

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. Kelly Gleason

Affiliation: Papahānaumokuākea Marine National Monument

Permit Category: Conservation and Management

Proposed Activity Dates: 4/1/2011-10/1/2011

Proposed Method of Entry (Vessel/Plane): Vessel

Proposed Locations: Nihoa, Mokumanamana, Lisianski, French Frigate Shoals, Pearl and Hermes Atoll, Midway Atoll, Kure Atoll, Laysan, Maro Reef

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

Estimated number of days in the Monument: 70

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...

The annual PMNM maritime heritage survey will conduct activities to fulfill Monument management activities including: 1) non-invasive wreck site assessment survey of selected maritime heritage sites; 2) non-invasive remote sensing survey (magnetometer and side scan sonar) and snorkeler towboard survey of high potential wreck site areas 3) monitoring of known shipwreck and sunken aircraft sites for the purposes of understanding impacts and changes to maritime heritage sites. The first activity is a detailed investigation of a single wreck or archaeological site; the second is a broader search for previously un-located and undiscovered resources, the third allows for identification and inventory of maritime heritage sites, and the third will work to develop archaeological, observational and ecologically based methods of interpreting and monitoring maritime heritage sites in the NWHI.

b.) To accomplish this activity we would

This project is part of a continuing effort to conduct maritime heritage management activities in the Monument including inventory, and documentation of sites. Comprehensive non-invasive assessment surveys of previously located wreck sites allow managers to compile an inventory of critical and non-renewable historic resources. Of the possible 126 shipwreck and historic aircraft lost in the area, 17 have been confirmed by field investigation. To date inventory surveys of

eight of these 17 have been completed in the NWHI. Maritime heritage summaries of site surveys are available at <http://sanctuaries.noaa.gov/maritime> and upon request to the Monument Maritime Archaeologist. A simple low impact technique known as “baseline trilateration” is used to map wreck sites (see Methods). Sites selected for non-invasive survey in 2011 include the whaling ship Two Brothers, the British collier Dunnottar Castle (1886) and the British whale ship Gledstanes (1837) at Kure Atoll. Sites selected for environmental assessment include the SS Quartette at Pearl and Hermes Atoll, an unidentified whaling shipwreck site and the schooner Churchill at French Frigate Shoals, the British collier Dunnottar Castle (1886) at Kure Atoll and the submarine rescue vessel Macaw (1944) at Midway Atoll in addition to the sunken WWII era Corsair plane at Midway Atoll. (see Maps attached).

Remote sensing survey, the second basic method proposed for the 2011 survey, locates anomalies and potential maritime heritage resources for subsequent "ground-truth" site assessments. Data gathered from remote sensing work in 2011 will be used for the purposes of mapping seafloor habitat in addition to survey for maritime heritage resources. Generally areas in the seaward vicinity of the reef crest are chosen for initial remote sensing survey due to the high potential for wreck remains in those areas. Specific reef crest zones are determined by historical records of wreck events. The 2011 remote sensing survey will be conducted with a Klein Model 3000 side scan sonar and Marine Magnetics Explorer Mini Magnetometer. The side scan sonar will be used during searches for submerged cultural resource surveys at Nihoa, Lisianski, Pearl and Hermes Atoll, French Frigate Shoals, Midway and Kure Atolls will effectively image the sandy seafloor areas explored in the atolls. A mosaic of sidescan imagery will be created for the purposes of fine scale mapping of the benthic habitat at all locations surveyed. Alternatively, snorkeler tow boarding may be used to locate potential heritage resource sites in a similar manner.

The 2011 ecological survey work will expand on a pilot study begun in 2009, and continued in 2010 to environmentally assess maritime heritage sites in the Northwestern Hawaiian Islands as a means to develop a long term monitoring strategy based up on environmental factors. This study will help to characterize the shipwreck sites as environmental resources, which is a gap in resource management in PMNM.

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

2011 maritime heritage project data (site survey, remote sensing and monitoring) will contribute to the management inventory for the PMNM, as well as provide the program material for education and outreach efforts. Certain data generated by the survey is sensitive and will be protected from unregulated public distribution as determined by the PMNM (also see NHPA section 304). Maritime heritage survey will be conducted in compliance with the appropriate preservation regulations (National Historic Preservation Act, Archaeological Resources Protection Act, Antiquities Act, Sunken Military Craft Act et al) and satisfies federal and state mandates for heritage resource inventory of controlled waters. Monitoring work at maritime heritage sites in 2011 will assist managers in better understanding the interaction between these sunken sites and the ecosystem, as well as help to develop an understanding of their structural

integrity. 2011's environmental assessment of shipwreck sites will continue a project initiated in 2009 and will assist in setting up project for the further development of a shipwreck monitoring protocol for maritime heritage sites in the NWHI.

Other information or background: The 2011 maritime heritage survey is a multidisciplinary project including efforts to further inventory and assess shipwreck sites in the NWHI, and share these findings with the public in a responsible manner. Work in 2011 will serve to explore, further investigate and environmentally assess the maritime heritage sites in the Monument.

Currently, NOAA's Maritime Heritage Program is the only agency engaged in maritime heritage survey in the PMNM.

Over 60 shipwrecks have been reported lost in the PMNM, some dating back to 1805. Many of these wrecks may be important cultural or historical resources, capturing information about the maritime history of the region. Sites may furnish information about western seafaring, as well as Native Hawaiian seafaring, for many historic ships (such as whalers) recruited Native Hawaiians as skilled crew members. Due to the time required for careful site survey and the logistical constraints of research cruises, often only portions of the required mapping/survey work at each site can be completed during each season. Completed site assessments are the most effective heritage resource survey tool.

Survey work in 2011 will continue upon efforts initiated in 2002 with the first maritime heritage resource survey in the Northwestern Hawaiian Islands. Subsequent work continued in 2003, and then annually since 2005. The planned survey work to be conducted in 2010 will continue these efforts, focusing on non-invasive non-excavation data recording at selected heritage sites at Kure, Midway, Pearl and Hermes Atoll, Lisianski, Nihoa and French Frigate Shoals, Laysan and Maro Reef.

Without an understanding of the resource base, without an accurate inventory of significant heritage material, maritime heritage resource management is impossible. Historic shipwrecks are subject to natural deterioration as well as intentional or inadvertent damage (dredging, looting, re-use). The first step in management is to create a resource inventory by confirming identification of sites. The next step is to conduct site assessment, characterizing the nature of the resource. Inventory and assessment are heritage preservation actions common to a number of federal and state programs. The 2011 research therefore supports cultural and historical management efforts on behalf of the different agencies of the Monument Management Board. This survey specifically addresses mandates for maritime heritage resource inventory as stated in the the draft PMNM Management Plan. 2011 work will also include significant education and outreach initiatives.