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:
Papahānaumokuākea Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300
Honolulu, HI 96825
nwhipermit@noaa.gov
PHONE: (808) 397-2660 FAX: (808) 397-2662

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: Dill, Gary J.
Affiliation: NWHI Bottomfishing Hui, a nonprofit corporation formed in the State of Hawaii

Permit Category: Research
Proposed Activity Dates: June 1, 2010-June 15, 2011
Proposed Method of Entry (Vessel/Plane): Vessel
Proposed Locations: Five underwater receiver sites in Federal waters at Nihoa Island, Twin Banks, Necker Island

Estimated number of individuals (including Applicant) to be covered under this permit: Two
Estimated number of days in the Monument: Two trips, four days each; total eight days

Description of proposed activities: (complete these sentences):

a.) The proposed activity would…
obtain detection data collected and stored in the Vemco VR3uwm receivers anchored at five sites in the above locations. The data will be brought back for analysis.

b.) To accomplish this activity we would ….
motor on the permitted vessel to two sites at Nihoa, one at each Twin Bank, and one at Necker. Upon arrival at a site an onboard interrogating unit will be used to communicate with the anchored receiver and direct it to uplink its stored data to the interrogator unit and associated computer onboard. After obtaining the data from the first site, we would proceed to the next, until all five receivers have been interrogated. At that time, we would depart the Monument.

c.) This activity would help the Monument by …
providing the Co-Trustees, and others, with empirical data on the movement patterns, spawning habitats and population size of Aprion virescens, locally known as 'uku,' in Monument waters. The need for this research is reflected in the minimal amount of scientific study related to this fish, which plays an important role in many ecosystems as a top predator, and an increasingly

important role as an Hawaiian food fish. Science-based management of this top predator requires that we know whether it is site-attached to specific areas or, if not, how frequent and extensive are its movements.

Other information or background: This project is intended to complement and expand the scope of recent studies of top predator movements in the Monument (NOAA-NWHICRER permit #2005-010, NOAA-NWHIMNM permit #2006-012, PMNM-2007-031, PMNM-2008-027, PMNM-2009-037).

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Dill, Gary J.

Title: Principal Investigator

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

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

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

3. Affiliation (institution/agency/organization directly related to the proposed project):
NWHI Bottomfishing Hui, a nonprofit corporation formed in the State of Hawaii.

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):
Crew/assistant, yet to be identified.

Section B: Project Information

5a. Project location(s):

		Ocean Based	
☒ Nihoa Island	☐ Land-based	☒ Shallow water	☐ Deep water
☒ Necker Island (Mokumanamana)	☐ Land-based	☒ Shallow water	☐ Deep water
☐ French Frigate Shoals	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Gardner Pinnacles	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Maro Reef			
☐ Laysan Island	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Lisianski Island, Neva Shoal	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Pearl and Hermes Atoll	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Midway Atoll	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Kure Atoll	☐ Land-based	☐ Shallow water	☐ Deep water
☒ Other			

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

Location Description:
"Other' refers to Twin Banks. The five underwater receivers are located as follows: at Nihoa, 23* 2.33' N/ 161* 46.07' W, in 31f; 23* 1.17' N/162* 8.16' W, in 27f; at Twin, 23* 14.24' N/162* 56.4' W, in 33f; 23* 11.91' N/163* 9.26' W, in 34f; at Necker, 23* 25.74' N/164* 34.88' W, in 16f . (the asterisk stands for degrees)

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 proposed activities represent a continuance of purpose of the original project (Permit # PMNM-2008-017L Dill), which was to provide the Co-Trustees, and others, with empirical data on the movement patterns, spawning habitats and population size of Aprion virescens, locally known as 'uku,' in Monument waters. The need for this research is reflected in the minimal amount of scientific study related to this fish, which plays an important role in many ecosystems as a top predator, and an increasingly important role as an Hawaiian food fish. Science-based management of this top predator requires that we know whether it is site-attached to specific areas or, if not, how frequent and extensive are its movements. The scope of this activity extends to 131 uku implanted with sonic transmitters and released near the above locations prior to June 30, 2008. Also, five VR3uwm receivers were anchored, with a sand and gravel concrete block lowered to hard bottom areas lacking live substrate, in the Monument, at the above locations, during June, 2008. These receivers were set to detect emissions from the individually coded sonic transmitters implanted in the 131 uku. The detections gathered by the receivers are stored for eventual uploading, and represent a history of daily movement on a year-round basis, of each fish detected. The activities proposed in this application will only provide for the uploading of that data. No additional transmitter implantation and no additional receivers are planned for the project.

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?
The data acquisition trips will have minor, if any, impact on the cultural, natural and historic resources and ecological integrity of the Monument. Each trip will be spent in normal transit mode, i.e., non-stop traveling with no planned interactions with the resources of the Monument, with only brief stops at each receiver site to electronically uplink data from the receiver, with, again, no planned interactions with Monument resources. One or two nights, while adrift in deep water, may be required for sleep necessary for prudent operation of the vessel, and will have no interaction with Monument resources.

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 activity will cause little, if any, diminishment of Monument cultural, natural and historic resources, qualities, and ecological integrity, and no indirect, secondary, or cumulative effects are envisioned arising from this activity. The research involved in these data acquisition trips is

achieved through electronic acquisition only, and involves no interaction with the resources, qualities, or ecological integrity of the Monument.

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.
There is no practicable alternative to conducting the activity within the Monument. The receivers are located wholly within the Monument, and require close proximity for electronic interrogation.

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 activity addresses questions that are directly relevant to the management of the Monument's natural resources, in particular, the movement, spawning habitats and stock biomass of one of the Monument's top predators, the uku. One critical aspect of management of this type of Monument resource is determining the degree of movement by adult fish within the Monument, as well as to the Main Hawaiian Islands. The management value of data gained from this activity outweighs the minor, if any, negative impacts of the activity.

e. Explain how the duration of the activity is no longer than necessary to achieve its stated purpose.
Based on experience of the proposed research vessel's cruising speed, thirty hours are required to transit from the eastern boundary of the Monument to the western ledge of the bank supporting Necker Island. Estimates of two hours at each of five receivers for interrogation, and eight hours of sleep, while drifting in deep water, per twenty-four hours of transit, together with a return time of thirty hours yields a minimum of eighty-six hours, or, approximately four days, necessary for the activity. This estimate is based on normal operations and favorable weather. Since the electronic uplinking of data to a small vessel is enhanced by relatively calm seas, the window of time needed for the proposed activities will be carefully chosen to provide for such seas.

f. Provide information demonstrating that you are qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.
The principle investigator for this activity has more than three years direct experience in this type of research, as well as two years of cooperative bottomfish research in the Main Hawaiian Islands, and over twenty years of experience fishing in the NWHI, primarily in the capacity of master of vessel, and is well qualified to conduct and complete this activity and mitigate any potential impacts of its conduct.

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.
Funding for this activity is provided by the NWHI Bottomfishing Hui, similar to the support provided to the earlier phases of the project. This funding is adequate to conduct and complete the proposed activities and mitigate any potential impacts resulting from its conduct.

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.
The methods and procedures governing this activity are ideal for achieving the data collection goals of the activity while providing adequate safeguards for, and not diminishing the Monument's cultural, natural and historic resources, qualities and ecological integrity. The use of passive monitoring techniques such as the VR3uwm receivers results in continuous, year-round monitoring of uku movements, with human intervention only being required for brief, minimally impactive trips into the Monument to retrieve the data resulting from that monitoring.

i. Has your vessel has been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of Presidential Proclamation 8031?
Yes, the proposed vessel is equipped with NOAA OLE Vessel Monitoring System.

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 this proposed activity inappropriate. Rather, it is very appropriate to issue a permit to allow follow-up data collection necessary for the successful completion of the original project.

8. Procedures/Methods:
The principal investigator, also serving as vessel master, will travel with crew to the five underwater receiver sites in the Monument, electronically uplink the data on each receiver, and then depart the Monument. The VEMCO VR3uwm receivers placed in the Monument in June, 2008, are technologically sophisticated devices that can affect data transference while still in place on the seabed, with no need for SCUBA , or any other in-water, handling or removal. The surface vessel needs to arrive in range of the receiver and, by means of a transducer lowered a short distance over the side, communicate with the receiver via a VEMCO VR3uwm interrogator unit pre-programmed to match each individual receiver. Once contact has been established and clarity of signal between the receiver and the interrogator verified, the receiver will be commanded to broadcast its data files through the water column to the interrogator. The interrogator unit then transfers these files to a linked computer, with appropriate software, which will then receive and store all detection data acquired. This is accomplished in a brief span of time while the vessel hovers in range. No anchoring will take place during this process. The VR3uwm receivers will remain on site, collecting further detection data until removal, which was originally planned to occur on or before June 15, 2011. The data will be taken back to Honolulu and analyzed by the principal investigator, in conjunction with Dr. Kim Holland of the Hawaii Institute of Marine Biology and his team studying top predator movements in the Hawaiian archipelago.

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:
N/A

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?
N/A

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

12a. List all specialized gear and materials to be used in this activity:
VEMCO VR3uwm interrogator with laptop computer.

12b. List all Hazardous Materials you propose to take to and use within the Monument:
None.

13. Describe any fixed installations and instrumentation proposed to be set in the Monument:
None.

14. Provide a time line for sample analysis, data analysis, write-up and publication of information:
January, 2012

15. List all Applicants' publications directly related to the proposed project:
None.

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:

Papahānaumokuākea Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300
Honolulu, HI 96825
FAX: (808) 397-2662

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