Governor as Act 50 on April 26, 2000

APPENDIX B
Guidelines for Assessing Cultural Impacts
Adopted by the Environmental Council, State of Hawaii
November 19, 1997

I. INTRODUCTION

It is the policy of the State of Hawaii under Chapter 343, HRS, to alert decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making.

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

II. CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants, including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access to gathering areas would be included in the assessment. An ahupua'a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua'a and the geographical extent of the study area should take into account those cultural practices.

The historical period studied in a cultural impact assessment should commence with the initial presence in the area of the particular group whose cultural practices and features are being assessed. The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs.

The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural, including submerged cultural resources, which support such cultural practices and beliefs.

The Environmental Council recommends that preparers of assessments analyzing cultural impacts adopt the following protocol:

1. identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or *ahupua'a*;
2. identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
5. identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
6. assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

Interviews and oral histories with knowledgeable individuals may be recorded, if consent is given, and field visits by preparers accompanied by informants are encouraged. Persons interviewed should be afforded an opportunity to review the record of the interview, and consent to publish the record should be obtained whenever possible. For example, the precise location of human burials are likely to be withheld from a cultural impact assessment, but it is important that the document identify the impact a project would have on the burials. At times an informant may provide information only on the condition that it remain in confidence. The wishes of the informant should be respected.

Primary source materials reviewed and analyzed may include, as appropriate: Mahele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

III. CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

1. A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and

features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.

2.A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.

3.Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

4.Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.

5.A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.

6.A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.

7.A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project.

8.An explanation of confidential information that has been withheld from public disclosure in the assessment.

9.A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

10.An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

11.A bibliography of references, and attached records of interviews which were allowed to be disclosed.

The inclusion of this information will help make environmental assessments and environmental impact statements complete and meet the requirements of Chapter 343, HRS. If you have any questions, please call 586-4185.

APPENDIX C
Agreement to Participate in this Cultural Impact Study/Assessment

Project Title: **Hāna Pier Improvements CIA**
 Wananalua Ahupua‘a, District of Hāna

Investigator: Maria Orr, M.A.
 Kaimipono Consulting Services LLC

You are being asked to participate in a Cultural Impact Assessment [CIA] conducted by an independent investigator contracted by *Helber Hastert Fee Planners DBA HHF Planners* as part of a larger study for *DOT State of Hawai‘i Harbors Division*. The investigator will explain the purpose of the study, the procedures to be used, the potential benefits and possible risks of participating. You may ask the investigator any question(s) in order to help you to understand the study or procedures. A basic explanation of the study is written below. If you then decide to participate in the study, please sign on the second page of this form. You will be given a copy of this form to keep.

I. Nature and Purpose of the Study

The purpose of this cultural impact study/assessment is to gather information about the project lands and vicinity in the ahupua‘a of Wananalua, District of Hāna through interviews with individuals who are knowledgeable about this area, and/or about traditional and historic information such as cultural practices, legends, songs, chants or other information. The objective of this study is to facilitate in the identification and location of any possible pre-historic and/or historic cultural resources, or traditional cultural practices in the area mentioned above, in accordance with applicable historic preservation laws, regulations, and guidelines, including: *Office of Environmental Quality Control [OEQC] Guidelines and Act 50 HB2895 [A.D.2000], HRS Chapter 343*

II. Explanation of Procedures

After you have voluntarily agreed to participate and have signed the consent page, the investigator will tape record your interview and have it transcribed later. Data from the interview [ethnographic research] will be used as part of the background historical summary for this project. The investigator may also need to take notes and/or ask you to spell or clarify terms or names that are unclear.

III. Discomforts and Risks

Foreseeable discomforts and/or risks may include, but are not limited to the following: having to talk loudly for the recorder; being recorded and/or interviewed; providing information that may be used in reports which may be used in the future as a public reference; knowing that the information you give may conflict with information from others; your uncompensated dedication of time; possible miscommunication or misunderstanding in the transcribing of information; loss of privacy; and worry that your comment(s) may not be understood in the same way you understand them. It is not possible to identify all potential risks, however reasonable safeguards have been taken to minimize risks.

IV. Benefits

This study will give you the opportunity to express your thoughts (*mana'o*), and your opinions will be listened to and shared; your knowledge may be instrumental in the preservation of significant cultural resources, practices and information.

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record" **and not be recorded in any way**. In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the investigator of your desires. The investigator will ask you to specify the method of protection, and note it on this form below.

VI. Refusal/Withdrawal

You may, at any time during the interview process, chose to not participate any further and ask the investigator for the tape and/or notes. Please note that you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

VII. Waiver

Part I: Agreement to Participate

I, _____, understand that Maria Orr, an independent investigator contracted by HHF Planners will be conducting oral history interviews with individuals knowledgeable about the project lands, Hāna Bay Pier and vicinity, in the ahupua'a of Wananalua, District of Hāna, Maui. The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources associated with these lands, as well as traditional cultural practices and access to these resources and practices.

I understand I will be provided the opportunity to review my interview to ensure that it accurately depicts what I meant to say. **I also understand that if I don't return the revised transcripts after two weeks from date of receipt, my signature below will indicate my release of information for the draft report. I also understand that I will still have the opportunity to make revisions during the draft review process.**

_____ I am willing to participate.
_____ I am willing to participate, under the following conditions:

_____	_____
Consultant Signature	Date
_____	_____
Print Name	Phone
_____	_____
Address	Email

MAHALO NUI LOA

Part II: Personal Release of Interview Records

I, _____, have been interviewed by Maria Orr of Kaimipono Consulting Services LLC, an independent investigator contracted by HHF Planners. I have reviewed the written transcripts of tape recordings of the interview, and agree that said documentation is complete and accurate except for those matters specifically set forth below the heading "CLARIFICATION OR CORRECTIONS."

I further agree that Ms. Orr, HHF Planners and DOT-Harbors may use and release my identity and other interview information, both oral and written, for the purpose of using such information in a report to be made public, subject to my specific objections, to release as set forth below under the heading "SPECIFIC OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS."

CLARIFICATION OR CORRECTIONS:

SPECIFIC OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS:

Consultant Signature

Date

Print Name

Phone

MAHALO NUI LOA

APPENDIX D
Ethnographic Basic Research Instrument for Oral History Interviews

This research instrument includes basic information as well as research categories which will be asked in the form of open primary questions which allow the individual interviewed (Consultant) to answer in the manner he/she is most comfortable. Secondary or follow-up questions are asked based on what the Consultant has said and/or to clarify what was said. The idea is to have an interview based on a “talk-story” form of sharing information. Questions will NOT be asked in an interrogation style/method, NOR will they necessarily be asked in the order presented below. This research instrument is merely a *guide* for the investigator and simply reflects general categories of information sought in a semi-structured format. Questions will be asked more directly when necessary.

The Consultants were selected because they met one or more of the following criteria:

- ❖ Referred By Other Cultural Resource People
- ❖ Had/has Ties to Project Area/Vicinity
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Known Hawaiian Traditional Practitioner
- ❖ Referred By Other Cultural Resource People

[NOTE: This part of the interview, #1-4 is mutual sharing and rapport building. Most of the information for research categories “Consultant Background” and “Consultant Demographics” come from this section, but not exclusively.]

1. *To start please tell me about yourself...Name? Where/When you were born?*

[This information can be addressed in a couple of ways. After the investigator first turns on the tape recorder, the following information will be recorded: Day/Date/Time/Place of Interview/Name of Consultant (if authorized by Consultant)/Name of Investigator/Questions: Have you read the Agreement To Participate?/Do you have any questions before we begin?/Will you please sign the Consent page. The investigator will explain again the purpose of the interview.

The investigator will then ask the Consultant to “Please tell me about yourself--when/where were you born? where did you grow up? where did you go to school?” This general compound question allows the Consultant to share as much or as little as he/she wants without any pressure. Most of the information for #1 may already be known to the investigator.]

2. *History: Your ‘ohana/family background; Hawaiian connection (if any)?*

[Much of the information for questions #2, 3, and 4 usually comes from the “monologue” answer to Question #1. If it does not, then these questions will be asked. The answers in this section usually establish how the Consultant meets the criteria; how the Consultant developed his/her information base, etc.]

3. *Youth: Where lived? Grew up?* [This may have been answered in #1]
4. *Schooling? Where? When?* [This may have been answered in #1]

[NOTE: The next part of the interview, #5-7 reflects information sought for the following research categories: Land, Water, Marine, Cultural Resources and Use as well as Significant People, and Events. The questions are open-ended so as NOT to “put words in the mouths” of the Consultants. The answers will help in assessing if any cultural properties or practices will be impacted by the proposed project.]

5. *Can you tell me what you know about the lands of Wananalua? Hāna Bay Pier?*

[NOTE: Generally when people share information about a specific topic/place, they usually state where their information came from. If it isn't volunteered, it is asked as a follow-up question(s). A map of the project area should be available to confirm that investigator and consultant are talking about the same place. Photos would also help if a field trip is not possible. The best scenario would be to be “on-site” at some part of the interview...although this is not always practical.]

6. *What are your recollections and/or personal experiences of this area?*

7. *Do you know any stories/legends/songs/chants associated with these areas?*

[NOTE: Possible follow-up questions:

- How are you or your family connected to the project area?
- What year(s) were you and/or your family associated with these lands?
- What was this place/area called when you were growing up? When you were working here?
- Can you describe what the area looked like--what kinds of natural and/or man made things?
- To your knowledge what kind of activities took place in this location?
- Do you know of any traditional gathering of plants, etc in the area?
- Please describe any other land/water use? Resources?
- What was the historic land use? Fishing, Agriculture? Habitation? Dwellings? Ranching?
- **[Have map ready for marking.]**
- Do you know about any burials in the project area?
- Do you know of any cultural sites in the project area or vicinity?

8. *Is there anyone you know who can also tell me about the project area?*

[NOTE: Usually in the course of the interview, Consultants suggest other people to interview.]

9. *As soon as the tape of this interview is transcribed I will send you two sets. Please review your transcripts and make any corrections and/or additions, then sign both copies of the Release Forms thereby allowing the information to be used by the investigator, HF Planners and DOT. Then mail one set back in the enclosed stamped-addressed envelope.*

10. *If your revised transcript is not returned within two weeks of date of receipt, it will be assumed that you are in concurrence with the transcript material and your information will then be incorporated into any draft reports. However, you can still make changes during the draft review process.*

MAHALO NUI LOA

APPENDIX E
Close-up of Schooner Annie Johnson ca. 1916
Hāna Cultural Center Archives



Vegetation on shore looks like palm trees or banana trees.

APPENDIX F
Schooner Annie Johnson ca. 1916
Hāna Cultural Center Archives



No structures on Pier yet.

APPENDIX G
Close-up of SS Kilauea ca. 1916
Hāna Cultural Center Archives



Steamship

APPENDIX H
Signed Consent Forms

Coila Eade
Legario “Hank” Eharis Jr.
John Kahalehoe Sr.
Joseph “Blondy” Kaina
Roback “Boise” Kawaiaea
Nani Lay
Bruce Lind Sr.
Giovanna Lind
Greg Lind Jr.
Capt. Gale Notestone

APPENDIX I
Signed Release Forms

Legario “Hank” Eharis Jr.
John Kahalehoe Sr.