

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 Meyer

Affiliation: Hawaii Institute of Marine Biology

Permit Category: Research

Proposed Activity Dates: May 1 - October 30 2010

Proposed Method of Entry (Vessel/Plane): Vessel

Proposed Locations: Necker, Nihoa, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Lisianski, Laysan, Pearl & Hermes Reef, Midway, Kure

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

6

Estimated number of days in the Monument: 70

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...

Quantify the movements and feeding habits of top predators (sharks and large fishes) in the Monument to: (1) improve our broad understanding of Monument ecology, and (2) provide further specific insight into shark predation on Hawaiian monk seals at French Frigate Shoals Atoll.

b.) To accomplish this activity we would

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. Sharks are captured using 10 hook bottom-set lines, restrained alongside a small boat during transmitter attachment and then released. Fishes (ulua, hapu'upu'u) will be captured using handlines and either tagged alongside a small boat (ulua), or in situ on the sea floor by SCUBA divers (hapu'upu'u). Acoustic receivers are deployed and recovered by SCUBA divers, and listen year-round for predators equipped with acoustic tags.

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, one of which (hapu'upu'u) is also the only endemic Hawaiian grouper. We will quantify how deep sharks and large fishes such as ulua range, and begin to assess the depths at which these predators routinely forage to determine where competitive overlap may exist between these species and Hawaiian monk seals. We will provide Monument managers with empirical data on shark movement patterns and diet at French Frigate Shoals atoll. This information is vital for a better understanding of shark predation on Hawaiian monk seals and selecting appropriate management strategies for mitigating predation impacts on monk seals.

Other information or background: Our research has minimal impact on monument resources. Sharks 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 will seek appropriate guidance on how to mitigate potential cultural impacts associated with our research.