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: Dr. Erik C. Franklin
Affiliation: Hawaii Institute of Marine Biology, University of Hawaii at Manoa

Permit Category: Research
Proposed Activity Dates: June 1 to December 31, 2015
Proposed Method of Entry (Vessel/Plane): Vessel
Proposed Locations: The details of this research trip are not yet planned but will be opportunistically sampling aboard another group's cruise for a minimum of 5-7 day periods at two of the following: French Frigate Shoals, Pearl and Hermes Atoll, Kure Atoll, Midway Atoll, Lisianski Island, Laysan Island, Maro Reef

Estimated number of individuals (including Applicant) to be covered under this permit: 4

Estimated number of days in the Monument: 25

Description of proposed activities: (complete these sentences):

a.) The proposed activity would…

help Monument managers better understand the role that herbivorous fish play in the resilience of coral reef ecosystems. We are working to develop a suite of methods that would assess the influence of herbivorous grazing on algal communities. The proposed activity would estimate the per capita grazing rates, diet composition, and productivity of the prey field of herbivorous fishes across a gradient of benthic habitats and atoll/islands in the Northwestern Hawaiian Islands. The project would involve the collection and removal of a limited number of fishes and algae from the PMNM. These specimens will be collected by trained divers to minimize incidental mortality of non-target organisms.

b.) To accomplish this activity we would ….

perform diver surveys of reef communities, observe herbivore grazing behavior, establish experimental benthic sites, and collect herbivorous fishes and algae from a 3 shallow (<20 m) reef sites at lagoonal, back reef, and fore reef habitats per atoll/island using open-circuit SCUBA from small boats. A small boat or vessel will be used to reach the study sites from the NOAA

research ship Hi'ilakai. We will perform visual diver surveys of reef fish and benthic communities to estimate the species richness, abundance, and biomass of coral reef fishes and benthic organisms at a site. We would observe fish grazing rates using an algal assay and at the reef surface with an underwater video recorder. To estimate algal productivity, we would clear algae from the reef surface at 10 replicate locations of less than or equal to 0.25 square meters. We would cage half the sites and return to the locations after a period of time (5 days or more) and collect the algae from the sites to be sorted and examined after the cruise in Oahu. We would collect 25 herbivorous fish per species per site using pole spears to later examine the diet composition in their guts using genetic methods upon return to Oahu. Specimens will be frozen and transported to our laboratory in Kaneohe, Oahu.

c.) This activity would help the Monument by …
quantifying the effect of habitat-specific herbivore grazing on algal community biomass and productivity as well as identifying the particular algae that fish consume. A better understanding of grazing rates and preferred algal diet species would provide critical new information on the direct trophic mechanism for herbivore control of benthic community composition. These results would be used to address needs identified in the PMNM Natural Resources Science Plan 2011-2015 under the Research Themes and Focus Areas of Habitats, Resilience, Ecological Process Metrics, and Modeling the Ecosystem and Ecological Processes.

Other information or background: