

Papahānaumokuākea Marine National Monument
CONSERVATION AND MANAGEMENT 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: Ross Barnes; Alexander Shor

Affiliation: University of Hawaii Marine Center; University of Hawaii School of Ocean and Earth Science Technology (SOEST)

Permit Category: Conservation and Management

Proposed Activity Dates: 15 October to 10 November 2016

Proposed Method of Entry (Vessel/Plane): Vessel, R/V Ka'imikai-O-Kanaloa

Proposed Locations: Focus is on the 200 to 700 meter depths near Northwest Hancock Seamount, Southeast Hancock Seamount, Zapadnaya Seamount/Bank 11, Pioneer Bank, FFS Dive A Wypt 1, Necker Island, Academician Bank, Koko Smt. Yuryaku Smt. Kammu Guyot.

Estimated number of individuals (including Applicant) to be covered under this permit:
13 Crew on R/V Ka'imikai-O-Kanaloa, 7 crew for Pisces IV and V manned submersibles.

Estimated number of days in the Monument: 12

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...
provide vessel support for Dr. Amy Baco-Taylor's Collaborative Research: Recovery of Seamount precious coral beds from heavy trawling disturbance. See the research permit from Dr. Amy Baco-Taylor, Florida State University, submitted on 29 April 2012. Deep waters in the monument around many of the island and seamounts have been affected by trawling prior to the establishment of the EEZ. The activity would also consist of operating SOEST Hawaii Undersea Research Laboratory (HURL) Pisces IV and V manned submersibles to support Dr. Baco-Taylor's separately permitted research.

b.) To accomplish this activity we would
use R/V Ka'imikai-O-Kanaloa to transport personnel and equipment into the PMNM and act as a support platform for the collaborative research investigating the Recovery of

Seamounts. Approximately 22 total days is allocated for the activities, only a portion of which will occur within the PMNM boundaries. All the research will be done at sea with no landings on any of the islands within the monument. One of the ship's small boats will be used to assist with launch and recovery operations of the Pisces IV and V. All of the small boat operations will be in the immediate vicinity of the R/V Ka'imikai-O-Kanaloa.

c.) This activity would help the Monument by ...

The research being supported by Ka'imikai-O-Kanaloa should substantially increase our knowledge of the deep-water communities within the monument as well as provide a better understanding of trawling impacts and recovery potential for deep-sea coral and sponge communities. If we are also able to recover and redeploy the lander, we would obtain much needed time-series environmental data for deep waters in the monument.

Other information or background:

The R/V Ka'imikai-O-Kanaloa, is owned by University of Hawaii and operated by the University of Hawaii Marine Center

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Barnes, Ross, E., Dr. Shor, Alexander

Title:

Port Operations Manager, Associate Dean, SOEST

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

Dr. Amy Baco-Taylor is the PI for the science mission and has provided this information as part of the research permit application.

2. Mailing address (street/P.O. box, city, state, country, zip): Applicant's (ship Operator) address:

U.H. Marine Center
956 N. Nimitz Hwy.
Honolulu, HI. 96817

Phone: 808-956-0688

Fax: 808-587-8557

Email: Ross Barnes, pom@soest.hawaii.edu, Master Ka'imikai-O-Kanaloa, kok_master@kok.soest.hawaii.edu

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

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

University of Hawaii Marine Center

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):

The ship's operating crew compliment will be 13 persons organized as:

Ship' Crew:

Six people in the Deck Department

* One Master

- * One Chief Mate
 - * One 3rd/2nd Mate
 - * Three Able Bodied Seaman
- Four people in the Engineering Department
- * One Chief Engineer
 - * Three Qualified Members of the Engineering Department
- Two people in the Steward Department
- * One Chief Steward
 - * One 2nd Cook
 - *

*One Marine Technician

7 crew for Pisces IV and V submersibles

Section B: Project Information

5a. Project location(s):

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

Deep sea areas (200-700) meters within Federal waters only around French Frigate Shoals, Mokumanamana, Pioneer Bank, and Acadecian Berg

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:*

The purpose of the ship activities covered by this permit request is to support Dr. Amy Baco-Taylor's funded science proposal: "Collaborative Research: Recovery of Seamount Precious Coral Beds From Heavy Trawling Disturbance". The purpose of the research project is to examine a series of locations in the far Northwestern Hawaiian Islands (NWHI) and the Emperor Seamount Chain (ESC) to address the hypothesis, based on predictions of low resilience and decadal recovery times for seamounts, that deep-sea coral beds in the NWHI have not recovered despite the end of trawling 30+ years ago. It is likely that the initial colonizers to a seamount coral community following large-scale disturbance would be from long-distance dispersal events. Given that this first dispersal event will be a largely stochastic process, we also hypothesize that the initial colonization of a seamount may take decades, and that the initial cohort will be the key source of propagules for subsequent recruitment to a given site. To test these, we will survey a series of replicate seamounts in three trawling "treatment" types (designated based on previous trawling activity level) using HURL submersibles and surveys

*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?

This research mission involves multi-beam mapping sonar that has already and continues to be conducted in the Monument; it will have no effect on the cultural, natural, historic resources, and ecological integrity of the environment. Mapping occurring in deep water associated with sea mounts and rift zones will occur at distance to land. There are no plans to anchor the ship within Monument waters or access any

of the land masses within the Monument. No discharge of black water from the ship's MSD system will occur.

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? As a sacred place, especially in the realm of Po (beyond Mokumanamana), Ka'imikai-O-Kanaloa will tread lightly and leave no trace of our activities. The only discharges from the ship will be those that are incidental to normal shipboard operations. Ship discharges expected will be limited to rainwater and seawater washing off the ship's decks, cooling water discharges, brine discharge from the ship's evaporators, engine exhaust, seawater from the ship's flow through science seawater system, and approved marine sanitation device effluent. For the later, Ka'imikai-O-Kanaloa is equipped with a biological based USCG approved MSD that is expected to discharge no black water. The ship is not equipped with an incinerator for burning trash, all trash will remain on board to be desposed of ashore upon returning to Honolulu. The ship has a dedicated series of ballast tanks. All ballast tanks will be filled with fresh water on departure and no ballasting will occur in the monument. Lastly, there is no intentions to anchor within the PMNM boundaries so there will be no anchor and/or anchor chain impact on the bottom.

All activities will be consistent with the spirit of Proclamation 8031, and specifically with Finding 1.a: The activity can be conducted with adequate safeguards for the resources and ecological integrity of the monument; and 1.b: The activity will 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 resources, qualities, and ecological integrity, any indirect, secondary, or cumulative effects of the activity, and the duration of such effects;

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.

The Monument is unique as probably the only place in the world where once trawled seamounts have been protected for >10 years, thus it is by far the best place to conduct this research when trying to study the impacts and recovery time scales. Since it has been >30 years since the establishment of the EEZ, we will be able to test the hypothesis that deep-sea coral and sponge communities require decades for recovery from trawling impacts.

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

The information gathered aboard Ka'imikai-O-Kanaloa will directly contribute to greater understanding of the time-scales over which deep-sea habitats may recover from largescale disturbance from destructive bottom trawling activities. This will then

contribute to the Monument as well as other areas of the world's oceans where bottom trawling activities have occurred to help promote efficient stewardship of the high seas and other locations.

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

The duration of the activity is only as long as necessary to gather data needed for the stated goal.

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

Ka'imikai-O-Kanaloa is a globally operated oceanographic research ship. Technicians operating sonars and oceanographic equipment such as the winches are all experienced having operated similar systems on other research ships. The crew operating Ka'imikai-O-Kanaloa are all professional mariners with many years experience operating ocean going ships and supporting scientists on other research vessels. Operation of the HURL submersibles is unique and not part of the ship's equipment so all HURL operations will be conducted by a dedicated HURL support crew from University of Hawaii Institution which is the owner/operator of the Pisces IV and V. The HURL support crew is part of the embarked science party.

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. NSF has approved the funding for the research being done by the principle investigator which covers all necessary expenses for the science party and operation of the Pisces IV and V. The ship operating costs for Ka'imikai-O-Kanaloa are also provided for by NSF through the operating agreement between NSF and UAF.

As part of the operating expense for Ka'imikai-O-Kanaloa, the ship carries the necessary

Protection and Indemnity insurance coverage needed to have a Certificate of Financial Responsibility on file with USCG along with having Witt O'Brien on retainer as an oil spill management team. Ka'imikai-O-Kanaloa's insurance policy runs in conjunction with the UAF fiscal year which goes from 1 May to 30 April the following year. Copies of the insurance policy after its renewal for the next fiscal year will be provided as attachment to the Compliance Information Sheet when it is submitted later this year.

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.

Ka'imikai-O-Kanaloa is equipped with Seabeam multi-beam system which is for mapping seafloor features. The operation of the systems is carried out using standard practices from across the academic fleet with experienced personnel.

Multi-beam mapping has already and continues to be conducted in the Monument; it will have no effect on the cultural, natural, historic resources, and ecological integrity of the environment. Mapping occurring in deep water associated with sea mounts and rift zones will occur at distance to land. There are no plans to anchor the ship within Monument waters or access any of the land masses within the Monument. No discharge of black water from the ship's MSD system will occur.

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

The Ka'imikai-O-Kanaloa is equipped with a NOAA Office of Law Enforcement working type approved Faria Watch Dog VMS.

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 for ship operations that would make the issuance of a permit for the activity inappropriate.

8. Procedures/Methods:

R/V Ka'imikai-O-Kanaloa will operate 24hrs/day while on mission and providing access to the waters of the Monument for the science party. The ship will depart from Honolulu to start the research cruise and return to Honolulu at the completion of the cruise.

To support the ship's multibeam operations it is necessary to periodically measure water column conditions to determine sound velocity. This is normally done using expendable bathythermographs (XBT's), but during any time the ship is in the waters of the Monument XBT's will not be used. Instead, the ship will measure the water column conditions using a CTD (measures conductivity, temperature, and depth) deployed and fully recovered back on deck using one of the ship's oceanographic winches.

NOTE: If land or marine archeological activities are involved, contact the Monument Permit Coordinator at the address on the general application form before proceeding.

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:

Scientific name:

& size of specimens:

Collection location:

Whole Organism Partial Organism

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

N/A

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

N/A

• General site/location for collections:

• Is it an open or closed system? Open Closed

• Is there an outfall? Yes No

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

• Will organisms be released?

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

The water samples collected by the science party will be transported back to Honolulu on board the ship.

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

This is a collaborative effort between 2 scientists who have previously worked independently in the Hawaiian Archipelago. They are sharing this project to prevent duplication of effort. Bottom mapping data from a previous NOAA sponsored mapping cruise will be used to refine science stations within the Monument.

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

HURL Submersibles - operated by Hawaii Underwater Research Laboratory personnel, Ka'imikai-O-Kanaloa shipboard Multibeam. Ka'imikai-O-Kanaloa shipboard CTD.

13. List all Hazardous Materials you propose to take to and use within the Monument:

Nothing unique to this cruise is planned for the ship, but the science party does plan to bring into the Monument mercuric chloride and dilute hydrochloric acid. The MSDS sheets for these materials are provided as part of the science party's research permit request. The ship is adequately equipped with a Hazmat Locker and hazardous material cabinets to properly store the hazmat. An inventory of hazmat the ship carries to support the ship and small boat operations will be provided with the Compliance Information Sheet is submitted per the instructions for that sheet.

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

The HURL submersibles will be placed into and deployed within the waters of the Monument. After each HURL dive the submersibles will be recovered by the ship so it will not remain within the Monument.

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

The science party plans on a 2 to 3 year post-cruise assessment period for this.

16. List all Applicant's publications directly related to the proposed project:

See the research permit application from Dr. Amy Baco-Taylor, Florida State University, submitted on 29 April 2012. It details the science party publications related to this project. For the ship permit, there are no publications by the applicant related to this project.

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