

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: Stephen A. Karl

Affiliation: University of Hawaii, Manoa, Hawaii Institute of Marine Biology

Permit Category: Research

Proposed Activity Dates: 1 May 2010 - 1 September 2010

Proposed Method of Entry (Vessel/Plane): NOAA Ship HI IALAKAI

Proposed Locations: French Frigate Shoals and Pearl & Hermes Atoll

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

5

Estimated number of days in the Monument: 29

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...
recover small (1" diameter X 0.5" thick) temperature data loggers installed June 2009 in a grid pattern on a patch reef at French Frigate Shoals (166 °15.78' W, 23° 49.94' N; reef 29) and Pearl & Hermes Atoll (175° 48.236W, 27° 49.828N). Sample 3 cm² pieces from no more than 50 individual *Pocillopora damicornis* and *Porites lobata* colonies at each of 5 reefs in the areas surrounding these reefs (total 250 colonies of each species per area)

b.) To accomplish this activity we would
layout a temporary meter tape grid to aid in locating previously installed dataloggers. Locate and carefully remove each logger using small prybars (e.g., screwdrivers). Haphazardly sample 3 cm² nubbins from 50 colonies using bone shears at 5 nearby reefs.

c.) This activity would help the Monument by ...
better characterizing the physical environment on these reefs and the role of temperature in coral health. All individuals of *Porites lobata* and *Pocillopora damicornis* have perviously been sampled and are currently being genotyped. Coral diversity and temperature have direct bearing on reef health and robustness. Samples from nearby reefs will indicate if the results from genetic

studies of samples from the above focal reefs are typical and generalizable through the Atoll and Monument.

Other information or background: This is the continuation of previous work in the monument.