

## **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:** 5/1/2012-10/10/2012

**Proposed Method of Entry (Vessel/Plane):** Vessel

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

**Estimated number of individuals (including Applicant) to be covered under this permit:** 6

**Estimated number of days in the Monument:** 60

**Description of proposed activities:** (complete these sentences):

a.) The proposed activity would...

The annual PMNM maritime heritage resource management cruise will conduct activities to fulfill Monument management activities including: 1) non-invasive wreck site assessment survey of selected maritime heritage sites; 2) the collection of high definition video footage for the development of a short documentary film that will become a PMNM education and outreach product; 3) ground truthing of selected dive targets for potential shipwreck and sunken aircraft sites at Midway Atoll relative to the Battle of Midway; 4) continued monitoring of known shipwreck and sunken aircraft sites for the purposes of understanding impacts and changes to maritime heritage sites; 5) recovery of a selected artifact from the Two Brothers shipwreck site at French Frigate Shoals (Section 106 compliance pending) for the purposes of education, outreach, research and the continued interpretation of this site for the public; 6) exploration for new maritime heritage sites through non-invasive remote sensing survey (magnetometer and side scan sonar) and/or snorkeler towboard survey of high potential wreck site areas. The first activity is a detailed investigation of a single wreck or archaeological site; the second and fifth activities will assist in the creation and distribution of important outreach and education products related to maritime heritage sites that will aid in interpretation, protection and preservation of the significant site including a widely distributed film as well as the continued development of PMNM maritime heritage themed exhibits; the third and sixth activities describe efforts towards

broader searches for previously un-located and undiscovered resources and allows for identification and inventory of maritime heritage sites. Finally, the fourth will work to test 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 continued effort to conduct maritime heritage management activities in the Monument including exploration for new sites that will contribute to the PMNM inventory (an ONMS annual Maritime Heritage performance measure requirement), and documentation and interpretation of known maritime heritage sites. Comprehensive non-invasive assessment surveys of previously located wreck sites allow managers to compile an inventory of critical and non-renewable maritime heritage resources. Of the possible 126 shipwreck and historic aircraft lost in the area, 20 have been confirmed by field investigation. To date, surveys of eight of these 20 have been completed in the NWHI. Maritime heritage summaries of site surveys are available at <http://www.papahanaumokuakea.gov/maritime/welcome.html> and upon request to the Monument Maritime Heritage Coordinator. A simple low impact technique known as “baseline trilateration” is used to map wreck sites (see Methods). Sites selected for non-invasive survey in 2012 include the Two Brothers whaling ship at French Frigate Shoals and the SS Quartette at Pearl and Hermes Atoll. If new sites are discovered in 2012, documentation will proceed in this manner.

Over the course of the maritime heritage cruise, video will be collected for the creation of a short documentary focused on the story of the Two Brothers shipwreck site. The short video and any associated products will be created for education and outreach purposes only. The Two Brothers shipwreck is potentially the most significant shipwreck site located in PMNM, and has generated worldwide interest through its identification in early 2011. This shipwreck site is the only Nantucket whaleship discovered in an archaeological context to date, and holds a great deal of significance for the community of Nantucket as well. A filmmaker with experience diving and directing films in PMNM will be contracted for the purposes of this project, and conduct filmmaking activities alongside the maritime archaeology team. Film footage will be collected and edited into a short educational film piece by the contracted government filmmaker.

Monitoring activities will be conducted in 2012 utilizing archaeological, observational, and environmental parameters. The annual assessment and monitoring of maritime heritage sites for change is an important component of long term protection. The 2009 and 2010 surveys conducted by Derek Smith on shipwreck sites in the Monument helped to establish an important baseline dataset to advance interdisciplinary monitoring efforts at maritime heritage sites in the NWHI. Developing this monitoring program will help to inform the investigation of such issues as the effects of climate change on heritage sites.

Remote sensing survey, also proposed for the 2012 survey, locates anomalies and potential maritime heritage resources for subsequent "ground-truth" site assessments. Data gathered from remote sensing work in 2012 will be used for the purposes of mapping seafloor habitat in addition to survey for maritime heritage resources. Specific locations for survey are determined by historical records of wreck events. The 2012 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 Lisianski, French Frigate Shoals, and Midway Atoll and will effectively image the sandy seafloor areas explored in the atolls. The magnetometer and side scan sonar component of the remote sensing survey are contingent on grant funding and collaborative efforts. In the event that the funding does not materialize, snorkeler tow boarding may be used to locate potential heritage resource sites in a similar manner.

Diagnostic artifacts are helpful for wreck site identification. Additionally, artifacts become invaluable means of education and outreach for the public, particularly for remote sites that visitors may never get to visit. Recovery, conservation and display of an intact "ginger jar" at the Two Brothers whaling shipwreck site at French Frigate Shoals will assist maritime heritage managers in further research relative to this highly significant shipwreck site, and will allow an important artifact to be shared with the public, adding to the broad interpretation of the site and history of the Monument. The ginger jar is a highly significant artifact, and may hold important clues as to details about shipboard life on the Two Brothers including cargo and usage of these types of ceramic vessels. This type of artifact is unique and holds great research potential due to the fact that this is the only Nantucket whaler discovered in an archaeological context. Removal consists of collecting the ginger jar (approximately 12 inches long and 6 inches wide) from a surface of coralline algae and placing it into a padded container underwater and carefully transporting them to the dive boat and main vessel. Any sediment, encrustation or substrate attached to the artifact will be removed in situ. All artifact recovery activities will be conducted according to strict protocol and with the highest level of sensitivity to natural, cultural and historic resources.

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

2012 maritime heritage project data (site survey, outreach film development, exploration and remote sensing, artifact recovery and monitoring) will contribute to the management inventory for the PMNM, as well as provide the program invaluable material for ongoing education and outreach efforts. Monitoring work at maritime heritage sites in 2012 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. 2012's monitoring efforts at shipwreck sites will continue a project initiated in 2009 and will assist in better understanding the changes occurring at these sites. 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.

**Other information or background:**

The 2012 maritime heritage survey will be the first dedicated effort to collect high definition video footage for public education and outreach at the Two Brothers shipwreck site. No previous maritime heritage missions have included the capacity for video documentation. Additionally, with a dedicated maritime heritage team there is great potential to explore and discover more elements of the Two Brothers shipwreck site. Though the site to date includes a collection of whalecraft exceeding one hundred artifacts, maritime archaeologists believe we have yet to find the bow section of the ship.

The 2012 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.

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 because they allow managers to fully understand the sites they are mandated to protect.

Survey work in 2012 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 2012 will continue these efforts, focusing on non-invasive non-excavation data recording at selected heritage sites at Midway, Pearl and Hermes Atoll, Lisianski, and French Frigate Shoals, as well as the recovery of a diagnostic artifact from a shipwreck site at French Frigate Shoals (Section 106 compliance pending).

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 2012 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 PMNM Management Plan and PMNM Maritime Heritage Research, Education and

Management Plan. 2012 work will also include significant education and outreach initiatives and the continued interpretation of the Two Brothers shipwreck site.