

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: September 2012 - September 2013

Proposed Method of Entry (Vessel/Plane): plane

Proposed Locations: Midway Atoll

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

3

Estimated number of days in the Monument: maximum 10

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...
help Monument managers assess and understand the impact of ocean acidification. We are working to develop a simple chemical method to assess changes in reef metabolism. This proposed research will collect preliminary observations using this new method to monitor coral reef metabolism. When implemented, this approach has the potential to provide managers with a simple, and inexpensive, procedure to assess the response of coral reef ecosystems to changes ocean chemistry.

b.) To accomplish this activity we would
collect water samples at shallow depths at Midway Atoll. The procedure involves the collection of water from the nearshore environment in the early afternoon and the late evening. Specifically a sampler will wade into shallow water (approximately 1 meter in depth) and collect surface seawater in a clean bucket. The bucket will be carried to the beach, where 2 to 3 replicate 250 ml subsamples will be collected in Pyrex glass bottles. 100 microliters (about one drop) of a saturated mercuric chloride solution will be added to each bottle and the bottles will be sealed for transport to our laboratory in Honolulu. The temperature and salinity of the bucket sample will be measured with a simple hand-held device (about the size of a flashlight), and the water remaining in the bucket will be returned to shallow water.

We anticipate this sampling to be repeated weekly for an entire year.

c.) This activity would help the Monument by ...
developing a simple method to assess change in reef ecosystems in response to changing ocean chemistry.

Other information or background: