

Papahānaumokuākea Marine National Monument  
Permit Application - Research  
OMB Control # 0648-0548  
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## **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](mailto: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:** Carl G. Meyer

**Affiliation:** Hawaii Institute of Marine Biology

**Permit Category:** Research

**Proposed Activity Dates:** May 1st-Oct 30 2014

**Proposed Method of Entry (Vessel/Plane):** NOAA Vessel Hiialaki

**Proposed Locations:** French Frigate Shoals, Pearl & Hermes Reef, Midway

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

8

**Estimated number of days in the Monument:** 70

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

a.) The proposed activity would...

Quantify the movements and trophic ecology of top predators (sharks and large fishes) in the Monument to: (1) improve our broad understanding of Monument ecology, (2) provide further specific insight into shark predation on endangered species (Hawaiian monk seals and blackfoot albatross) at French Frigate Shoals Atoll, and (3) elucidate the role of deep reefs in the ecology of Monument predators.

b.) To accomplish this activity we would ....

Capture and equip top predators with electronic tags, and monitor their movements using acoustic receivers (deployed on the sea floor). Collect small, non-lethal tissue samples from top predators for chemical analysis to determine feeding habits. Collect reference isotopic samples from deep and shallow reefs by: (1) lethal sampling of 200 reef fishes (collected via 3-prong pole spear). These reference samples will be used to determine the trophic position and feeding location of predators.

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

Our research will provide Monument managers with information on the movements patterns and feeding habitats of culturally and ecologically important top predators. We will continue to quantify the depths at which sharks and other large predators, such as ulua, routinely forage to determine where competitive overlap may exist between these species and Hawaiian monk seals. We will also be investigating individual specialization in diet for sharks at FFS, which may enable us to determine if there are some true 'monk seal' specialists. We will also continue to provide new information on the importance of a poorly-understood habitat type (mesophotic deep reefs) in the Monument, to the ecology of top predators.

**Other information or background:** Our research has minimal impact on monument resources. Sharks and other predators are captured, tagged and released at their capture locations. Our listening stations (acoustic receiver + moorings) are designed to have minimal substrate impact and leave nothing behind when they are removed. We are requesting to lethally sample 200 of the most common reef fishes. Principal Investigator Carl Meyer has previously consulted with William Aila about the cultural implications of this research. Mr Aila is very familiar with our research, having both observed and assisted us during shark tagging activities conducted at French Frigate Shoals in June 2010. This provided a valuable opportunity for Carl Meyer to discuss at length with Mr Aila the challenges associated with balancing cultural concerns against the need for directed management of Monument resources, including the gathering of scientific knowledge.