

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. Christopher Winn and Dr. Samuel E. Kahng

Affiliation: Hawaii Pacific University

Permit Category: Research

Proposed Activity Dates: October 4, 2013 through October 18, 2013

Proposed Method of Entry (Vessel/Plane): MV SEARCHER

Proposed Locations: The waters surrounding Nihoa Island, Mokumanamana and French Frigate shoals.

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

4

Estimated number of days in the Monument: 14

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...
will help Monument managers develop a relatively simple method to assess the impact of changing ocean pH on the reef ecosystems within the monument.

b.) To accomplish this activity we would
collect surface water samples from the research vessel and/or from small boats near and around the coral reefs. These samples will be preserved and returned to Honolulu for analysis. In addition, we will measure surface water temperature and salinity with a simple hand-held device. Surface water samples will be collected at up to 4 times over a complete 24 hour period in order to characterize the relative rate of calcification (the production of new coral reef structure) to photosynthesis (the capture of light energy by plants). Given that ocean acidification is expected to impact the rate of calcification and not photosynthesis, changes in the relative rates of these processes is expected to provide managers with a rubric with which to determine the impact of changing ocean chemistry on the ecosystems within the monument.

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

improving our understanding of the the metabolic processes that create and sustain the reef ecosystems within the monument and by developing a relatively simple and inexpensive method for assessing the impact of ocean acidification.

Other information or background: