Papahānaumokuākea Marine National Monument

CONSERVATION AND MANAGEMENT Permit Application

NOTE: ***This Permit Application (and associated Instructions) are to propose activities to be conducted in the Papahānaumokuākea Marine National Monument. The Co-Trustees are required to determine that issuing the requested permit is compatible with the findings of Presidential Proclamation 8031. Within this Application, provide all information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Papahānaumokuākea Marine National Monument (Monument).***

ADDITIONAL IMPORTANT INFORMATION:

- Any or all of the information within this application may be posted to the Monument website informing the public on projects proposed to occur in the Monument.

- In addition to the permit application, the Applicant must either download the Monument Compliance Information Sheet from the Monument website OR request a hard copy from the Monument Permit Coordinator (contact information below). The Monument Compliance Information Sheet must be submitted to the Monument Permit Coordinator after initial application consultation.

- Issuance of a Monument permit is dependent upon the completion and review of the application and Compliance Information Sheet.

INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED

Send Permit Applications to:
Papahānaumokuākea Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300
Honolulu, HI 96825
nwhipermit@noaa.gov
PHONE: (808) 397-2660 FAX: (808) 397-2662

SUBMITTAL VIA ELECTRONIC MAIL IS PREFERRED BUT NOT REQUIRED. FOR ADDITIONAL SUBMITTAL INSTRUCTIONS, SEE THE LAST PAGE.

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: Papahanaumokuakea 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 signficant shipwreck site located in PMNM, and has generated worldwide interest through its identification in early 2011. This shiprweck 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 collabroative efforts. In the even 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 signficant 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 occuring 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 multidiciplinary 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.

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Gleason, Kelly, A.

Title: Maritime Archaeologist, Papahanaumokuakea Marine National Monument

1a. Intended field Principal Investigator (See instructions for more information):
Dr. Kelly Gleason

2. Mailing address (street/P.O. box, city, state, country, zip): [redacted]

Phone: [redacted]

Fax: [redacted]

Email: [redacted]

For students, major professor's name, telephone and email address:

3. Affiliation (institution/agency/organization directly related to the proposed project):
PMNM/NOAA/ONMS

4. Additional persons to be covered by permit. List all personnel roles and names (if known at time of application) here (e.g. John Doe, Research Diver; Jane Doe, Field Technician):

1) Jason Raupp (research diver/maritime archaeologist)

2) Stephani Gordon (underwater filmmaker)

3) Cathy Green (research diver/maritime archaeologist)

4) To be determined (research diver/biologist)

5) To be determined (research diver/maritime archaeologist)

Section B: Project Information

5a. Project location(s):

		Ocean Based	
☒ Nihoa Island	☐ Land-based	☒ Shallow water	☒ Deep water
☒ Necker Island (Mokumanamana)	☐ Land-based	☒ Shallow water	☒ Deep water
☒ French Frigate Shoals	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Gardner Pinnacles	☐ Land-based	☒ Shallow water	☒ Deep water
☒ Maro Reef			
☒ Laysan Island	☐ Land-based	☒ Shallow water	☒ Deep water
☒ Lisianski Island, Neva Shoal	☐ Land-based	☒ Shallow water	☒ Deep water
☒ Pearl and Hermes Atoll	☐ Land-based	☒ Shallow water	☒ Deep water
☒ Midway Atoll	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Kure Atoll	☐ Land-based	☒ Shallow water	☒ Deep water
☐ Other			

NOTE: There is a fee schedule for people visiting Midway Atoll National Wildlife Refuge via vessel and aircraft.

Location Description:

Special note: specific location (latitude/longitude) for historically significant heritage resources is sensitive data—not to be distributed publicly. Locations for 2012 maritime heritage work have been provided to the Monument Permit Coordinator.

5b. Check all applicable regulated activities proposed to be conducted in the Monument:

☒ Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving Monument resource
☐ Drilling into, dredging, or otherwise altering the submerged lands other than by anchoring a vessel; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands
☐ Anchoring a vessel
☐ Deserting a vessel aground, at anchor, or adrift
☐ Discharging or depositing any material or matter into the Monument
☒ Touching coral, living or dead
☐ Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument
☐ Attracting any living Monument resource

☐ Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)
☐ Subsistence fishing (State waters only)
☒ Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

6 Purpose/Need/Scope ***State purpose of proposed activities:***

The Monument's ongoing efforts to inventory, document, and protect its maritime heritage sites have been instrumental in opening a window into the NWHI's seafaring past, and they have contributed materially to a growing body of knowledge about humans' historical interaction with the sea. Research is a critical maritime heritage activity that is called out in the Monument Management Plan. In addition to fulfilling mandates for inventory of maritime heritage resources, field research provides the body of knowledge that supports education and outreach efforts.

Over 60 shipwrecks have been recorded in the NWHI, some dating back to 1805. Many of these wrecks are important heritage resources, capturing the maritime history of the region. Furthermore, state and federal preservation legislation mandate the surveying of historic shipwreck sites and the production of submerged cultural resource management plans for historically significant material. Due to time constraints in the NWHI, surveys of any sites can only be partially completed during any single season. The work to be conducted in 2012 will continue upon investigation from previous years, explore for new historic resource sites, recover an artifact for the purposes of idenfication of a shipwreck site and the development of outreach products (exhibits), and collect video footage for the development of a Two Brothers documentary.

The proposed work is part of the long term archaeological survey for maritime heritage resources in the Papahanaumokuakea Marine National Monument. Federal preservation initiatives mandate the inventory, assessment and protection of cultural, archaeological, and historical resources within federally managed waters. 2012 proposed survey features non-invasive recording techniques for the discovery, identification and assessment of submerged heritage resources as part of this mandate, and will conduct artifact recovery in accordance with all applicable standards

(Conditions for the Custody and Care of Navy Historical Property, Annexed Rules of the UNESCO Convention on the Protection of Underwater Cultural Heritage, attached) .

The purpose of the 2012 survey is to better understand the existing maritime heritage resources in the Monument. Inventory and site assessment are critical parts of resource management and ocean stewardship. The Maritime Heritage Survey team plans to continue non-invasive survey of selected maritime heritage resource sites initiated in previous field seasons in the NWHI and attempt to identify unknown sites, and survey for new shipwreck and sunken aircraft sites, Additionally, the 2012 survey will continue efforts to take Monument maritime heritage research in a new direction with the multidisciplinary survey and monitoring the shipwreck and sunken aircraft sites in the NWHI.

7. Answer the Findings below by providing information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Monument:

The Findings are as follows:

a. How can the activity be conducted with adequate safeguards for the cultural, natural and historic resources and ecological integrity of the Monument?

The activity will be conducted with adequate safeguards for the resources and ecological integrity of the Monument. This project is part of a continuing effort to identify, interpret and protect maritime heritage resources in the Papahanaumokuakea Marine National Monument. Proposed work will be led by PMNM maritime heritage program staff, who have been involved in maritime heritage research (archival as well as field) for over nine years. Methodology and research continues to improve annually as the team's experience grows. Proposed heritage work in the NWHI emphasizes a low-impact approach, to an extent consistent with the Monument's conservation goals and objectives. Section 106 NHPA compliance will be submitted to the State Historic Preservation Office and OHA for review. NEPA permit is pending for this activity.

All maritime heritage scientists will participate in a cultural briefing prior to entering the Monument. The team will respect all resources both natural and cultural. The primary permittee will consult with OHA and the Native Hawaiian Coordinator at the PMNM on cultural sensitivies, as well as the applicability of these activities to OHA and the Native Hawaiian Coordinator's efforts for the PMNM. No archaeological work will take place near any known native Hawaiian archaeological sites. If any native Hawaiian sites should be discovered, the proper experts will be notified and consulted immediately. Plans to collaborate with Native Hawaiian Program staff at PMNM will allow for further understanding and interpretation of the cultural significance of the Monument.

b. How will the activity be conducted in a manner compatible with the management direction of this proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument cultural, natural and historic resources, qualities, and ecological integrity, any indirect, secondary, or cumulative effects of the activity, and the duration of such effects?

The proposed project will have minimal impact on the resources of the region. The research consists primarily of non-invasive visual surveys. This research is being conducted in concert with the priorities listed in the Maritime Heritage Action Plan of the Monument's Management Plan (inventory and assessment, as well as education and outreach) and the Monument's Maritime Heritage Research, Education and Management Plan. The strategies proposed are designed to increase our understanding of maritime heritage resources and foster effective and protective management in the Monument. This project will also include multidisciplinary and partnership efforts towards increasing stewardship and enhancement of Monument goals and resources. Additionally, this project will facilitate the Monument's effort to "bring the place to the people, rather than the people to the place" through outreach and education efforts that will share PMNM resources with a broad audience.

c. Is there a practicable alternative to conducting the activity within the Monument? If not, explain why your activities must be conducted in the Monument.

There is no practicable alternative to conducting the activities in the Monument. Annual maritime heritage surveys are necessary to indentify, document and protect the maritime heritage resources in the Papahanaumokuakea Marine National Monument.

Additionally, these surveys contribute to education and outreach efforts regarding maritime heritage resources in the PMNM. These activities directly relate to activities in the Monument's management plan and the Monument's Maritime Heritage Research, Education and Management Plan.

d. How does the end value of the activity outweigh its adverse impacts on Monument cultural, natural and historic resources, qualities, and ecological integrity?

The proposed activities have been identified as vital to the future management of the Monument and and will have no adverse impact on the resources, qualities and ecological integrity of the Monument. Additionally, the opportunity to conduct important education and outreach activities through the development of a short film, exhibits, web presence, presentations and articles will assist in Monument's efforts to promote stewardship and protection of resources, both natural and cultural. This project will serve to continue ongoing efforts to develop a multi-dimensional approach to understanding these maritime heritage sites in the NWHI. Work to develop a monitoring program based upon multidisciplinary parameters will help to better understand if there are impacts up on maritime heritage sites from climate change and other natural events.

Prior work by PMNM maritime archaeologists have demonstrated the broad, long term value of maritime heritage work in the NWHI. Annual expeditions have resulted in documentary films, magazine, journal and newspaper articles, television news coverage, award winning museum exhibits and websites conveying the research and findings to the public.

e. Explain how the duration of the activity is no longer than necessary to achieve its stated purpose.

A minimal amount of time will be spent at each location depending on weather and oceanographic conditions.

f. Provide information demonstrating that you are qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.

Personnel included in this permit application have extensive experience conducting research in the Monument, and with all archaeological and ecological methods that will be utilized. This is a continuance of a multi-year project. All methods are primarily non-invasive. PMNM Native Hawaiian staff, as well as OHA and cultural practitioners will be consulted in order to further avoid any potential impacts.

g. Provide information demonstrating that you have adequate financial resources available to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.

This cruise and subsequent data analyses are supported by an allocation of 46 days at sea (one dedicated maritime heritage research cruise, and one biogeography cruise on which the PMNM maritime heritage coordinator will be working) aboard the NOAA ship HIIALAKAI from NOAA's Office of Marine and Aviation Operations, a line item in the budget of NOAA's Papahanaumokuakea Marine National Monument, and an allocation of funds from NOAA's Coral Reef Conservation Program to NOAA Pacific Islands Fisheries Science Center.

PMNM Maritime Heritage Program Coordinator applied for a Preserve America Grant to assist with the funding of the Two Brothers short film documentary. Awardees will be notified in April of 2012.

h. Explain how your methods and procedures are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument cultural, natural and historic resources, qualities, and ecological integrity.

The research consists primarily of non-invasive surveys (both archaeological and ecological). Any artifact recovery will follow proper protocol (Conditions for the Custody and Care of Navy Historical Property, Annexed Rules of the UNESCO Convention on the Protection of Underwater Cultural Heritage) and undergo Section 106 and NEPA clearance. PMNM Native Hawaiian Program staff, OHA and cultural practitioners will be consulted in order to further avoid any potential impacts.

i. Has your vessel has been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of Presidential Proclamation 8031?

The NOAA research vessel Hi'ialakai has been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of the Presidential Proclamation 8031.

j. Demonstrate that there are no other factors that would make the issuance of a permit for the activity inappropriate.

There are no other factors that would make the issuance of a permit for the activities inappropriate.

8. Procedures/Methods:

Methods:

Individual site assessment survey, remote sensing survey, artifact recovery and still photography are primary objectives, and monitoring and site/environmental data are secondary objectives, of the proposed 2012 maritime heritage project. Where possible, survey locations are prioritized, providing flexible alternatives in case of rough weather, other mission priorities, etc. The following methods will be employed for each of the four proposed 2012 objectives:

1) site assessment survey

Baseline trilateration and measured sketching will provide data for the initiation of the site map. Trilateration and the creation of a site map consists of sketching major features and measuring distances between artifacts in reference to a fixed temporary baseline, and is a time-consuming task. Divers deploy a temporary baseline, replicating previous surveys by attaching the baseline to fixed stainless steel datums. Survey tapes, slates with mylar “paper,” and pencils and then used to triangulate the position of all artifacts in reference to the fixed reference line. In addition, digital photography are used to document feature and artifact details, as well as record the survey process itself. Artifacts and features are temporarily tagged with numbers and photographed in-place. Also, hand-held metal detectors are used to confirm/eliminate the presence of

iron within sediments or substrate, and limited hand fanning of loose sediments and limited sediment probing is used to record details of artifacts and site boundaries. Typically, remote sensing survey methods are also employed in the vicinity when available to help determine site boundaries during individual site survey.

Equipment:
- Underwater slates
- Transect tapes
- Pencils
- Folding rulers
- Gear bags
- Open-circuit scuba
- Photo scales
- Plastic artifact tags
- Garmin GPS units and waterproof boxes
- Site buoy

2) remote sensing survey

Exploration for new maritime heritage sites requires the use of remote sensing tools to cover large areas of the seafloor in the limited time allotted during research expeditions. This is an important component of the complete inventory of maritime heritage resources in PMNM. Remote sensing survey locates anomalies and potential maritime heritage resources for subsequent site assessments. The surface vessel tows a remote magnetometer and side scan sonar sensor (towfish) at approximately 4 knots/hour on linear parallel tracks at or near the surface for shallow zones, recording variations in the localized magnetic field (gamma). The data is processed shipboard. This work will build upon magnetomter and side scan sonar work conducted in 2010. 2012 methodology for side scan sonar and magnetometer work will not change from 2010 work (see attached report from 2010 side scan sonar and magnetometer work). Because magnetometer and side scan survey is dependent on partnerships in 2012 (with National Park

Service), a second alternative, diver tow boarding has been identified for the purposes of exploration of large survey areas. Though not technically “remote sensing” (divers in the water doing real-time visual survey), this method is sometimes used to supplement normal remote sensing. Diver survey is particularly helpful in shallow areas of extreme topographical variation. Any potential diver tow boarding operations during 2012 will be conducted only following established training provided by NOAA NMFS and along established NOAA NMFS tow boarding protocols for the NWHI. Diver will be towed at appoximately 3 knots/hour.

Equipment: Marine Magnetics Explorer Mini Magnetometer
Klein Model 3000 Side Scan Sonar
Tow boards
Laptop
HyPack survey software
Honda eu2000i generator or marine 12v batteries

3) Monitoring sites

Monitoring sites employs a small subset of the same methods used for initial site survey. Slates, tapes, and (if necessary) temporary re-deployment of the baseline are used to confirm possible movement of features or artifacts. Digital photography is used to generate comparative data on the condition of features and changes to the natural environment (sediment level, etc.). Utilizing environmental parameters generated through Smith's 2009-2010 surveys of maritime heritage sites in the Hawaiian Islands, data will be collected about environmental changes in the sites over time. All surveys will be non-invasive and include collecting data along transect lines. Data will include fish surveys and benthic habitat assessments. All surveys will be non-invasive and will not include any collections or deployment of instruments.

Equipment: Underwater slates

Transect tapes

Pencils

Gear bags

Camera

Site buoy

4) Video collection

For the purposes of education and outreach, a short, documentary film piece about the Two Brothers shipwreck site will be developed during the 2012 maritime heritage research cruise. This video will focus on the history, discovery and ongoing interpretation of the shipwreck site Two Brothers at French Frigate Shoals. This site is probably the most signficant maritime heritage site located within Monument waters and holds the potential to capture an international audience with a compelling story about seafaring disaster and the role of the whaling industry in the Pacific in the early 19th century. This film represents an ongoing effort to communicte the signficance of this important site with the public. A NOAA filmmaker with extensive experience diving and working in the Northwestern Hawaiian Islands will be contracted to conduct this work. This film will be used at Mokupapapa Discovery Center and other outreach centers, public presentations, conferences, film festivals, and as a product to hand out to the public. This film is an important way that Monument managers can bring the "place to the people, rather than the people to the place."

Open-circuit scuba

HD Sony digital video camera and housing

5) Artifact recovery (marine sites)

Artifact removal, assessment and documentation:

Diagnostic artifacts are necessary for wreck site identification, and artifacts become important tools for research to help fully interpret and understand the site and its history. Additionally, artifacts become invaluable means of education and outreach for the

public, particularly for remote sites that visitors may never get to see in person. The ginger jar proposed for recovery in 2012 from the Two Brothers shipwreck site at French Frigate Shoals will assist Monument maritime heritage managers in their ongoing research at the Two Brothers shipwreck site, the only known Nantucket whaling ship discovered in an archaeological context. Because we still know very little about the daily activities and cargo on board whaling vessels in the Pacific in the early 19th century, this artifact is an example of the way that archaeology can fill in gaps in history. Its contents may provide clues about the cargo of the Two Brothers and open up a window into better understanding daily life on board the vessel. Removal consists of collecting the ginger jar (approximately 12 inches long and 6 inches wide) from a surface of coralline algae and carefully transporting it to the dive boat and main vessel in a padded container filled with saltwater made to fit the artifact. Any sediment, encrustation or substrate attached to the artifact will be removed in situ with wire brushes and a wooden scraper.

Once the artifact is carefully recovered from the shipwreck site by NOAA maritime archaeologists, the object will be fully documented in the Hi'ialakai's wet lab. The ginger jar will be assigned an artifact field number immediately upon return to the research vessel, followed by complete photo documentation, including bar scale, date, and field number. The artifact will be measured and sketched, note being made of any markings and diagnostic features. The artifact will then be stored submerged in fresh water and transported wet. This prevents hardening of calcium carbonate deposits. Once in Honolulu, proper treatment of this water will take place (see attached protocol). Following treatment, the artifact will be delivered to the curatorial facility in Hilo for further study and public display.

All proper artifact transport protocol will be followed. Please see attached protocol methodology.

Although we do not anticipate touching coral (living or dead), in the unlikley even that this action is taken during artifact recovery or site surveys, the utmost care will be taken to cause no detectable harm to coral or surrounding habitat. Acitvities in 2012 are primarily non-intrusive and will strive fully minimize impact upon all survey sites.

For the purposes of education and outreach,, select members of the maritime heritage team may request access to Tern Island at French Frigate Shoals. Maritime archaeologists would like to communicate their work and findings to Tern Island staff, as well as potentially conduct interviews and collect film footage on Tern Island for the Two Brothers documentary film.

NOTE: If land or marine archeological activities are involved, contact the Monument Permit Coordinator at the address on the general application form before proceeding, as a customized application will be needed. For more information, contact the Monument office on the first page of this application.

9a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):

Common name:
Ceramic Ginger Jar

Scientific name:
N/A

& size of specimens:
1

Collection location:
French Frigate Shoals

☒ Whole Organism ☐ Partial Organism

9b. What will be done with the specimens after the project has ended?
Once the ship returns to Honolulu, the artifact will immediately be shipped to a conservation facility in Chico, California (same facility that conducted all prior PMNM artifact conservation

work). Following conservation and treatment, the artifact will be returned to Hilo, Hawaii and the curatorial facility for the artifact will be the Mokupapapa Discovery Center in Hilo, Hawaii where the artifact will be available to the public for research and display.

9c. Will the organisms be kept alive after collection? ☐ **Yes** ☒ **No**

N/A, there will be no collection of organisms. In the extremely unlikely event that organisms are found on the artifact, PMNM maritime archaeologist will immediately consult with PMNM Resource Protection Specialist who will be working on the same cruise. The organisms will be tranfered to the PMNM NOAA/NOS/ONMS Resource Protection Specialist.

• General site/location for collections:

Shark Island, FFS

• Is it an open or closed system? ☐ Open ☐ Closed

N/A

• Is there an outfall? ☐ Yes ☐ No

N/A

• Will these organisms be housed with other organisms? If so, what are the other organisms?

N/A

• Will organisms be released?

N/A

10. If applicable, how will the collected samples or specimens be transported out of the Monument?

Removal of the artifact from the seafloor consists of collecting the ginger jar (approximately 12 inches long and 6 inches wide) from a surface of coralline algae and carefully transporting it to the dive boat and main vessel in a padded container filled with saltwater made to fit the artifact. Any sediment, encrustation or substrate attached to the artifact will be removed in situ with wire brushes and a wooden scraper.

Once the artifact is carefully recovered from the shipwreck site by NOAA maritime archaeologists, the object will be fully documented in the Hi'ialakai's wet lab. The ginger jar will be assigned an artifact field number immediately upon return to the research vessel, followed by complete photo documentation, including bar scale, date, and field number. The artifact will be measured and sketched, note being made of any markings and diagnostic features. The artifact will then be stored submerged in fresh water and transported wet. This prevents hardening of

calcium carbonate deposits. Once in Honolulu, proper treatment of this water will take place (see attached protocol). Following treatment, the artifact will be delivered to the curatorial facility in Hilo for further study and public display.

11. Describe collaborative activities to share samples, reduce duplicative sampling, or duplicative research:

Currently, NOAA's Maritime Heritage Program is the only agency engaged in maritime heritage survey in the PMNM. 2012 project work includes collaboration with ONMS Northeast Region Staff, Flinders University in Australia, NOAA NMFS Coral Program, National Park Service, and Open Boat Films.

12. List all specialized gear and materials to be used in this activity:

Equipment:
- Underwater slates
- Transect tapes
- Pencils
- Folding rulers
- Gear bags
- Open-circuit scuba
- Photo scales
- Plastic artifact tags
- Garmin GPS units and waterproof boxes
- Site buoy
- Wire brush, wooden scraper,
- Mesh bag and towels.

13. List all Hazardous Materials you propose to take to and use within the Monument:

N/A

14. Describe any fixed installations and instrumentation proposed to be set in the Monument:

N/A

15. Provide a time line for sample analysis, data analysis, write-up and publication of information:

Initial results will be reported in the Cruise Report. Site reports resulting from this cruise will be finalized by June 2013. Data from this project will consist of site and artifact

inventory development, site maps, digital still images and digital video products. A summary descriptive project report (activity report) including abstract, major accomplishments, participants, activity log, results of work to date, and proposed schedule of final report will be completed by December 31, 2012. A final report including heritage background, site descriptions, methodology, results, project evaluation and recommendations for maritime heritage resource management will be completed by July 2013. Data and report from this proposal will be sufficient to provide presentations at annual maritime history and maritime archaeology symposiums (for example Society for Historical Archaeology, Society for Hawaiian Archaeology, Symposium on the Maritime Archaeology and History of Hawai`i and the Pacific), and presentations will be made available upon request. Preservation-related data from the 2012 field season will also contribute to heritage preservation material on the Monument's Maritime Heritage Program web page (www.papahanaumokuakea.gov). .

16. List all Applicant's publications directly related to the proposed project:

Papahänaumokuäkea Marine National Monument. 2011. Maritime Heritage Research, Education, and Management Plan: Papahänaumokuäkea Marine National Monument. Honolulu, Hawai'i. 97 pages.

Delgado, J.P. and K. Gleason. Lighting Strikes Twice. The Explorers Journal. 89:1, Spring 2011.

Raupp, Jason and Kelly Gleason. Submerged whaling heritage in Papahänaumokuäkea Marine National Monument. Bulletin of the Australian Institute for Maritime Archaeology (2010), 34: 66-74.

Kelly Gleason and Jason Raupp. Lost and Found In Papahänaumokuäkea Marine National Monument: The Possible Wreck Site of the Nantucket Whaleship Two Brothers. Historic Nantucket, (Volume 60, No. 3) Fall 2010.

With knowledge of the penalties for false or incomplete statements, as provided by 18 U.S.C. 1001, and for perjury, as provided by 18 U.S.C. 1621, I hereby certify to the best of my abilities under penalty of perjury of that the information I have provided on this application form is true and correct. I agree that the Co-Trustees may post this application in its entirety on the Internet. I understand that the Co-Trustees will consider deleting all information that I have identified as "confidential" prior to posting the application.

_____ _____

Signature Date

SEND ONE SIGNED APPLICATION VIA MAIL TO THE MONUMENT OFFICE BELOW:

Papahānaumokuākea Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300
Honolulu, HI 96825
FAX: (808) 397-2662

DID YOU INCLUDE THESE?

☒ Applicant CV/Resume/Biography
☐ Intended field Principal Investigator CV/Resume/Biography
☒ Electronic and Hard Copy of Application with Signature
☒ Statement of information you wish to be kept confidential
☐ Material Safety Data Sheets for Hazardous Materials