

State of Hawai‘i  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Aquatic Resources  
Honolulu, Hawai‘i 96813

April 22, 2016

Board of Land and Natural Resources  
Honolulu, Hawai‘i

Request for Authorization and Approval to Issue a Papahānaumokuākea Marine National Monument Research Permit to Dr. Eric Conklin, The Nature Conservancy, for Access to State Waters to Conduct Nearshore Reef Fish Assessment Activities

The Division of Aquatic Resources (DAR) hereby submits a request for your authorization and approval for issuance of a Papahānaumokuākea Marine National Monument Research permit to Dr. Eric Conklin, Marine Science Director, The Nature Conservancy, pursuant to § 187A-6, Hawai‘i Revised Statutes (HRS), Chapter 13-60.5, Hawai‘i Administrative Rules (HAR), and all other applicable laws and regulations.

The Research permit, as described below, would allow entry and activities to occur in Papahānaumokuākea Marine National Monument, including the NWHI State Marine Refuge and the waters (0-3 nautical miles) surrounding the following sites:

- Nihoa Island

The activities covered under this permit would occur between May 1, 2016 and April 30, 2017.

Although the Applicant is new, the proposed activities are a continuation of work previous nearshore reef assessment activities previously permitted and conducted within the Monument in 2015.

INTENDED ACTIVITIES

The Applicant proposes to conduct nearshore reef fish surveys in a manner consistent with conservation and monitoring efforts in the Main Hawaiian Islands to fill a data gap in the Reef Assessment & Monitoring Program (RAMP) and to enhance data previously collected on ciguatoxins (CTX) in areas of higher consumption rates, such as Nihoa.

The Applicant and up to seventeen (17) crew members would enter the Monument aboard the SSV MAKANI OLU. The proposed nearshore reef survey activities would take place between depths of 0-30ft. at Nihoa Island. Methods include fish species presence/absence surveys, fish abundance or biomass surveys, 5-minute timed swims, comprehensive data collection on fish and benthic communities along 25 m transects, taking salinity and temperature measurements using a YSI hand-held instrument, swimming, and snorkeling. Upon completing these surveys, the Applicant

would select a locally abundant species of edible reef fish, and harvest up to twenty-five (25) whole specimens (measuring greater than the minimum size at maturity) for CTX analysis. The fish specimens would be preserved for laboratory analysis.

The activities will benefit the conservation and management of the Monument by supporting the Monument Management Plan (MMP) as described in the Marine Conservation Science (MCS) Action Plan, Activity MCS-1.1: *Continue to characterize types and spatial distributions of shallow-water marine habitats to inform protection and management efforts* and MCS-1.2: *Continue monitoring of shallow-water coral reef ecosystems to protect ecological integrity*. Activity MCS-1.2 states that “Quantitative surveys of coral, algae, fish, and invertebrates will be conducted annually using methods comparable to or inter-calibrated with those of existing historical data sets. The results of these activities will better define resource baselines for comparisons in protection and management efforts” (PMNM MMP Vol. 1, p. 122-123, 2008).

The activities described above may require the following regulated activities to occur in State waters:

- Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving monument resource
- Discharging or depositing any material or matter into the Monument
- Touching coral, living or dead
- Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument
- Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

#### REVIEW PROCESS:

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawai'i Division of Aquatic Resources, Hawai'i Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, the Office of Hawaiian Affairs (OHA), and the PMNM Native Hawaiian Cultural Working Group. In addition, the permit application has been posted on the Monument Web since March 2, 2016, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

**Comments received from the scientific community are summarized as follows:**

#### QUESTIONS:

1. What is the biological hypothesis on ciguatera at Nihoa compared to other sites studied by the applicant? Please expand on the scientific objectives to conduct the sample collection from the Monument.

The Applicant responded with:

*The CTX study is being conducted by PMNM managers. It's our understanding that PMNM managers would like to gather information on ciguatoxin presence in fish at select islands in PMNM. The target islands are those in which permit applicants of Native Hawaiian Practices permits typically request to conduct sustenance fishing (e.g., Nihoa, Mokumanamana and Midway). In addition, Kure is another site selected for this study in light of the year-round field camp at Kure and in anticipation of the possibility of, in the future, field campers requesting to sustenance fish under Native Hawaiian Practices permits. The last known CTX study conducted in PMNM was in 2000. Our team was approached to partner with PMNM managers to collect samples for this study, and we agreed to assist.*

2. Were there other areas the applicant collected samples from for this comparison study?

The Applicant responded with:

*According to ONMS/PMNM, 25 Kole samples were previously collected at Nihoa in 2015 during the 2015 Intertidal Cruise, under permit # PMNM-2015-021. In addition, tissue samples collected by HIMB researchers during the 2015 mesophotic expedition at Kure and Midway were shared with PMNM managers.*

3. Has the applicant conducted this research elsewhere?

The Applicant responded with:

*The research is being led by PMNM managers. TNC is partnering with ONMS/PMNM to assist with their collections at Nihoa because we see the value in obtaining data that is current on the presence of ciguatoxins in fish at areas in which Native Hawaiian practitioners request to conduct sustenance/subsistence fishing. TNC team members have conducted several projects that required reef fish collection, both in Hawai'i and in predator-dominated Palmyra Atoll, and have extensive experience in doing so humanely and safely.*

4. *Kyphosus sandwicensis* and *K. hawaiiensis* are notoriously difficult to distinguish. Should either of those species be selected as the focus of the ciguatoxin sampling, are you confident that the collectors can accurately and consistently discriminate between them?

The Applicant responded with:

*It is very hard to distinguish between *Kyphosus sandwicensis* and *K. hawaiiensis*. We will remove both species from the permit.*

5. What level of training and experience in the various survey techniques will participants have? Are they trained TNC or other biologists, community volunteers, or both? Observer's experience levels have been shown to affect data quality when conducting visual fish censuses (Williams et al. 2006, MEPS 310:185-191). The permit application is

not entirely clear on which groups of participants will be conducting specific survey activities.

The Applicant responded with:

*Trained TNC marine monitoring staff will be the lead on all monitoring efforts and be the primary data collectors. Community members will participate in the monitoring efforts and will be trained and capable of the specific monitoring activities they assist with. The specific roles assigned to a given community member will be contingent on their training and ability to safely and accurately collect the data required.*

6. Are any persons covered by this permit knowledgeable and versed in proper Hawaiian protocols particular to Nihoa or to the proposed "take"? There are chants that ask to receive, that address the small harm for greater gain, that ask for forgiveness and that still honor place. Nā 'Aumākua is commonly used [for the take] and is a great oral tradition to know.

The Applicant responded with:

*Following proper Hawaiian protocols is very important to us. We are working closely with staff from OHA to ensure that we are respectful of all proper protocols during our visit to Papahānaumokuākea.*

7. What is the update of previous data collected from Nihoa?

The Applicant responded with:

*From June 28 to July 7, 2015, four TNC staff and two community members sailed to the islands of Lehua and Nihoa with the voyaging canoe Hikianalia. We planned to conduct at least 40 surveys on the shallow reefs of Nihoa over two to three days; however, due to weather conditions, our travel time was longer than expected, and we were unable to survey the island's shallow reefs; we instead did approximately two hours of surveys on the deep reef side of the island, testing out the methods we had hoped to use more extensively and in different habitat. While the trip was a valuable learning experience both for our staff and community partners, we were unable to collect sufficient data to analyze and share.*

8. Where else has the applicant conducted this research? And does the applicant have any scientific publications to provide?

The Applicant responded with:

*TNC's community-based marine conservation and monitoring efforts occur throughout the Main Hawaiian Islands and include, but are not limited to, the following communities: Kāne'ohē Bay, Pūpūkea, and Ka'ōhao (Lanikai) on O'ahu; Ka'ūpūlehu, Puakō, and Pelekāne Bay on Hawai'i Island; and Kīpāhulu, Mū'olea, and Polanui on Maui. We have also worked with State and University of Hawai'i partners to conduct similar surveys at Kaho'olawe, and within the 'Āhihi-*

*Kīna‘u Natural Area Reserve on Maui. For more information please see our website (<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/hawaii/howwework/community-based-marine-conservation.xml>) or our various published works - a list of which can be found in the answer to question 15 in the application.*

*While we have extensive monitoring and reef assessment experience, this is the first year that we will be conducting ciguatera research in Papahānaumokuākea. The ciguatera study at Nihoa is being conducted in partnership with PMNM/Office of National Marine Sanctuaries and OHA, with TNC supporting those agencies by aiding with sample collection. The initial data for this study was collected in 2015 by Nainoa Thompson (permit no. PMNM-2015-021), also in partnership with PMNM/ONMS and OHA.*

COMMENTS:

1. The applicant should review and follow all the protocols found in Boating and Diving Operations established for the PMNM.

The Applicant responded with:

*We have requested and will review all the protocols found in Boating and Diving Operations manual established for the PMNM.*

2. The applicant should attempt to minimize contact with corals and other sensitive benthic habitat.

The Applicant responded with:

*Contact with coral and other sensitive benthic habitat will avoided by all means possible. The attachment of transect lines and rugosity chain will be fixed to bare rock or dead coral and retrieval of both lines will be done with caution not to damage live coral or other sensitive habitat.*

3. Please be mindful that Papahānaumokuākea was misspelled the first time you mention place within your permit application. Diacriticals are very important, but arguably forgivable compared to other missing characters. Names, and Hawaiian names at that, have mana and are one of the most precious things that any of us belongs to. The name of Papahānaumokuākea acknowledges the progenitors of the Hawaiian people, Papahānaumoku & Wākea.

The Applicant responded with:

*Thank you for catching this error and bringing it to our attention. We deeply apologize for any offense we may have caused by our written mistakes. We care deeply for our wahi pana and remain committed to honor all spiritual connections to the places we work to protect.*

4. TNC does great work with communities through Hawai'i and Native Hawaiian communities in particular, it would be great if TNC could create an opportunity for Native Hawaiian community members to accompany their research expedition (e.g. Mo'omomi, Kīpahulu, Kīholo). It would be great to include Native Hawaiian practitioners like Umi Kai & Mac Poepoe and perhaps their apprentices.

The Applicant responded with:

*TNC Hawai'i believes that empowered communities help ensure that conservation results endure. With more than three decades working in Hawai'i, we have learned that lasting conservation success depends on building strong partnerships with the people who live in and care for the places where we work. It is these on-the-ground stewards who will develop conservation strategies to restore and co-manage resources, guide and implement those strategies, and monitor the effectiveness of protection efforts over the long term. We are in complete agreement that input and guidance from traditional sources and practitioners is fundamental to successful work with communities in Hawai'i. We will continue to work with these community leaders to make sure that we are including the right people on our research expedition.*

5. Please remember to be careful with rugosity chains - Diver shouldn't pull chain if caught on live coral when reeling back up spool, but locate and disentangle where chain is snagged is instead.

The Applicant responded with:

*Contact with coral and other sensitive benthic habitat will avoided by all means possible. The attachment of transect lines and rugosity chain will be fixed to bare rock or dead coral and retrieval of both lines will be done with caution not to damage live coral or other sensitive habitat.*

**Comments received from the Native Hawaiian community are summarized as follows:**

Cultural reviews support the acceptance of this application.

**Comments received from the public are summarized as follows:**

No comments were received from the public on this application.

**Additional reviews and permit history:**

Are there other relevant/necessary permits or environmental reviews that have or will be issued with regard to this project? (e.g. MMPA, ESA, EA)      Yes       No

If so, please list or explain:

- Consistent with PMNM's Programmatic ESA Section 7 Informal Consultation (Letter of Concurrence dated April 13, 2015), NOAA's Office of National Marine Sanctuaries, PMNM (NOAA/ONMS/PMNM) has determined that the activities above may affect, but

are not likely to adversely affect the following Endangered Species Act (ESA) listed species: Hawaiian monk seals (*Monachus schauinslandi*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific distinct population segment of loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*), Main Hawaiian Islands false killer whale distinct population segment (*Pseudorca crassidens*), humpback whales (*Megaptera novaeangliae*), sperm whales (*Physeter macrocephalus*), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), north pacific right whales (*Eubalaena japonica*); and designated Hawaiian monk seal critical habitat.

- An informal review of all aforementioned activities following section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 U.S.C. 1855(b)) was completed on March 9, 2016 by NOAA National Marine Fisheries Service (NMFS) Pacific Islands Regional Office (PIRO). NMFS PIRO concluded adequate PMNM Best Management Practices are in place (i.e. Protocols for Boat Operations and Diving Activities), thus project activities would not adversely affect Essential Fish Habitat (EFH).

Has Applicant been granted a permit from the State in the past? Yes  No   
If so, please summarize past permits:

Have there been any a) violations: Yes  No   
b) late/incomplete post-activity reports: Yes  No

Are there any other relevant concerns from previous permits? Yes  No

#### STAFF OPINION:

PMNM staff is of the opinion that Applicant has properly demonstrated valid justifications for his application and should be allowed to enter the NWHI State waters and to conduct the activities therein as specified in the application with certain special instructions and conditions, which are in addition to the Papahānaumokuākea Marine National Monument Research Permit General Conditions. All suggested special conditions have been vetted through the legal counsel of the Co-Trustee agencies (see Recommendation section).

#### MONUMENT MANAGEMENT BOARD OPINION:

The MMB is of the opinion that the Applicant has met the findings of Presidential Proclamation 8031 and this activity may be conducted subject to completion of all compliance requirements. The MMB concurs with the special conditions recommended by PMNM staff.

RECOMMENDATION:

Based on the attached proposed declaration of exemption prepared by the department after consultation with and advice of those having jurisdiction and expertise for the proposed permit actions:

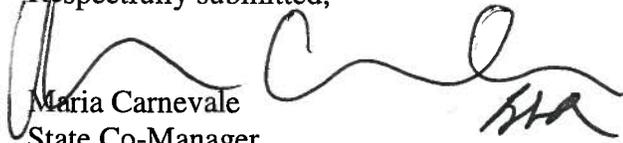
That the Board declare that the actions which are anticipated to be undertaken under this permit will have little or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.

Upon the finding and adoption of the department's analysis by the Board, that the Board delegate and authorize the Chairperson to sign the declaration of exemption for purposes of recordkeeping requirements of chapter 343, HRS, and chapter 11-200, HAR.

That the Board authorize and approve a Research Permit to Dr. Eric Conklin, The Nature Conservancy, with the following special conditions:

1. To prevent introduction of disease or the unintended transport of live organisms, the permittee must comply with the disease and transport protocol attached to this permit.
2. Tenders and small vessels must be equipped with engines that meet EPA emissions requirements.
3. Refueling of tenders and all small vessels must be done at the support ships and outside the confines of lagoons or near-shore waters in the State Marine Refuge.
4. No fishing is allowed in State Waters except as authorized under state law for subsistence, traditional, and customary practices by Native Hawaiians.
5. If there is any Hawaiian monk seal or any other protected species in the area when performing any permitted activity shall cease until the animal(s) depart the area, except as permitted for specific management of that species.
6. For all activities requiring landing on uninhabited islands an authorized staff escort trained for each particular inhabited island will be included on the landing team.
7. That the permittee provide, to the best extant possible, a summary of their Monument access, including, but not limited to, any initial findings to the DLNR for use at educational institutions and outreach events.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Maria Carnevale', with a stylized flourish at the end.

Maria Carnevale  
State Co-Manager  
Papahānaumokuākea Marine National Monument

APPROVED FOR SUBMITTAL

A handwritten signature in blue ink, appearing to read 'Suzanne D. Case', with a stylized flourish at the end.

Suzanne D. Case  
Chairperson



**Papahānaumokuākea Marine National Monument**  
RESEARCH Permit Application

**NOTE: *This Permit Application (and associated Instructions) are to propose activities to be conducted in the Papahānaumokuākea Marine National Monument. The Co-Trustees are required to determine that issuing the requested permit is compatible with the findings of Presidential Proclamation 8031. Within this Application, provide all information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Papahānaumokuākea Marine National Monument (Monument).***

**ADDITIONAL IMPORTANT INFORMATION:**

- Any or all of the information within this application may be posted to the Monument website informing the public on projects proposed to occur in the Monument.
- In addition to the permit application, the Applicant must either download the Monument Compliance Information Sheet from the Monument website OR request a hard copy from the Monument Permit Coordinator (contact information below). The Monument Compliance Information Sheet must be submitted to the Monument Permit Coordinator after initial application consultation.
- Issuance of a Monument permit is dependent upon the completion and review of the application and Compliance Information Sheet.

**INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED**

Send Permit Applications to:

NOAA/Inouye Regional Center

NOS/ONMS/PMNM/Attn: Permit Coordinator

1845 Wasp Blvd, Building 176

Honolulu, HI 96818

nwhipermit@noaa.gov

PHONE: (808) 725-5800 FAX: (808) 455-3093

**SUBMITTAL VIA ELECTRONIC MAIL IS PREFERRED BUT NOT REQUIRED. FOR ADDITIONAL SUBMITTAL INSTRUCTIONS, SEE THE LAST PAGE.**

## **Papahānaumokuākea Marine National Monument Permit Application Cover Sheet**

This Permit Application Cover Sheet is intended to provide summary information and status to the public on permit applications for activities proposed to be conducted in the Papahānaumokuākea Marine National Monument. While a permit application has been received, it has not been fully reviewed nor approved by the Monument Management Board to date. The Monument permit process also ensures that all environmental reviews are conducted prior to the issuance of a Monument permit.

### **Summary Information**

**Applicant Name:** Eric Conklin, Ph.D

**Affiliation:** Marine Science Director, The Nature Conservancy

**Permit Category:** Research

**Proposed Activity Dates:** May 1, 2016 - April 30, 2017

**Proposed Method of Entry (Vessel/Plane):** Vessel - Makani Olu

**Proposed Locations:** Nihoa

**Estimated number of individuals (including Applicant) to be covered under this permit:** 18

**Estimated number of days in the Monument:** 10

**Description of proposed activities:** (complete these sentences):

a.) The proposed activity would...  
engage teams from The Nature Conservancy (TNC), Office of Hawaiian Affairs (OHA) and other trained participants aboard the vessel Makani Olu to conduct nearshore reef fish surveys (0-30 ft. depth) in order to collect and analyze data on the status of marine resources within the Papahānaumokuākea National Monument (PMNM). Data will be collected in a manner consistent with methods used in TNC's community-based marine conservation and monitoring efforts throughout the Main Hawaiian Islands (MHI). The information gathered will fill a data gap between monitoring efforts resulting from the annual Reef Assessment & Monitoring Program cruises (30-100 ft. depth) and annual intertidal cruises (rocky intertidal zone) in PMNM.

In addition, TNC is proposing to partner with PMNM/Office of National Marine Sanctuaries and OHA to conduct a ciguatera study at Nihoa. Initial data for this study was collected previously, and the data collected under this permit will enhance that data set. For this study, divers will collect a small number of one species of reef fish for laboratory analysis of the level of ciguatoxins present in select reef fish within PMNM, focusing on islands at which higher levels of consumption may occur, such as Nihoa.

TNC has partnered with OHA to be participants in a broad-scale effort at Nihoa that will focus on both land activities (covered under separate permits - PMNM-2016-001 & PMNM-2015-014) and shallow water fish surveys (covered by this permit application).

b.) To accomplish this activity we would ....  
use transect survey methods and timed-swims to survey a random selection of sites at Nihoa for fish, coral, macro invertebrates and benthic habitat.

Surveys would be conducted using groups of 2 or 3 surveyors per team, including trained scientific diver(s) to collect survey data and community member(s) with experience in marine monitoring within their respective community. The teams will: (a) conduct a basic reef fish presence/absence survey, (b) document their observations of near shore ecosystems within PMNM in a way that is analogous to their home community's survey methods and techniques, (c) conduct 5-minute timed swims to quantify resource fish following TNC science protocols, (d) collect comprehensive data on fish and benthic communities along 25-m transects following TNC science protocols, and (e) deploy water quality instruments at survey sites for short time periods to map spatial patterns in water quality parameters.

In addition, surveyors would opportunistically collect 25 whole fish specimens of one selected, edible reef fish species for ciguatoxin (CTX) analysis in support of management and to establish a better understanding of CTX levels in fish at select sites within PMNM, including Nihoa. The species to be collected would be determined after the surveys above have been completed, allowing surveyors to select a species that has been documented to be locally abundant. The team would then collect no more than 25 specimens of the selected species for the CTX study.

Upon return to the Main Hawaiian Islands, all data will be entered in a database for analysis by The Nature Conservancy's science team.

c.) This activity would help the Monument by ...  
providing baseline knowledge of an area of nearshore habitat (0-30 ft. depth) where a data gap currently exists for PMNM. This information would be obtained and shared with Monument managers to improve decision-making for long-term conservation and management of nearshore habitat and resources within PMNM. It will also provide a dataset that can be used to compare resource abundance and distribution within PMNM and the MHI. This activity directly supports MMP Activity MCS-1.1: "Continue to characterize types and spatial distributions of shallow-water marine habitats to inform protection and management efforts" and MMP Activity MCS-1.2: "Continue monitoring of shallow-water coral reef ecosystems to protect ecological integrity."

**Other information or background:**

Working with communities is the cornerstone of The Nature Conservancy's Hawai'i Marine Program. TNC uses a community-based approach to marine research and management,

recognizing that the long-term success of efforts to protect Hawai'i's nearshore environment is dependent upon the support of local communities living in and around the resources.

TNC seeks to strengthen local capacity by empowering communities that already have a deep understanding of their area's marine resources and providing support with the management tools needed to care for them. In the process, TNC also partners with these on-the-ground and in-the-water stewards to build public support for increased marine protection, improved resource stewardship, and stronger enforcement statewide.

TNC's works with local communities and conservation partners in four key areas:

- Science and conservation planning to monitor the health and abundance of Hawaii's marine resources, identify major threats and develop strategies for protection.
- Community-based marine conservation to build local community capacity for marine stewardship.
- Development of new innovative technologies to control the spread of harmful invasive marine species.
- A Marine Conservation Fellowship Program to build the next generation of marine resource stewards for Hawai'i.

**Section A - Applicant Information**

**1. Applicant**

Name (last, first, middle initial): Conklin, Eric J.

Title: Marine Science Director, The Nature Conservancy

**1a. Intended field Principal Investigator (See instructions for more information):**

Russell Amimoto

**2. Mailing address (street/P.O. box, city, state, country, zip):**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

For students, major professor's name, telephone and email address:

**3. Affiliation (institution/agency/organization directly related to the proposed project):**

The Nature Conservancy

**4. Additional persons to be covered by permit. List all personnel roles and names (if known at time of application) here (e.g. John Doe, Research Diver; Jane Doe, Field Technician):**

18 individuals would serve as crew and passengers aboard the Makani Olu for purposes of various research and Native Hawaiian practices at Nihoa. Crew member names are TBD and will be listed on the compliance information sheet.

**Section B: Project Information**

**5a. Project location(s):**

- |   |                                     |   |                                     |
|---|-------------------------------------|---|-------------------------------------|
| <input checked="" type="checkbox"/> Nihoa Island      | <input type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Necker Island (Mokumanamana) | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> French Frigate Shoals        | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Gardner Pinnacles            | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Maro Reef                    |                                     |   |                                     |
| <input type="checkbox"/> Laysan Island                | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Lisianski Island, Neva Shoal | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Pearl and Hermes Atoll       | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Midway Atoll                 | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Kure Atoll                   | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Other                        |                                     |   |                                     |

**Ocean Based**

Remaining ashore on any island or atoll (with the exception of Midway & Kure Atolls and Field Camp staff on other islands/atolls) between sunset and sunrise.

NOTE: There is a fee schedule for people visiting Midway Atoll National Wildlife Refuge via vessel and aircraft.

Location Description:

**5b. Check all applicable regulated activities proposed to be conducted in the Monument:**

- Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving Monument resource
- Drilling into, dredging, or otherwise altering the submerged lands other than by anchoring a vessel; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands
- Anchoring a vessel
- Deserting a vessel aground, at anchor, or adrift
- Discharging or depositing any material or matter into the Monument
- Touching coral, living or dead
- Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument
- Attracting any living Monument resource
- Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)
- Subsistence fishing (State waters only)
- Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

**6. Purpose/Need/Scope *State purpose of proposed activities:***

Most characterization, research, and monitoring in tropical coral reef ecosystems has occurred at comfortable SCUBA-diving depths between 30 to 100 feet. There are significant data gaps at depths greater or shallower than those accessed for SCUBA-based research. These under-surveyed zones include mesophotic (deep) reefs and nearshore subtidal and intertidal habitats. These shallow subtidal and intertidal habitats are of great cultural importance because of their accessibility for harvesting and related activities; however, scientific characterization of these habitats has lagged due to a number of challenges, including the difficulty of working along rugose rocky shorelines compounded with the turbulence caused by swells and breaking waves.

Maintaining healthy breeding populations (seed sources) of reef fish is critical for the sustainability and health of coral reef systems. Identified and pressing information needs include: (1) a basic qualitative characterization of species presence/absence to document biodiversity, and (2) repeated quantitative surveys to look for changes in abundance and diversity over time. In an attempt to fill the existing data gap, the Office of Hawaiian Affairs will support The Nature Conservancy-led team to conduct nearshore surveys (0-30 ft. depth) at Nihoa, as described above. Future partnership will be important to ensure the continuation of survey efforts, and it is possible that future efforts could be conducted as part of an intertidal monitoring cruise that typically occurs annually in PMNM.

Information obtained would be shared with Monument managers to improve decision-making for long-term conservation and management of nearshore habitat and resources within PMNM, as well as provide a dataset that can be used to compare resource abundance and distribution within PMNM and the MHIs.

\*Considering the purpose of the proposed activities, do you intend to film / photograph federally protected species?    Yes  No

For a list of terrestrial species protected under the Endangered Species Act visit:

<http://www.fws.gov/angered/>

For a list of marine species protected under the Endangered Species Act visit:

<http://www.nmfs.noaa.gov/pr/species/esa/>

For information about species protected under the Marine Mammal Protection Act visit:

<http://www.nmfs.noaa.gov/pr/laws/mmpa/>

**7. Answer the Findings below by providing information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Monument:**

The Findings are as follows:

a. How can the activity be conducted with adequate safeguards for the cultural, natural and historic resources and ecological integrity of the Monument?

Participants aboard the Makani Olu will offer culturally and biologically appropriate ho‘okupu in the Monument, after consultation with Monument management, such as oli (chant), wai (water), pa‘akai (salt), and pule (prayer).

Surveys would be conducted in a manner that minimizes the interaction between fish and other marine species that inhabit the nearshore marine habitat. Surveys would not occur in the vicinity of any known Native Hawaiian or western archeological sites within PMNM and thus are unlikely to impact any known historic resource or properties. If potential new archeological sites are encountered, GPS coordinates will be taken and provided to Monument staff.

The Nature Conservancy is accustomed to working with communities throughout Hawaii, in particular Native Hawaiian communities, when conducting nearshore marine surveys. As such, staff offer the utmost respect to Native Hawaiian culture and cultural resources, acknowledging that natural and cultural resources are often one-in-the-same and such resources and their value (albeit cultural, historic, and/or natural) are to be respected, preserved, and perpetuated.

b. How will the activity be conducted in a manner compatible with the management direction of this proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument cultural, natural and historic resources, qualities, and ecological integrity, any indirect, secondary, or cumulative effects of the activity, and the duration of such effects?

The proposed activities will provide critical data that will enhance the Monument managers' ability to continue to characterize and understand nearshore coral reef ecosystems within PMNM, as well as how it compares to the MHIs. At a minimum, these activities directly supports MMP Activity MCS-1.1: Continue to characterize types and spatial distributions of shallow-water marine habitats to inform protection and management efforts and MMP Activity MCS-1.2: Continue monitoring of shallow-water coral reef ecosystems to protect ecological integrity.

c. Is there a practicable alternative to conducting the activity within the Monument? If not, explain why your activities must be conducted in the Monument.

Because of the existing data-gap in shallow-water fish surveys within PMNM, the only way to obtain such a dataset is to conduct surveys targeting the shallow-water area of 0-30 ft. depth.

d. How does the end value of the activity outweigh its adverse impacts on Monument cultural, natural and historic resources, qualities, and ecological integrity?

Such shallow-water surveys are necessary to establish a baseline abundance of reef fish and begin to understand the natural spatial and temporal variability that characterizes the shallow water ecosystem of the Monument. This data will also aid in establishing a baseline against which changes due to effects of large scale, long-term (as well as short-term) natural and anthropogenic impacts can be compared.

e. Explain how the duration of the activity is no longer than necessary to achieve its stated purpose.

The proposed research activities would occur at Nihoa only and be conducted for a 10-day period, ensuring adequate time to conduct as much of the nearshore surveys per day and gather as complete a dataset as possible. The number of surveys per day will be dependent on ocean conditions, survey method, and boat support and balanced with activities on land.

f. Provide information demonstrating that you are qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.

The Nature Conservancy will provide oversight and management of the research activities under this permit. TNC has 35 years of experience working collaboratively in Hawaii with federal, state, and community partners on research activities, science-based resource management, and on-the-ground conservation. In 2000, we established our marine program to help the State and local communities manage and restore coastal areas, coral reefs and nearshore fisheries in the main Hawaiian Islands. The TNC Hawai'i Marine Program is now working with 19 coastal communities on six islands to restore healthy reef habitats and ensure an abundance of marine life in nearshore waters. The program has successfully managed dozens of NOAA and other government grants, including a \$3.2 million American Recovery and Reinvestment Act of 2009 "Stimulus" grant, a \$1.3 million Habitat Blueprint Grant to build effective partnerships for coral reef management and restoration in West Hawai'i, and a six-year collaborative agreement with NOAA's Coral Reef Conservation Program for priority projects on Maui, Moloka'i, Lana'i and Hawai'i Island.

TNC's Hawaii marine science team has been instrumental in working with partners to 1) design and implement biological monitoring and original science projects to address marine conservation needs; 2) implement science-based conservation measures and evaluate their effectiveness over time; 3) provide scientific assessments of existing and proposed marine resource policy; 4) develop the first Indo-Pacific partnership to understand and address the effects of bleaching and coral disease on a regional scale; and 5) implement the first certified scientific diving program for The Nature Conservancy nationwide. Selected members from our 7-person team will design, lead and help conduct the surveys described in this proposal, and will provide the data entry and analysis.

Applicant and Principle Investigator have been with The Nature Conservancy for a combined 18 years, participating and leading the statewide marine science and monitoring activities described above (see attached CV's).

g. Provide information demonstrating that you have adequate financial resources available to conduct and complete the activity and mitigate any potential impacts resulting from its conduct. The costs of the vessel and other related costs for the trip to Nihoa will be funded entirely by OHA. TNC funds through a grant from NOAA will cover staff time to prepare for the trip and collect and analyze the data.

h. Explain how your methods and procedures are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument cultural, natural and historic resources, qualities, and ecological integrity.

TNC-led survey teams will follow all Monument BMPs, protocols, and policies while operating in PMNM.

(for methods and procedures see "Question 8")

i. Has your vessel been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of Presidential Proclamation 8031?

The Makani Olu will be outfitted with a working NOAA-OLE type approved VMS for the trip. OHA and ONMS are working together to ensure an ONMS-owned VMS unit is installed and operational aboard the Makani Olu prior to departure.

j. Demonstrate that there are no other factors that would make the issuance of a permit for the activity inappropriate.

There are no other factors that would make the issuance of a permit for the proposed activities inappropriate.

#### **8. Procedures/Methods:**

TNC proposes to use a suite of methods to accomplish the goals of the proposed research. All methods will be site-based, with the specific sites surveyed dependent on wind and sea conditions, as well as logistics and coordination with other research projects sharing resources on Nihoa. Sites will be accessed by small boat, which will deliver divers or snorkelers to the desired location, and stand by on-site to assist them as needed, and transport them to the next survey location upon completion of data collection. Locations will be selected using GIS maps and bathymetry of Nihoa, and focused primarily in the 5-15ft depth range.

At survey sites, the monitoring team will collect data using the following protocols:

##### **Timed Fish Swims**

Five-minute timed swims are used by TNC and DAR biologists in the MHI to quantify the abundance or larger "target" fish (i.e., those species prized by fishers). For the timed swims, two fish surveyors swim approximately 5 m apart staying at constant depth while visually censusing all target fish larger than 15 cm within or passing through a 5 m wide column (centered on the surveyor) extending from the ocean bottom to the surface. Divers communicate with each other to ensure that each fish is censused by only one surveyor (i.e., fish are not double counted). All fish are identified to the lowest possible taxonomic level and sized into 5 cm bins. These timed swims typically cover between 100 and 150 m, with the actual distance calculated from tracks recorded on a GPS unit towed behind the surveyors. A third surveyor follows behind the fish surveyor taking photos of the reef bottom to characterize the benthic habitat within the survey area. Data management and photo analysis is described below.

##### **25-m Transect Surveys**

Twenty-five meter transects surveys are used by TNC and University of Hawai‘i researchers to quantify overall fish and benthic assemblages in the MHI. For these transects, surveyors loop one end of a 25-m transect line around rock or dead coral on the benthos, and then spool out the transect line while slowly moving along a depth contour conducting a fish survey. All fish (i.e., not only larger target fish, as above) within or passing through a 5 m wide belt along the 25 m transect are identified to species and sized into 5 cm bins (i.e., 0-5 cm, >5-10 cm, >10-15 cm, etc.). Divers move slowly along the transects, taking between 10 and 15 minutes to complete each belt survey.

Following the fish surveys, benthic photographs are collected at 1-m intervals along the 25-m transect line. Photographs are taken using a high-resolution digital camera in an underwater housing mounted on a 0.8-m long monopod, resulting in images that covered approximately 0.8 x 0.6 m of the bottom. A 5-cm scale bar marked in 1-cm increments was included in all photographs.

Additionally, an index of rugosity will be calculated along the first 10 m of the 25-m transect by dividing the length of brass chain laid directly along the bottom by the 10 m transect length (McCormick 1994). For this index, a value of one represents a flat surface with no three dimensional relief, and increasing values represent more topographically complex substratum.

Data on coral health may also be collected by one surveyor. The coral health surveyor will follow along 25-m the transect line, deploying a .25m<sup>2</sup> quadrat regularly along the transect line, recording information on the species, size, and health of all corals seen within the quadrat.

#### Water Quality testing

While surveyors are in the water conducting transect surveys, a YSI water quality sonde will be deployed from the small-boat support vessel. The sonde will be attached to a small hand reel, and the boat operator will slowly lower the sonde into the water, dropping it down in the water column until it is approximately 1m off of the bottom. The sonde will then be slowly reeled back into the boat, and the site and time of the sampling recorded on a data sheet. This full deployment and retrieval process is expected to take no more than 2 minutes, during which time the sonde continually records data on water temperature, salinity, pH, depth, and turbidity.

#### Community fish monitoring

The monitoring protocol used by TNC Hawaii’s community volunteers is designed to encourage participation and obtain useful information.

a. Abundance or biomass survey. The start point of each transect, located using a Global Positioning System (GPS) unit is identified by a fully trained volunteer upon arrival at the site.

Using an appropriate underwater landmark as a center point, each volunteer spaces himself 2.5 meters on either side of the line, 5 meters from one another. One volunteer records the time while the other takes a predetermined compass bearing and confirms a landmark to guide the team.

Orienting themselves in the direction of the compass heading specific for that transect they begin swimming side by side along that bearing until they reach a predetermined GPS end point (approximately 100m). The surveyors will swim at a speed of roughly 10 meters per minute. Each surveyor records size and abundance or just abundance (depending on community members training and comfort level) of all fish on a swath of reef of 5 meters wide (2.5 meters to either side of themselves) while maintaining a consistent distance of 5 meters from each other. Once the endpoint is reached the time keeper signals the other volunteer to stop counting.

b. Presence/ absence survey (P/A). P/A Surveys will be conducted in a predetermined area and community members will record if they see specific fish using a survey form that includes color pictures of multiple preselected fish.

#### Data management

At the end of each day, data sheets collected using these methods will be reviewed and evaluated for completeness and accuracy. Necessary changes to in-field approaches will be made to ensure data is complete and accurate. Surveys will be considered successful if all data collected are complete and accurately (<5% error) entered into the appropriate TNC databases. Fish lengths recorded during surveys will be converted to weights using known length-weight conversions, and fish abundance and biomass by species can be determined for the analysis of the fish assemblage documented at each survey site.

Each photograph taken of the benthos will be digitally enhanced and then analyzed using the Coral Point Count program with Excel extension (CPCe) developed by the National Coral Reef Institute (Kohler and Gill 2006) to determine the percent of the reef bottom covered by coral, algae, and other reef bottom categories.

Water quality data will be downloaded from the sonde every evening, and linked in a database to the GPS location of each survey. A GIS analysis can then map the spatial variation in water quality parameters observed over the course of the surveys. community monitoring protocols, in development

#### Ciguatera study

Surveyors would opportunistically collect 25 whole fish specimens (measuring > minimum size at maturity) of one selected edible reef fish species for ciguatoxin (CTX) analysis in support of management and to establish a better understanding of CTX levels in fish at select sites within PMNM, including Nihoa. A list of the edible reef fish species of interest can be found in the answer to "Question 9a". The species to be collected would be determined after the surveys above have been completed, allowing surveyors to select one of these species that has been documented to be locally abundant. The team would collect no more than 25 specimens of the selected species for the CTX study. All fish will be collected using 3 prong spears.

Additional procedures and methods for the ciguatera study are provided as an attachment to this permit application. (Attachment 1)

**NOTE: If land or marine archeological activities are involved, contact the Monument Permit Coordinator at the address on the general application form before proceeding, as a customized application will be needed. For more information, contact the Monument office on the first page of this application.**

**9a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):**

Common name:

Hawaiian chub or Pacific chub

Convict tang

Goldring surgeonfish

Brick soldierfish or Bigscale soldierfish

Blueline snapper

Scientific name:

Kyphosus hawaiiensis or Kyphosus sandwicensis

Acanthurus triostegus

Ctenochaetus strigosus

Myripristis amaena or Myripristis berndti

Lutjanus kasmira

# & size of specimens:

No more than 25 specimens of 1 specific species, which will be determined after surveys are conducted and fish populations are assessed, ensuring that the species selected is locally abundant and will not be impacted by this limited collection. The size of fish taken will be determined by the species minimum size at maturity.

Collection location:

Nihoa

Whole Organism  Partial Organism

**9b. What will be done with the specimens after the project has ended?**

All specimen parts will be identified and analyzed. The whole specimen will not be useful once all analysis is complete, so all pieces will be appropriately excessed and returned to the ocean.

**9c. Will the organisms be kept alive after collection?**  Yes  No

• General site/location for collections:

Nihoa

• Is it an open or closed system?  Open  Closed  
NA

• Is there an outfall?  Yes  No  
NA

• Will these organisms be housed with other organisms? If so, what are the other organisms?  
NA

• Will organisms be released?  
NA

**10. If applicable, how will the collected samples or specimens be transported out of the Monument?**

Sealed in ziploc bags frozen or appropriately preserved and transported via Makani Olu to Honolulu and stored at the IRC.

**11. Describe collaborative activities to share samples, reduce duplicative sampling, or duplicative research:**

TNC is proposing to partner with PMNM/Office of National Marine Sanctuaries and OHA to conduct a ciguatera study at Nihoa. Initial data for this study was collected previously, and the data collected under this permit will enhance that data set. For this study, divers will collect a small number of one species of reef fish for laboratory analysis of the level of ciguatoxins present in select reef fish within PMNM, focusing on islands at which higher levels of consumption may occur, such as Nihoa.

Fish for the ciguatera test will be received by Dr. Alison Robertson  
-University of South Alabama & Dauphin Island Sea Lab



**12a. List all specialized gear and materials to be used in this activity:**

For the nearshore surveys: GPS, snorkel gear, SCUBA gear, dive float with flag and reel, 25m transect reels, slates, data sheets, maps, time pieces, dive belts, dive weights, pop floats, digital camera and PVC monopod, EPIRB, O2 kit, compass, VHF, air analyzer, YSI water quality sonde

For the ciguatera study: Three-pronged spear, snorkel gear, dive float with flag and reel

**12b. List all Hazardous Materials you propose to take to and use within the Monument:**

NA

**13. Describe any fixed installations and instrumentation proposed to be set in the Monument:**

NA

**14. Provide a time line for sample analysis, data analysis, write-up and publication of information:**

For the nearshore surveys: Data will be recorded on data sheets, which will be entered into TNC's database upon return to Honolulu. TNC marine science team will analyze the data and produce a written report by December 31, 2016.

For the ciguatera study: Upon return to Honolulu, fish samples will be shipped directly to a collaborator who will be conduct the analysis to test the presence of ciguatoxins in each fish sample.

**15. List all Applicants' publications directly related to the proposed project:**

The Nature Conservancy's marine scientists have published numerous journal articles and technical reports documenting the condition of marine resources in Hawaii and the Pacific. A partial list of these publications, including those most relevant to TNC's expertise in nearshore marine surveys, is as follows.

Peer-reviewed Publications:

DeMartini, E., P. Jokiel, J. Beets, Y. Stender, C. Storlazzi, D. Minton, E. Conklin. 2013. Terrigenous sediment impact on coral recruitment and growth affects the use of coral habitat by recruit parrotfishes (F. Scaridae). *Journal of Coastal Conservation* 10.1007/s11852-013-0247-2

Williams, G.J. J.E. Smith, E.J Conklin, J.M. Gove, E. Sala, S.A. Sandin .2013. Benthic communities at two remote Pacific coral reefs: effects of reef habitat, depth, and wave energy gradients on spatial patterns. *PeerJ* 1:e81 <http://dx.doi.org/10.7717/peerj.81>

Kittinger, J. N, T. M. Bambico, E. W. Glazier, M.Mejia, N.Kalei, B.Wong, D.Minton, A.Miller. 2013. Restoring Ecosystems, Restoring Community: Socioeconomic and Cultural Dimensions of a Community-Based Coral Reef Restoration Project. *Regional Environmental Change*.

Conklin, E.J. and J.E. Smith. 2005. Abundance and spread of the invasive red algae, *Kappaphycus* spp., in Kane'ohē Bay, Hawai'i and an experimental assessment of management options. *Biological Invasions* 7: 1029-1039.

Technical Publications:

Minton, D., E. Conklin, R. Most, and C. Wiggans. 2014. Baseline Surveys of Marine Resources Ka'ūpūlehu, Hawai'i 2009-2011. TNC Technical Report. 38 pp.

Minton, D., E. Conklin, R. Amimoto, and K. Pollock. 2014. Baseline Surveys of Marine Resources at Kīpahulu, Maui 2010 and 2013. TNC Technical Report. 27 pp.

Minton, D., E. Conklin, R. Most, K. Pollock, and Z. Caldwell. 2014. Baseline Surveys of Marine Resources Mū'olea, Maui 2009-2011. TNC Technical Report. 42 pp.

Minton D., E. Conklin, K. Pollock. 2013. 2012 Baseline Surveys of Marine Resource: Polanui, Maui. TNC Technical Report. 30 pp.

Minton, D., E. Conklin, P. Weiant, and C. Wiggins. 2012. 40 Years of Decline on Puako's Coral Reefs: A Review of Historical and Current Data (1970-2010). TNC Technical Report. 50 pp.

Minton, D., E. Conklin, C. S. Couch, M. Garren, M. J. Hardt, R. Amimoto, K. Pollock and C. Wiggins. 2010. Survey of the Coral Reefs of Pelekane Bay. Technical Report. 51 pp.

With knowledge of the penalties for false or incomplete statements, as provided by 18 U.S.C. 1001, and for perjury, as provided by 18 U.S.C. 1621, I hereby certify to the best of my abilities under penalty of perjury of that the information I have provided on this application form is true and correct. I agree that the Co-Trustees may post this application in its entirety on the Internet. I understand that the Co-Trustees will consider deleting all information that I have identified as "confidential" prior to posting the application.

---

Signature

Date

**SEND ONE SIGNED APPLICATION VIA MAIL TO THE MONUMENT OFFICE  
BELOW:**

NOAA/Inouye Regional Center  
NOS/ONMS/PMNM/Attn: Permit Coordinator  
1845 Wasp Blvd, Building 176  
Honolulu, HI 96818  
FAX: (808) 455-3093

**DID YOU INCLUDE THESE?**

- Applicant CV/Resume/Biography
- Intended field Principal Investigator CV/Resume/Biography
- Electronic and Hard Copy of Application with Signature
- Statement of information you wish to be kept confidential
- Material Safety Data Sheets for Hazardous Materials

## Papahānaumokuākea Marine National Monument Compliance Information Sheet

- 1. Updated list of personnel to be covered by permit. List all personnel names and their roles here (e.g. John Doe, Diver; Jane Doe, Field Technician, Jerry Doe, Medical Assistant):**

Russell Amimoto, TNC Community Marine Monitoring Coordinator, Lead Marine monitoring specialist, Field PI;  
Rebecca Most, TNC Hawai'i Island Marine Coordinator, Marine monitoring specialist;  
James Carpio, Wailuku CMMA and Maui Nui Network, Community fish monitoring assistant  
15 TBD (Community field technician)

- 2. Specific Site Location(s): (Attach copies of specific collection locations):**  
Nihoa, 23°03'37.49"N 161°55'04.45"W,  
0-30 ft depth

- 3. Other permits (list and attach documentation of all other related Federal or State permits):**

- None

**3a. For each of the permits listed, identify any permit violations or any permit that was suspended, amended, modified or revoked for cause. Explain the circumstances surrounding the violation or permit suspension, amendment, modification or revocation.**

N/A

- 4. Funding sources (Attach copies of your budget, specific to proposed activities under this permit and include funding sources. See instructions for more information):**

NOAA Award # NA15NMF4690117 "A collaboration of scientists and citizen scientists to collect data on shallow coral reefs communities to further community-based conservation in Hawai'i"

In partnership with The Office of Hawaiian Affairs.

**5. Time frame:**

Activity start: May 17 2016

Activity completion: May 29 2016

Dates actively inside the Monument:

From: May 17 2016

To: May 29 2016

Describe any limiting factors in declaring specific dates of the proposed activity at the time of application:

Personnel schedule in the Monument:

**6. Indicate (with attached documentation) what insurance policies, bonding coverage, and/or financial resources are in place to pay for or reimburse the Monument trustees for the necessary search and rescue, evacuation, and/or removal of any or all persons covered by the permit from the Monument:**

All 3 members of the TNC marine monitoring team will be covered by Divers Alert Network (DAN) insurance.

**7. Check the appropriate box to indicate how personnel will enter the Monument:**

- Vessel  
 Aircraft

Provide Vessel and Aircraft information:

**8. The certifications/inspections (below) must be completed prior to departure for vessels (and associated tenders) entering the Monument. Fill in scheduled date (attach documentation):**

- Rodent free, Date:  
 Tender vessel, Date:  
 Ballast water, Date:  
 Gear/equipment, Date:  
 Hull inspection, Date:

**9. Vessel information (NOTE: if you are traveling aboard a National Oceanic and Atmospheric Administration vessel, skip this question):**

Vessel name: Makani Olu

Vessel owner: Marimed Foundation  
Captain's name: Kalei Valasco  
IMO#: DLZ065030497 Vessel ID#: 1113517  
Flag: USA  
Vessel type: Three masted tall shiop staysail schooner  
Call sign: WDA6945  
Embarkation port: Kāne'ohē Bay  
Last port vessel will have been at prior to this embarkation:  
Length: 96'  
Gross tonnage: 68  
Total ballast water capacity volume (m3): n/a  
Total number of ballast water tanks on ship: n/a  
Total fuel capacity: 421 g  
Total number of fuel tanks on ship: 2  
Marine Sanitation Device:  
Type:

Explain in detail how you will comply with the regulations regarding discharge in the Monument. Describe in detail. If applicable, attach schematics of the vessel's discharge and treatment systems:

Other fuel/hazardous materials to be carried on board and amounts:

Provide proof of a National Oceanic and Atmospheric Administration (NOAA) Office of Law Enforcement-approved Vessel Monitoring System (VMS). Provide the name and contact information of the contractor responsible for installing the VMS system. Also describe VMS unit name and type:

VMS Email:  
Inmarsat ID#:

\* Individuals MUST ENSURE that a type-approved VMS unit is installed and that its automatic position reports are being properly received by the NOAA OLE system prior to the issuance of a permit. To make sure your VMS is properly configured for the NOAA OLE system, please contact NOAA OLE at (808) 203-2503 or (808) 203-2500.

\* PERMITS WILL NOT BE ISSUED TO INDIVIDUALS ENTERING THE MONUMENT VIA VESSEL UNTIL NOAA OLE HAS CONTACTED THE MONUMENT PERMIT COORDINATOR WITH A 'POSITIVE CHECK' READING.

**10. Tender information:**

On what workboats (tenders) will personnel, gear and materials be transported within the Monument? List the number of tenders/skiffs aboard and specific types of motors:

2 13FT rigid inflatables with Yamaha 20HP 4 stroke engines

**Additional Information for Land Based Operations**

**11. Proposed movement of personnel, gear, materials, and, if applicable, samples:**

**12. Room and board requirements on island:**

**13. Work space needs:**

DID YOU INCLUDE THESE?

- Map(s) or GPS point(s) of Project Location(s), if applicable
- Funding Proposal(s)
- Funding and Award Documentation, if already received
- Documentation of Insurance, if already received
- Documentation of Inspections
- Documentation of all required Federal and State Permits or applications for permits

DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

April 22, 2016

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA  
FIRST DEPUTY

JEFFREY PEARSON  
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

TO: Division of Aquatic Resources File

THROUGH: Suzanne D. Case, Chairperson

FROM: Maria Carnevale  
Papahānaumokuākea Marine National Monument

SUBJECT:

DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT  
UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200 HAR, FOR  
PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT RESEARCH PERMIT TO DR. ERIC  
CONKLIN, THE NATURE CONSERVANCY, FOR ACCESS TO STATE WATERS TO CONDUCT  
NEARSHORE REEF FISH ASSESMENT ACTIVITIES UNDER PERMIT PMNM-2016-015

The following permitted activities are found to be exempted from preparation of an environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200, HAR:

Project Title:

Papahānaumokuākea Marine National Monument Research Permit to Dr. Eric Conklin, The Nature Conservancy, for Access to State Waters to Conduct Nearshore Reef Fish Assessment Activities.

Permit Number: PMNM-2016-015

Project Description:

The permit application, as described below, would allow entry and activities to occur in Papahānaumokuākea Marine National Monument, including the NWHI State waters from May 1, 2016 to April 30, 2017.

The Applicant proposes a group of eighteen (18) personnel aboard the SSV MAKANI OLU would conduct proposed activities consisting of: fish species presence/absence surveys in the nearshore reef (0-30 ft. depth), fish abundance or biomass surveys, 5-minute timed swims, comprehensive data collection on fish and benthic communities along 25 m transects, water quality sampling, swimming, and snorkeling. All surveys would be conducted at Nīhoa Island using groups of two or three surveyors per team, comprised of trained scientific divers and

ITEM F-3c

community members with experience in marine monitoring to collect survey data. The data collected from this cruise will help fill a data gap between monitoring efforts of the annual Reef Assessment and Monitoring Program cruises (30-100 ft. depth) and intertidal cruises (rocky intertidal zone) and used to analyze the status of marine resources within Papahānaumokuākea Marine National Monument.

Water quality sampling will be conducted using a YSI water quality sonde deployed from the small-boat support vessel. The sonde will be attached to a small hand reel and will be slowly lowered into the water until it is approximately 1 meter off the bottom. This method will be used to record the temperature, salinity, pH, depth, and turbidity.

In addition, the Applicant proposes to partner with PMNM and the Office of National Marine Sanctuaries to conduct a ciguatera study at Nihoa Island. To conduct this study surveyors would opportunistically collect 25 whole fish specimens (measuring greater than the minimum size at maturity) of one selected edible reef fish species for ciguatoxin (CTX) analysis. This would be to establish a better understanding of CTX levels in fish and would support management of future subsistence gathering. The list of edible reef fish species for potential collection include: Convict tang (*Acanthurus triostegus*), Goldring surgeonfish (*Ctenochaetus strigosus*), Brick soldierfish (*Myripristis amaena*) or Bigscale soldierfish (*M. berndti*), and Blueline snapper (*Lutjanus kasmira*). The species collected would be determined after the aforementioned surveys have been completed, allowing surveyors to select one of those species that has been documented to be locally abundant. All fish will be collected with three prong spears. All collected samples and specimens would be transported out of the Monument aboard the vessel. All proposed activities would occur in shallow water (<33 m) within the Nihoa Special Preservation Area. This work is a continuation of a previous ciguatera study conducted under Nainoa Thompson's 2015 permit PMNM-2015-021.

The Applicant is participating with OHA in a broad-scale effort at Nihoa, with land activities covered under separate permits- PMNM-2016-001, and PMNM-2015-014.

The activities will benefit the conservation and management of the Monument by supporting the Monument Management Plan (MMP) as described in the Marine Conservation Science (MCS) Action Plan, Activity MCS-1.1: *Continue to characterize types and spatial distributions of shallow-water marine habitats to inform protection and management efforts* and MCS-1.2: *Continue monitoring of shallow-water coral reef ecosystems to protect ecological integrity*. Activity MCS-1.2 states that "Quantitative surveys of coral, algae, fish, and invertebrates will be conducted annually using methods comparable to or inter-calibrated with those of existing historical data sets. The results of these activities will better define resource baselines for comparisons in protection and management efforts" (PMNM MMP Vol. 1, p. 122-123, 2008).

#### Consulted Parties:

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawai'i Division of Aquatic Resources, Hawai'i Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, the Office of Hawaiian Affairs

(OHA), and the PMNM Native Hawaiian Cultural Working Group. In addition, the permit application has been posted on the Monument Web site since March 2, 2016, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

Exemption Determination:

After reviewing HAR § 11-200-(8), including the criteria used to determine significance under HAR § 11-200-12, DLNR has concluded that the activities under this permit would have minimal or no significant effect on the environment and that issuance of the permit is categorically exempt from the requirement to prepare an environmental assessment based on the following analysis:

1. All activities associated with this permit, including the activities involved with training apprentice navigators using non-instrumental navigation, have been evaluated as a single action. As a preliminary matter, multiple or phased actions, such as when a group of actions are part of a larger undertaking, or when an individual project is precedent to or represents a commitment to a larger project, must be grouped together and evaluated as a single action. HAR § 11-200-7. This permit does not involve an activity that is precedent to a later activity.

2. The Exemption Class for Scientific Research with no Serious or Major Environmental Disturbance Appears to Apply. Chapter 343, HRS, and section 11-200-8, HAR, provide for a list of classes of actions exempt from environmental assessment requirements. HAR §11-200-8.A.5. exempts the class of actions which involve "basic data collection, research, experimental management, and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource." The proposed removal activities here appear to fall squarely under the exemption class #5, exempt item #15 as described under the Exemption List for the Department of Land and Natural Resources, published on June 5, 2015 as "game and non-game wildlife surveys, vegetation and rare plant surveys, aquatic life surveys, inventory studies, new transect lines, photographing, recording, sampling, collection, culture, and captive propagation".

To safeguard Monument resources the applicant would abide by the following PMNM Best Management Practices (BMPs) while conducting the aforementioned activities within the PMNM: Best Management Practices for Boat Operations and Diving Activities (BMP #004); General Storage and Transport Protocols for Collected Samples (BMP #006); Marine Wildlife Viewing Guidelines (BMP #010); and Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (BMP #011).

3. Cumulative Impacts of Actions in the Same Place and Impacts with Respect to the Potentially Particularly Sensitive Environment Will Not be Significant. Even where a categorical exemption appears to include a proposed action, the action cannot be declared exempt if "the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment." HAR § 11-200-8.B. To gauge whether a significant impact or effect is probable, an exempting agency must consider every phase of a proposed action, any expected primary and secondary consequences, the long-term and short-term effects of the

action, the overall and cumulative effect of the action, and the sum effects of an action on the quality of the environment. Examples of actions which commonly have a significant effect on the environment are listed under HAR § 11-200-12.

The following tables list additional activities that are anticipated to take place in the Monument, pending approval.

**Table 1. Concurrent Projects Aboard NOAA SHIP M/V SEARCHER**

<b>Permit</b>	<b>Purpose and Scope</b>	<b>Location</b>
PMNM-2016-001 M/V SEARCHER (approved)	The permit allows NOAA Ship M/V SEARCHER entry into PMNM. Personnel aboard the vessel will be permitted under separate permits.	All locations
PMNM-2015-017-A1 Springer (proposed)	The Applicant would be using traditional ecological knowledge to examine intertidal ecosystems.	Nihoa, Mokumanamana, Gardner Pinnacles, French Frigate Shoals
PMNM-2015-026-A1 Bird-Toonen (proposed)	The Applicant would conduct intertidal biodiversity surveys.	Nihoa, Mokumanamana, Gardner Pinnacles, French Frigate Shoals
PMNM-2016-018 Rubinoff (proposed)	The Applicant would conduct research activities on the Hawaiian <i>Hyposmocoma</i> moth.	Gardner Pinnacles, French Frigate Shoals

**Table 2. Concurrent Projects Aboard NOAA Ship HI'IALAKAI**

<b>Permit</b>	<b>Purpose and Scope</b>	<b>Location</b>
PMNM-2016-006 NOAA Ship HI'IALAKAI	The permit allows NOAA Ship HI'IALAKAI entry into PMNM. Personnel aboard the vessel will be permitted under separate permits.	All locations
PMNM-2016-001 Co-Trustees' Permit	Activities covered under the Co-Trustees' permit will also be taking place in PMNM during spring 2016 (i.e. deployment of restoration field crews, monk seal camps, etc).	All locations
PMNM-2016-008 Parrish-Garrett (proposed)	The Applicants would be conducting shark removal activities in order to benefit Hawaiian monk seal populations.	French Frigate Shoals

Permit	Purpose and Scope	Location
PMNM-2016-011 Surgent (proposed)	The Applicant would be using photography, A/V recordings, and marine debris collections, to document her work with the Hawaiian Monk Seal Research Project to create a body of artwork about PMNM.	French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Atoll, Midway Atoll, Kure Atoll

In addition to the Applicant, the M/V SEARCHER and the HI'IALAKAI are also expected to be in Monument during this time frame. The M/V SEARCHER would facilitate activities by Springer (PMNM-2015-017-A1) for intertidal biodiversity surveys, and Rubinoff (PMNM-2016-018) for moth research activities, and the HI'IALAKAI will be transporting the Hawaiian Monk Seal Research Project (HMSRP) staff to their respective field camp (Co-Trustees PMNM-2016-001, and Surgent PMNM-2016-011), as well as Parrish-Garrett (PMNM-2016-008) to French Frigate Shoals for shark removal activities.

There are no anticipated negative impacts from overlap in activities, and therefore no associated cumulative impacts between activities from the SSV MAKANI OLU and from the other vessels. At this time, no other concurrent activities are known.

The Applicant will be participating in a collaborative effort at Nihoa with two other Applicants, the Office of National Marine Sanctuaries (PMNM-2016-001) and Kikilo'i (PMNM-2015-014). The joint permit review process did not reveal any anticipated indirect or cumulative impacts, nor did it raise any cultural concerns, that would occur as a result of these activities.

Overall, significant cumulative impacts are not anticipated as a result of this activity, and numerous safeguards further ensure that the potentially sensitive environment of the project area will not be significantly affected. All activities will be conducted in a manner compatible with the management direction of the Monument Proclamation in that the activities do not diminish monument resources, qualities, and ecological integrity, or have any indirect, secondary, cultural, or cumulative effects. Since no significant cumulative impacts or significant impacts with respect to any particularly sensitive aspect of the project area are anticipated, the categorical exemptions identified above should remain applicable.

#### 4. Overall Impacts will Probably be Minimal and Insignificant.

Again, any foreseeable impacts from the proposed activity will probably be minimal, and further mitigated by general and specific conditions attached to the permit. Specifically, all activities covered by this permit will be carried out with strict safeguards for the natural, historic, and cultural resources of the Monument as required by Presidential Proclamation 8031, other applicable law and agency policies and standard operating procedures.

Overall, significant cumulative impacts are not anticipated as a result of this activity, and numerous safeguards further ensure that the potentially sensitive environment of the project area will not be significantly affected. All activities will be conducted in a manner compatible with the management direction of the Monument Proclamation in that the activities do not diminish monument resources, qualities, and ecological integrity, or have any indirect, secondary, cultural, or cumulative effects. The joint permit review process did not reveal any anticipated indirect or cumulative impacts, nor did it raise any cultural concerns, that would occur as a result of these activities.

Conclusion. Upon consideration of the permit to be approved by the Board of Land and Natural Resources, the potential effects of the above listed project as provided by Chapter 343, HRS and Chapter 11-200 HAR, have been determined to be of probable minimal or no significant effect on the environment and exempt from the preparation of an environmental assessment.

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Suzanne D. Case  
Chairperson, Board of Land and Natural Resources

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Date