

State of Hawaii  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Aquatic Resources  
Honolulu, Hawaii 96813

September 27, 2013

Board of Land  
and Natural Resources  
Honolulu, Hawaii

Request for Authorization and Approval to Issue a Papahānaumokuākea Marine National Monument Research Permit to Drs. Christopher Winn and Samuel Kahng, Hawai'i Pacific University, for Access to State Waters to Conduct Seawater Carbon Research Activities

The Division of Aquatic Resources (DAR) hereby submits a request for your authorization and approval for issuance of a Papahānaumokuākea Marine National Monument research permit to Drs. Christopher Winn and Samuel Kahng (Applicants), Associate Professors, Hawai'i Pacific University, pursuant to § 187A-6, Hawaii Revised Statutes (HRS), chapter 13-60.5, Hawaii Administrative Rules (HAR), and all other applicable laws and regulations.

The research permit, as described below, would allow entry and activities to occur in Papahānaumokuākea Marine National Monument (Monument), including the NWHI State Marine Refuge and the waters (0-3 nautical miles) surrounding the following sites:

- French Frigate Shoals
- Nihoa Island
- Mokumanamana (Necker Island)

The activities covered under this permit would occur between October 1, 2013 and September 30, 2014.

The Applicants and the proposed seawater sampling activities are largely a renewal of work previously permitted and conducted in the Monument.

INTENDED ACTIVITIES

The Applicants propose to collect seawater (less than 40 L of seawater total) from surface waters surrounding Nihoa, Mokumanamana, and French Frigate Shoals, for assessing and documenting changing seawater carbonate chemistry in the Monument. All water samples would be fixed (or preserved) on-board the vessel with mercuric chloride with no more than 30 milliliters of mercuric chloride used in total. No mercuric chloride will be introduced to the environment. A hand-held device will be used to measure surface seawater temperature and salinity. All

sampling would be done at the surface waters (less than 10 m in depth) and the seafloor will not be disturbed at any location.

The Applicants and four (4) researchers would be authorized to conduct activities aboard the M/V SEARCHER (separately permitted under PMNM-2013-001) during a cruise to the Monument scheduled for October 4 to 15, 2013. The collection of water samples would be manually collected from shallow surface water off small boats (SEARCHER tender vessels).

The proposed activities are in direct support of the Monument Management Plan's (MMP) priority management needs through 3.1.1 – Marine Conservation Science Action Plan (Strategy MCS-1: Continuing to enhance research, characterization and monitoring of marine ecosystems for the life of the plan). Strategy MCS-1 focuses on “continuing marine research, characterization, and monitoring designed to support an ecosystem-based approach to protection and management”. The proposed project fits into this Strategy because it would improve the understanding of seawater carbonate chemistry of the water surrounding the islands and atolls of the Monument. This study would characterize the carbon system dynamics within the Monument and continue long-term ocean acidification monitoring.

The activities described above may require the following regulated activities to occur in State waters:

- Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving monument resource

#### REVIEW PROCESS:

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site since August 2, 2013, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

#### **Comments received from the scientific community are summarized as follows:**

Scientific reviews support the acceptance of this application. No concerns were raised.

#### **Comments received from the Native Hawaiian community are summarized as follows:**

Cultural reviews support the acceptance of this application. No concerns were raised.

#### **Comments received from the public are summarized as follows:**

No comments were received from the public on this application. No concerns were raised.

**Additional reviews and permit history:**

Are there other relevant/necessary permits or environmental reviews that have or will be issued with regard to this project? (e.g. MMPA, ESA, EA)      Yes       No

If so, please list or explain:

- The proposed activities are in compliance with the National Environmental Policy Act.
- The Department has made an exemption determination for this permit in accordance chapter 343, HRS, and Chapter 11-200, HAR. See Attachment (“DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200 HAR, FOR PAPAHA NAUMOKU AKEA MARINE NATIONAL MONUMENT RESEARCH PERMIT TO DR. CHRISTOPHER WINN AND SAMUEL KAHNG, HAWAII PACIFIC UNIVERSITY, FOR ACCESS TO STATE WATERS TO CONDUCT SEAWATER CARBON RESEARCH ACTIVITIES UNDER PERMIT PMNM-2013-025”)

Has Applicant been granted a permit from the State in the past? Yes       No

If so, please summarize past permits:

- The applicant was granted permit PMNM-2009-045 in 2009, PMNM-2010-039 in 2010, PMNM-2011-021 in 2011, and PMNM-2012-041 in 2012 to conduct similar work.

Have there been any a) violations:      Yes       No   
 b) Late/incomplete post-activity reports:      Yes       No

Are there any other relevant concerns from previous permits?      Yes       No

**STAFF OPINION:**

DAR staff is of the opinion that Applicant has properly demonstrated valid justifications for his application and should be allowed to enter the NWHI State waters and to conduct the activities therein as specified in the application with certain special instructions and conditions, which are in addition to the Papahānaumokuākea Marine National Monument Research Permit General Conditions. All suggested special conditions have been vetted through the legal counsel of the Co-Trustee agencies (see Recommendation section).

**MONUMENT MANAGEMENT BOARD OPINION:**

The MMB is of the opinion that the Applicant has met the findings of Presidential Proclamation 8031 and this activity may be conducted subject to completion of all compliance requirements. The MMB concurs with the special conditions recommended by DAR staff.

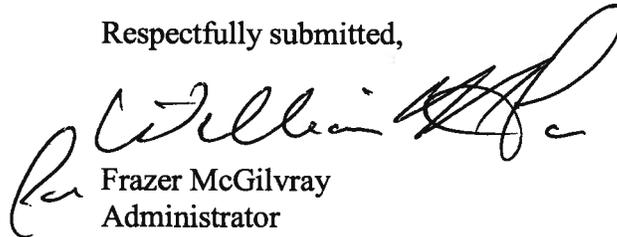
**RECOMMENDATION:**

Based on the attached proposed declaration of exemption prepared by the department after consultation with and advice of those having jurisdiction and expertise for the proposed permit actions:

1. That the Board declare that the actions which are anticipated to be undertaken under this permit will have little or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.
2. Upon the finding and adoption of the department's analysis by the Board, that the Board delegate and authorize the Chairperson to sign the declaration of exemption for purposes of recordkeeping requirements of chapter 343, HRS, and chapter 11-200, HAR.
3. That the Board authorize and approve a Research Permit to Drs. Christopher Winn and Samuel Kahng, Hawai'i Pacific University, with the following special conditions:
  - a. This permit is not to be used for nor does it authorize the sale of collected organisms. Under this permit, the authorized activities must be for noncommercial purposes not involving the use or sale of any organism, by-products, or materials collected within the Monument for obtaining patent or intellectual property rights.
  - b. The permittee may not convey, transfer, or distribute, in any fashion (including, but not limited to, selling, trading, giving, or loaning) any coral, live rock, or organism collected under this permit without the express written permission of the Co-Trustees.
  - c. To prevent the introduction of disease or the unintended transport of live organisms, the permittee must comply with the disease and transport protocol attached to this permit.
  - d. Tenders and small vessels must be equipped with engines that meet EPA emissions requirements.
  - e. Refueling of tenders and all small vessels must be done at the support ships and outside the confines of lagoons or near-shore waters in the State Marine Refuge.
  - f. If there is any Hawaiian monk seal or any other protected species in the area when performing any permitted activity shall cease until the animal(s) depart the area, except as permitted for specific management of that species.

- g. No fishing is allowed in State Waters except as authorized under State law for subsistence, traditional, or customary practices by Native Hawaiians.

Respectfully submitted,



Frazer McGilvray  
Administrator

APPROVED FOR SUBMITTAL



William J. Aila, Jr.  
Chairperson

**Papahānaumokuākea Marine National Monument**  
RESEARCH 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](mailto: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.**

ITEM F-1a

## **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:** October 4, 2013 through October 18, 2013

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

**Proposed Locations:** The waters surrounding Nihoa Island, Mokumanamana and French Frigate shoals.

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

4

**Estimated number of days in the Monument:** 14

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

a.) The proposed activity would...  
will help Monument managers develop a relatively simple method to assess the impact of changing ocean pH on the reef ecosystems within the monument.

b.) To accomplish this activity we would ....  
collect surface water samples from the research vessel and/or from small boats near and around the coral reefs. These samples will be preserved and returned to Honolulu for analysis. In addition, we will measure surface water temperature and salinity with a simple hand-held device. Surface water samples will be collected at up to 4 times over a complete 24 hour period in order to characterize the relative rate of calcification (the production of new coral reef structure) to photosynthesis (the capture of light energy by plants). Given that ocean acidification is expected to impact the rate of calcification and not photosynthesis, changes in the relative rates of these processes is expected to provide managers with a rubric with which to determine the impact of changing ocean chemistry on the ecosystems within the monument.

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

improving our understanding of the the metabolic processes that create and sustain the reef ecosystems within the monument and by developing a relatively simple and inexpensive method for assessing the impact of ocean acidification.

**Other information or background:**

**Section A - Applicant Information**

**1. Applicant**

Name (last, first, middle initial): Samuel E. Kahng and Chrstopher D, Winn

Title: Associate Professor of Oceanography

**1a. Intended field Principal Investigator (See instructions for more information):**

Sam Kahng/Christopher Winn

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

[REDACTED]  
[REDACTED]  
[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):**

Hawaii Pacific University

[REDACTED]  
[REDACTED]

**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):**

Ms. Andrea Kealoha HPU Graduate Student

Ms. Crystal Coughlin HPU Graduate Student

Papahānaumokuākea Marine National Monument  
Permit Application - Research  
OMB Control # 0648-0548  
Page 5 of 12

Mr. Andrew Collins HPU Graduate Student  
Mr. Stephen Gonski HPU Graduate Student  
Dr. Sam Kahng, HPU Faculty  
Dr. Christopher Winn, HPU Faculty

**Section B: Project Information**

**5a. Project location(s):**

- |  |                                     |   |                                     |
|--|-------------------------------------|---|-------------------------------------|
| <input checked="" type="checkbox"/> Nihoa Island                 | <input type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input checked="" type="checkbox"/> Necker Island (Mokumanamana) | <input type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input checked="" type="checkbox"/> French Frigate Shoals        | <input type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Gardner Pinnacles                       | <input type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Maro Reef                               |                                     |   |                                     |
| <input type="checkbox"/> Laysan Island                           | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Lisianski Island, Neva Shoal            | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Pearl and Hermes Atoll                  | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Midway Atoll                            | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Kure Atoll                              | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water            | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Other                                   |                                     |   |                                     |

**Ocean Based**

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

**Location Description:**

Our sampling will be restricted to the water column. We will not be collecting live animals or collecting other types of samples within the monument.

**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:***

Our research is designed to evaluate a simple method to assess changes in the rates of calcification relative to photosynthesis within the monument. This approach is expected to provide a tool for managers to use to assess change within the monument coral reef ecosystems in response to ocean acidification.

**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?

Our collection small volumes of seawater from the water column surrounding the islands will not impact the emergent islands or submerged reefs in any way. Our personnel will not collect samples via SCUBA and will only obtain samples from the surface ocean.

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?

We are aware of the cultural importance of the Northwestern Hawaiian Islands (NWHI) to Native Hawaiians as being a sacred place. It is understood that Native Hawaiians have always depended on the ocean as a resource (especially in the NWHI) for both sustenance and cultural activities. Coral reefs and the ecosystem surrounding the Hawaiian Archipelago are an important natural resource as well as a cultural asset for Native Hawaiians and all U.S. citizens. These huge calcium carbonate structures may be severely damaged or even completely destroyed by the slowly declining pH in the global ocean. Our research is designed to better understand the carbon chemistry of the ocean waters in and around the Monument and will hopefully be useful in designing strategies for protecting these resources for future generations of Native Hawaiians as well as all people of the Pacific region.

Our sampling work will be compatible with management practices in the monument in that our work will have no impact on any cultural, historic or natural resources in the monument. Water samples will be collected only from the surface ocean and will not affect any cultural, biological or physical features within the monument.

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.

Our samples must be collected from monument waters in order to improve our understanding of the chemical processes within the monument.

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

One of the most fundamental processes within the monument is the precipitation of calcium carbonate by reef building organisms. Calcium carbonate is precipitated by a variety of reef organisms and calcium carbonate also dissolves through both biological and abiotic processes. At the present time, the rate of precipitation is almost certainly greater than the rate of dissolution throughout most of the Monument. However, as the carbon chemistry of the reef environments change it is anticipated that precipitation will decline and dissolution will increase. This is a result of the changes in the solubility of calcium carbonate resulting from a decrease ocean pH and a simultaneous decrease the concentration of the carbonate ion. Our research will improve our understanding of the precipitation and dissolution of calcium carbonate and help to anticipate the impact of ocean acidification on these processes within the monument.

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

We will participate an approximately two-week expedition to the southern most islands in the monument in October 0f 2013. Our visit is part of ongoing observation and research by the Papahānaumokuākea Marine National Monument.

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

Dr. Winn and Dr. Kahng have considerable experience in this area of research. Dr. Winn has participated in research programs focusing on oceanic carbon chemistry for decades. Relevant experience includes participation as principle investigator on the Department of Energy's Global Carbon Survey as part of the International World Ocean Circulation Experiment (WOCE) and the National Science Foundation's Joint Global Ocean Flux (JGOFS) program. These large scale research programs have included similar research on research cruises in virtually all of the world's oceans.

Dr. Kahng has been working in Hawaii's coral reef environment for many years. He has worked on mesopelagic coral species and has extensive experience and expertise in coral reef biology and Ecology. In addition, Dr. Kahng has been conducting a time-series carbon system measurement program in near-shore Hawaiian waters for the past year and has provided some of the first data on carbon system dynamics on exposed coral reef environments in Hawaii.

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.

We are working closely with the Papahānaumokuākea Marine National Monument on this research effort and the monument is funding our participation.

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.

Our sample collection and analysis procedures have been developed over years of similar research and our expertise in the study of the oceanic carbon system will provide important insight into the impact of ocean acidification of the monument. Our research will not involve the collection of any live animals or other materials from the monument. We will collect a total of less than 40 liters of seawater from the monument in 250ml pyrex bottles. The samples will be preserved with mercuric chloride and returned to Honolulu for analysis in our research laboratories. No mercuric chloride will be released into the environment.

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

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

We cannot foresee any conditions that would make issuance of this permit inappropriate

#### **8. Procedures/Methods:**

Our research work involves collecting water samples from monument waters. Water samples will be collected directly from research vessels and no live animals will be collected. In addition, we will measure the temperature and salinity of the surface ocean at the time of sample collection using a hand-held device.

Our sampling plan involves collecting water at specific locations up to 4 times per day. The sampling locations will be determined on the basis of compatibility with other activities being conducted on this research cruise.

**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:

We will not collect any living specimens but we will be collecting seawater samples from the surface water surrounding the islands. We will collect individual water samples of about 250 ml samples for a total of less than 40 liters (approximately 10 gallons). These samples will be returned to Honolulu for analysis and we will not release any chemicals in monument waters.

Scientific name:

# & size of specimens:

Collection location:

Whole Organism  Partial Organism

**9b. What will be done with the specimens after the project has ended?**

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

• General site/location for collections:

Surface water samples within and around the coral reefs environments.

• Is it an open or closed system?  Open  Closed

I don't believe that our sampling fits into either definition. All of our water samples will be drawn from the surface ocean, preserved and returned to Honolulu for analysis

• Is there an outfall?  Yes  No

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

• Will organisms be released?

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

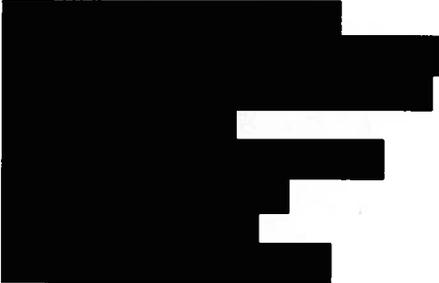
Samples will be returned to Honolulu with the research vessel

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

We anticipate exchanging a few water samples with other laboratories to ensure analytical accuracy and precision. Dr. Andrew Dickson's laboratory at Scripps Institution of Oceanography.

Contact Information:

Dr. Andrew Dickson



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

We will use buckets for water sampling and a hand-held electronic device for the measurement of temperature and salinity

**12b. List all Hazardous Materials you propose to take to and use within the Monument:**

Small amounts of Mercuric Chloride. This chemical will be used for sample preservation only and will not be released into monument waters. We add this chemical to our water samples into order to preserve them for analysis in shore-based laboratories. This chemical is also used sparingly. We will use less than 30 milliliters during the entire expedition.

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

No fixed instruments will be deployed

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

Complete analysis and interpretation will require approximately one year following the completion of the cruise. Our data will be compiled in a data report that will be submitted to the NOAA Monument program. The data report for our 2009, 2010 and 2011 sampling seasons are now complete. The report for 2012 will be assembled once the analytical work for that year is complete. Our data reports will be submitted to the monument approximately 12 months after the completion of our annual sampling. We have already presented the results of our work at several scientific conferences and have written two manuscript for publication in the peer-reviewed literature which are currently under peer-review.

**15. List all Applicants' publications directly related to the proposed project:**

Please see attached C.V.

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

## **Papahānaumokuākea Marine National Monument Compliance Information Sheet**

**1. Updated list of personnel to be covered by permit. List all personnel names and their roles here (e.g. John Doe, Diver; Jane Doe, Field Technician, Jerry Doe, Medical Assistant):** Andrea Kealoha, Scientist; Crystal Coughlin, Scientist

**2. Specific Site Location(s): (Attach copies of specific collection locations):** Shallow water areas (<10 m) near Nihoa, Mokumanamana, and FFS

**3. Other permits (list and attach documentation of all other related Federal or State permits):** None

**3a. For each of the permits listed, identify any permit violations or any permit that was suspended, amended, modified or revoked for cause. Explain the circumstances surrounding the violation or permit suspension, amendment, modification or revocation.** None

**4. Funding sources (Attach copies of your budget, specific to proposed activities under this permit and include funding sources. See instructions for more information):** Papahānaumokuākea Marine National Monument

**5. Time frame:**

Activity start: Oct 8th

Activity completion: Oct 19th

Dates actively inside the Monument:

From: Oct 7

To: Oct 18th

Describe any limiting factors in declaring specific dates of the proposed activity at the time of application: Weather is always a factor when considering the time frame of the proposed activity

ITEM F-1b

Personnel schedule in the Monument: FFS (10/10-10/12) Mokumanamana (10/13-10/14)  
Nihoa (10/16-10/17)

**6. Indicate (with attached documentation) what insurance policies, bonding coverage, and/or financial resources are in place to pay for or reimburse the Monument trustees for the necessary search and rescue, evacuation, and/or removal of any or all persons covered by the permit from the Monument:** Hawaii Pacific University covers insurance for students participating in research activities

**7. Check the appropriate box to indicate how personnel will enter the Monument:**

- Vessel  
 Aircraft

Provide Vessel and Aircraft information: Searcher

**8. The certifications/inspections (below) must be completed prior to departure for vessels (and associated tenders) entering the Monument. Fill in scheduled date (attach documentation):**

- Rodent free, Date:  
 Tender vessel, Date:  
 Ballast water, Date:  
 Gear/equipment, Date:  
 Hull inspection, Date:

**9. Vessel information (NOTE: if you are traveling aboard a National Oceanic and Atmospheric Administration vessel, skip this question):**

Vessel name: Searcher

Vessel owner:

Captain's name:

IMO#:

Vessel ID#:

Flag:

Vessel type:

Call sign:

Embarkation port:

Last port vessel will have been at prior to this embarkation:

Length:

Gross tonnage:

Total ballast water capacity volume (m3):

ITEM F-1b

Total number of ballast water tanks on ship:  
Total fuel capacity:  
Total number of fuel tanks on ship:  
Marine Sanitation Device:  
Type:

Explain in detail how you will comply with the regulations regarding discharge in the Monument. Describe in detail. If applicable, attach schematics of the vessel's discharge and treatment systems:

Other fuel/hazardous materials to be carried on board and amounts:

Provide proof of a National Oceanic and Atmospheric Administration (NOAA) Office of Law Enforcement-approved Vessel Monitoring System (VMS). Provide the name and contact information of the contractor responsible for installing the VMS system. Also describe VMS unit name and type:

VMS Email:  
Inmarsat ID#:

\* Individuals MUST ENSURE that a type-approved VMS unit is installed and that its automatic position reports are being properly received by the NOAA OLE system prior to the issuance of a permit. To make sure your VMS is properly configured for the NOAA OLE system, please contact NOAA OLE at (808) 203-2503 or (808) 203-2500.

\* PERMITS WILL NOT BE ISSUED TO INDIVIDUALS ENTERING THE MONUMENT VIA VESSEL UNTIL NOAA OLE HAS CONTACTED THE MONUMENT PERMIT COORDINATOR WITH A 'POSITIVE CHECK' READING.

#### **10. Tender information:**

On what workboats (tenders) will personnel, gear and materials be transported within the Monument? List the number of tenders/skiffs aboard and specific types of motors:  
Provided for by NOAA

### **Additional Information for Land Based Operations**

**11. Proposed movement of personnel, gear, materials, and, if applicable, samples:**

**12. Room and board requirements on island:**

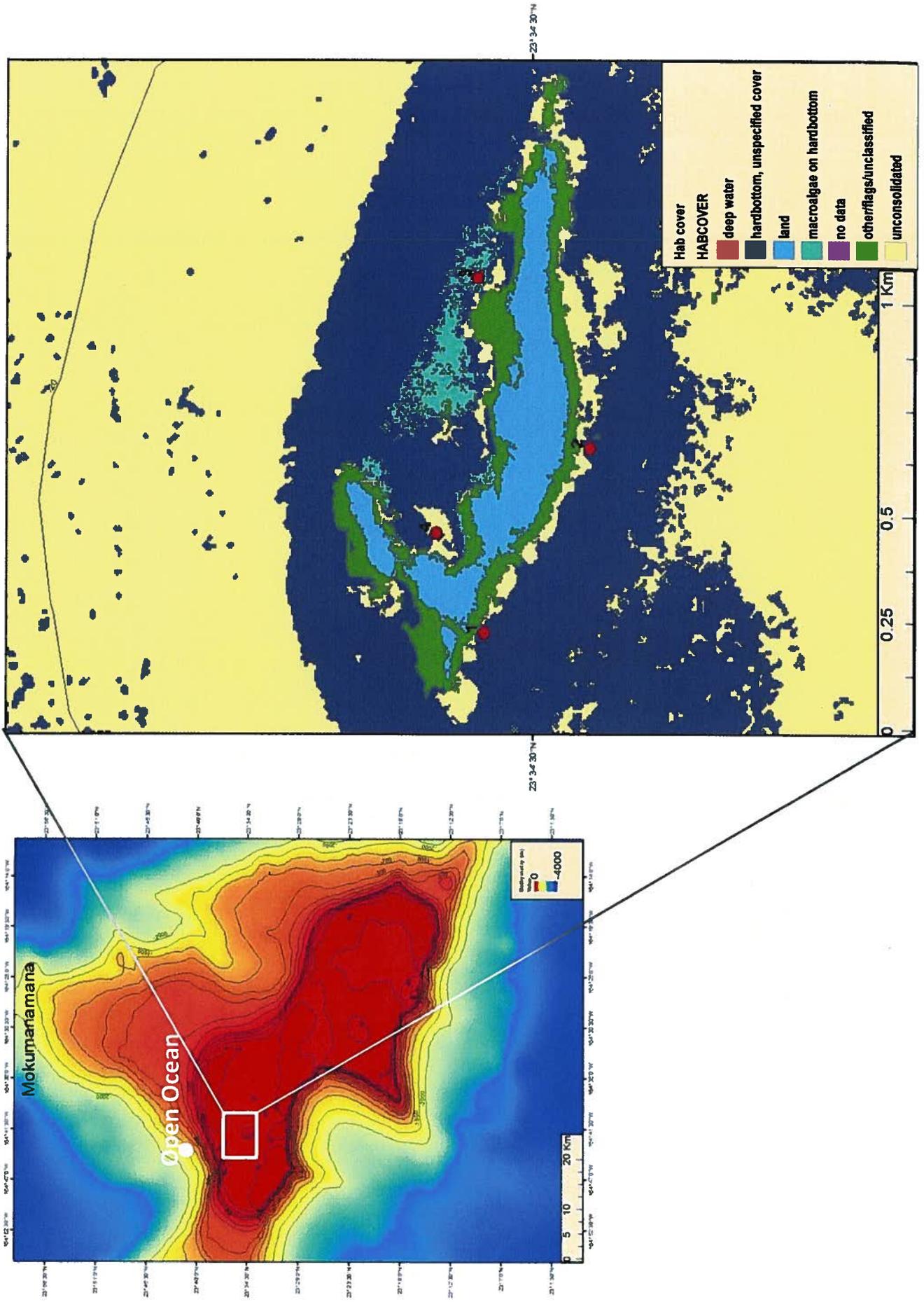
**13. Work space needs:**

DID YOU INCLUDE THESE?

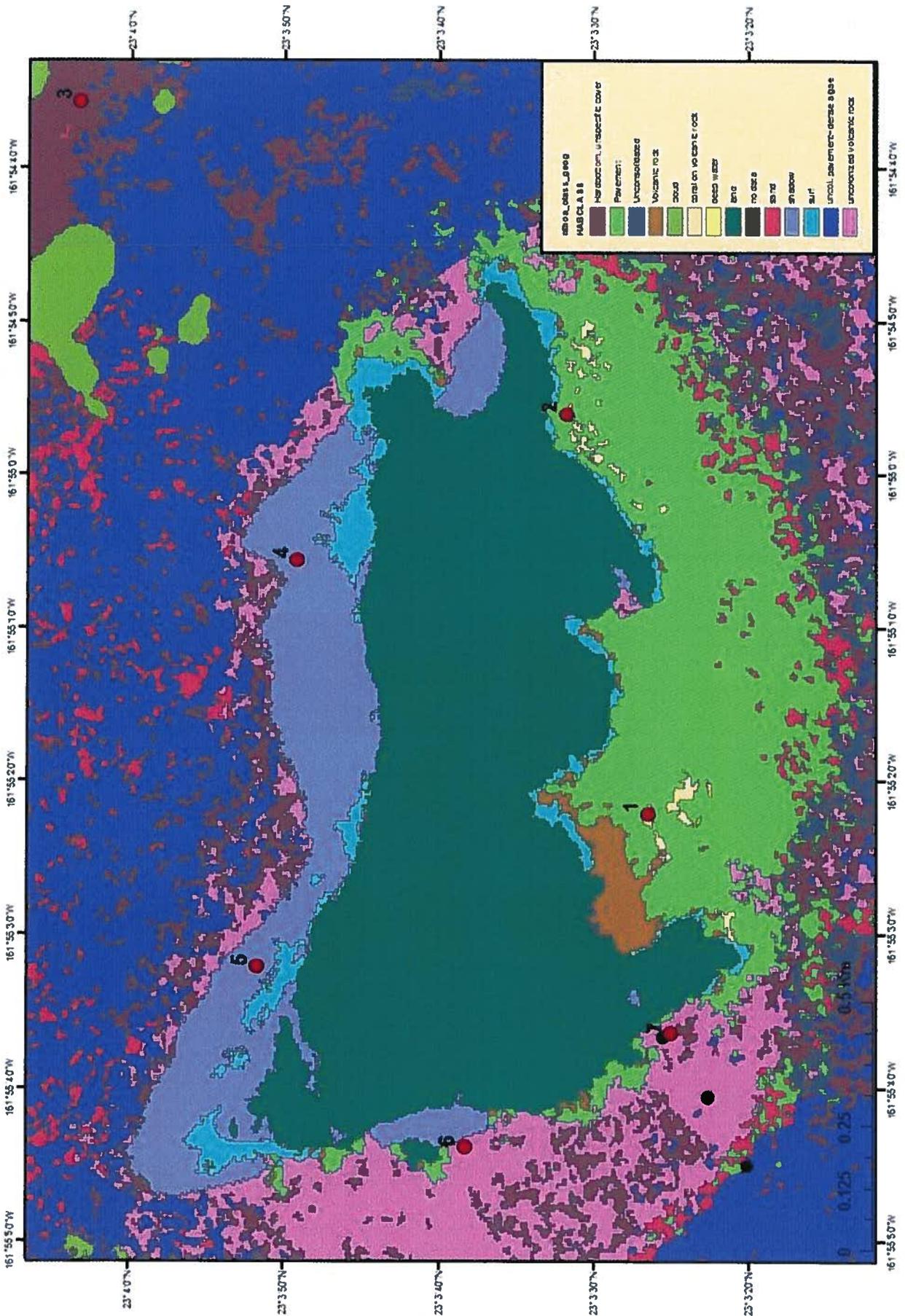
- Map(s) or GPS point(s) of Project Location(s), if applicable
- Funding Proposal(s)
- Funding and Award Documentation, if already received
- Documentation of Insurance, if already received
- Documentation of Inspections
- Documentation of all required Federal and State Permits or applications for permits

ITEM F-1b

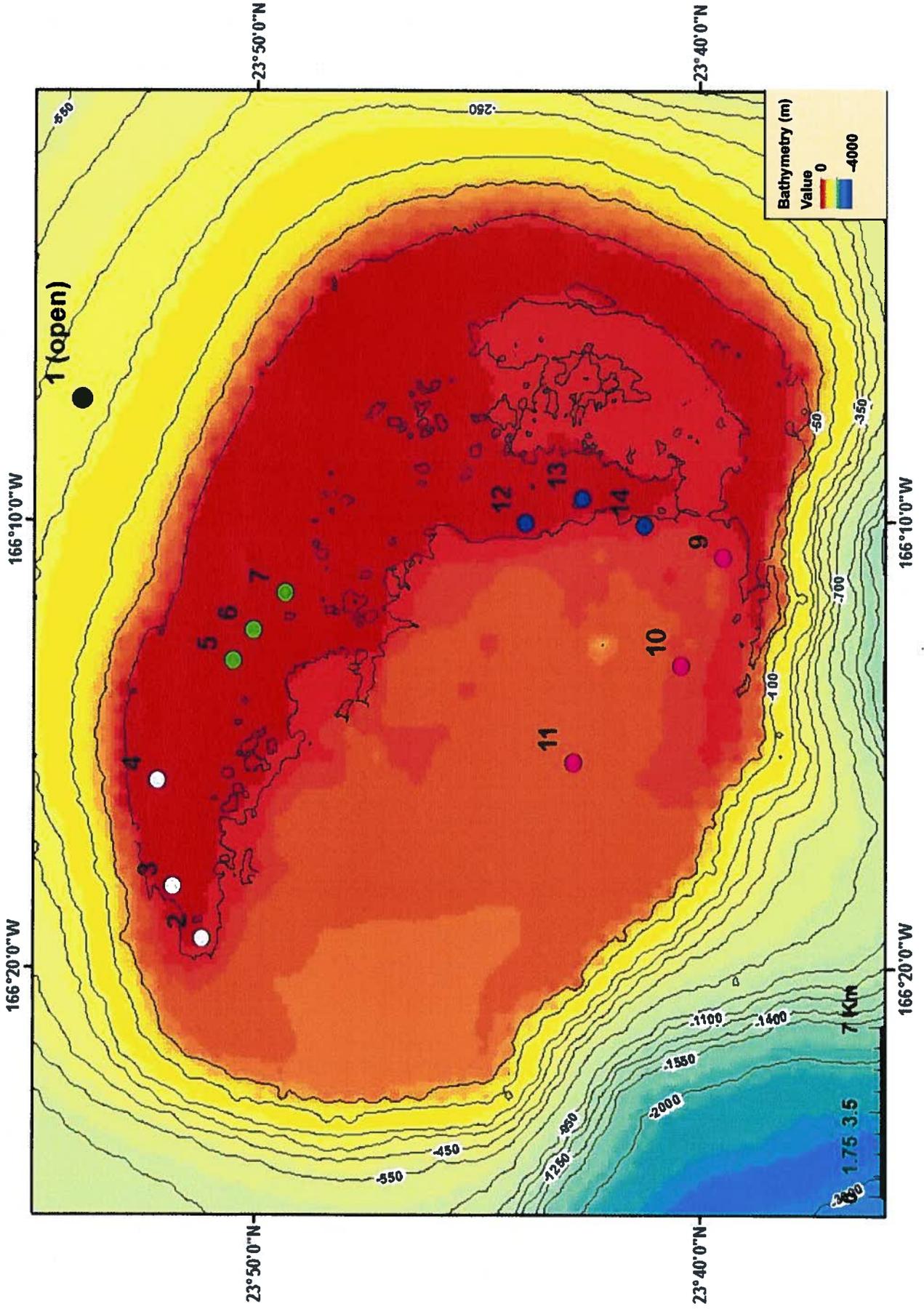
# MOKUMANAMANA



# NIHOA



# FFS



# Sampling Plan

Location	Date	Site	Lat	Long	Bottom Depth (m)	Notes	Day 1	Day 2	Day 3	
Nihoa		1	23.057368	-161.92282		6 priority	5	5	5	
Nihoa		2	23.058846	-161.91556		20 priority	5	5	5	
Nihoa		3 (open)	23.067582	-161.90999		35 priority, can also be on SE or NW	1	1	1	
Nihoa		4	23.063661	-161.91822		7	5	5	5	
Nihoa		5	23.064374	-161.9256		22	5	5	5	
Nihoa		6	23.060659	-161.92885		22	5	5	5	
Nihoa		7	23.056944	-161.92679		28	5	5	5	
***If waters are rough, do high-res sampling every 2hrs at 1, 2, or 7***										
<b>Nihoa</b>										
Mokumanamana		1	23.576021	-164.70481		10	5	5	5	
Mokumanamana		2	23.573797	-164.7009		5	5	5	5	
Mokumanamana		3	23.576143	-164.69729		5	5	5	5	
Mokumanamana		4	23.577023	-164.70267		5	5	5	5	
Mokumanamana		5 (open)	23.655998	-164.72599		300	1	1	1	
***If waters are rough, do high-res sampling every 2hrs at 1***										
<b>Mokumanamana</b>										
FFS	All days	1 (open)	23.898917	-166.12114		300	1	1	1	
FFS	Day 2/3	2	23.853087	-166.32304		10	5	5	5	
FFS	Day 2/3	3	23.863943	-166.30356		5	8	8	8	
FFS	Day 2/3	4	23.870041	-166.26385		3	5	5	5	
FFS	Day 1	5	23.841961	-166.21923		5	5	5	5	
FFS	Day 1	6	23.834171	-166.20789		5	8	8	8	
FFS	Day 1	7	23.822418	-166.19423		7	5	5	5	
FFS	Alternate 1	9	23.657781	-166.18073		14				
FFS	Alternate 1	10	23.673486	-166.22095		20				
FFS	Alternate 1	11	23.714175	-166.25711		25				
FFS	Alternate 2	12	23.732063	-166.16783		8				
FFS	Alternate 2	13	23.710933	-166.15888		8				
FFS	Alternate 2	14	23.687329	-166.16897		13				
<b>FFS</b>										
<b>Total Bottles</b>							<b>71</b>	<b>71</b>	<b>19</b>	<b>161</b>
***HIGH-RES SAMPLING IN RED***										

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

September 27, 2013

WILLIAM J. AILA, JR.  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ESTHER KIA'AINA  
FIRST DEPUTY

WILLIAM M. TAM  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

TO: Division of Aquatic Resources File

THROUGH: William J. Aila, Jr., Chairperson

FROM: Frazer McGilvray  
Administrator, Division of Aquatic Resources

SUBJECT:

DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200 HAR, FOR PAPAĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT RESEARCH PERMIT TO DRs. CHRISTOPHER WINN AND SAMUEL KAHNG, ASSOCIATE PROFESSORS, HAWAI'I PACIFIC UNIVERSITY, FOR ACCESS TO STATE WATERS TO CONDUCT SEAWATER CARBON RESEARCH ACTIVITIES UNDER PERMIT PMNM-2013-025.

The following permitted activities are found to be exempted from preparation of an environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200, HAR:

Project Title:

Papahānaumokuākea Marine National Monument Research Permit to Drs. Christopher Winn and Samuel Kahng, Hawai'i Pacific University, for Access to State Waters to Conduct Seawater Carbon Research Activities

Permit Number: PMNM-2013-025

Project Description:

The research permit application, as described below, would allow entry and activities to occur in Papahānaumokuākea Marine National Monument (Monument), including the NWHI State waters from October 1, 2013 to September 30, 2014.

The Applicants propose to collect seawater (less than 40 L of seawater total) from surface waters surrounding Nihoa, Mokumanamana, and French Frigate Shoals, for assessing and documenting changing seawater carbonate chemistry in the Monument. All water samples would be fixed (or preserved) on-board the vessel with mercuric chloride with no more than 30 milliliters of mercuric chloride used in total. No mercuric chloride will be introduced to the environment. A hand-held device will be used to measure surface seawater temperature and salinity. All

ITEM F-1c

sampling would be done at the surface (less than 10 m in depth) and the seafloor will not be disturbed at any location.

The Applicants and four (4) researchers would be authorized to conduct activities aboard the M/V SEARCHER (separately permitted under PMNM-2013-001) during a cruise to the Monument scheduled for October 4 to 15, 2013. The collection of water samples would be manually collected from shallow surface water off small boats (SEARCHER tender vessels).

The proposed activities are in direct support of the Monument Management Plan's (MMP) priority management needs through 3.1.1 – Marine Conservation Science Action Plan (Strategy MCS-1: Continuing to enhance research, characterization and monitoring of marine ecosystems for the life of the plan). Strategy MCS-1 focuses on “continuing marine research, characterization, and monitoring designed to support an ecosystem-based approach to protection and management”. The proposed project fits into this Strategy because it would improve the understanding of seawater carbonate chemistry of the water surrounding the islands and atolls of the Monument. This study would characterize the carbon system dynamics within the Monument and continue long-term ocean acidification monitoring. Activities such as those to be carried out by the permittee, are also addressed in the Monument Management Plan Environmental Assessment (December 2008) which resulted in a FONSI.

Consulted Parties:

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site since August 2, 2013, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

Exemption Determination:

After reviewing HAR § 11-200-(8), including the criteria used to determine significance under HAR § 11-200-12, DLNR has concluded that the activities under this permit would have minimal or no significant effect on the environment and that issuance of the permit is categorically exempt from the requirement to prepare an environmental assessment based on the following analysis:

1. All activities associated with this permit, including activities associated with seawater carbon research and water collection, have been evaluated as a single action. As a preliminary matter, multiple or phased actions, such as when a group of actions are part of a larger undertaking, or when an individual project is precedent to or represents a commitment to a larger project, must be grouped together and evaluated as a single action. HAR § 11-200-7. Since this permit involves an activity that is precedent to a later planned activity, i.e. long-term monitoring of seawater, the categorical exemption determination here will treat all planned activities as a single action.

2. The Exemption Class for Scientific Research with no Serious or Major Environmental Disturbance Appears to Apply. Chapter 343, HRS, and section 11-200-8, HAR, provide for a list

of classes of actions exempt from environmental assessment requirements. HAR §11-200-8.A.5. exempts the class of actions which involve “basic data collection, research, experimental management, and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource.” This exemption class includes sampling, collecting, and recording in the field. This exemption class has been interpreted to include seawater sample collection and temperature and salinity data collection. Additionally, Exemption Class #5, Exempt Item #2 includes sampling and recording in the field. DEPARTMENT OF LAND & NATURAL RESOURCES, EXEMPTION LIST FOR THE DIVISION OF FORESTRY AND WILDLIFE (June 12, 2008).

The proposed seawater carbon research activities here appear to fall squarely under the exemption class identified under HAR § 11-200-8.A.5., and are succinctly described under the former Fish and Game Division exemption list published in 2008. As discussed below, no significant disturbance to any environmental resource is anticipated in from seawater collection activities and temperature and salinity data collection. Thus, so long as the below considerations are met, an exemption class should include the action now contemplated.

3. Cumulative Impacts of Actions in the Same Place and Impacts with Respect to the Potentially Particularly Sensitive Environment Will Not be Significant. Even where a categorical exemption appears to include a proposed action, the action cannot be declared exempt if “the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment.” HAR § 11-200-8.B. To gauge whether a significant impact or effect is probable, an exempting agency must consider every phase of a proposed action, any expected primary and secondary consequences, the long-term and short-term effects of the action, the overall and cumulative effect of the action, and the sum effects of an action on the quality of the environment. HAR § 11-200-12. Examples of actions which commonly have a significant effect on the environment are listed under HAR § 11-200-12.

This study involves the collection of seawater samples and temperature and salinity data collection from surface seawater (less than 10 m depth). No impact to the benthos is expected. With this in mind, significant cumulative impacts are not anticipated as a result of this activity, and numerous safeguards further ensure that the potentially sensitive environment of the project area will not be significantly affected. All activities will be conducted in a manner compatible with the management direction of the Monument Proclamation in that the activities do not diminish monument resources, qualities, and ecological integrity, or have any indirect, secondary, cultural, or cumulative effects. The joint permit review process did not reveal any anticipated indirect or cumulative impacts, nor did it raise any cultural concerns, that would occur as a result of these activities.

The activities would be conducted concurrently from the NOAA ship M/V SEARCHER permitted under PMNM-2013-001.

<b>Permit</b>	<b>Purpose and scope</b>	<b>Location</b>
PMNM-2013-001 Co-Manager (issued)	This permit allows the NOAA ship SEARCHER entry into the Monument. Personnel aboard the vessels will be permitted under separate permits.	All locations

<b>Permit</b>	<b>Purpose and scope</b>	<b>Location</b>
PMNM-2013-018 Asher (issued)	This permit allows activities for research on abundance and size distribution of apex predators (sharks and jacks) and coral reef species independent of divers in habitats of less than 100 m.	Nihoa, Mokumanamana, French Frigate Shoals
PMNM-2013-026 Anthony (proposed)	This permit would allow filming of natural and cultural elements of the Monument.	Nihoa, Mokumanamana, French Frigate Shoals

These activities will be conducted from a small boat deployed from the M/V SEARCHER around Nihoa, Mokumanamana, and French Frigate Shoals. The two other permits issued to Asher and proposed to be issued to Anthony would occur in the same locations as these proposed activities. No interaction of activities is anticipated because the Applicants would collect seawater from small boats and not entering the water to swim, snorkel, or SCUBA dive. Cumulative impacts from all activities is not expected to be significant.

Since no significant cumulative impacts or significant impacts with respect to any particularly sensitive aspect of the project area are anticipated, the categorical exemptions identified above should remain applicable.

**4. Overall Impacts will Probably be Minimal and Insignificant.**

Again, any foreseeable impacts from the proposed activity will probably be minimal, and further mitigated by general and specific conditions attached to the permit. Specifically, all research activities covered by this permit will be carried out with strict safeguards for the natural, historic, and cultural resources of the Monument as required by Presidential Proclamation 8031, other applicable law and agency policies and standard operating procedures.

**Conclusion.** Upon consideration of the permit to be approved by the Board of Land and Natural Resources, the potential effects of the above listed project as provided by Chapter 343, HRS and Chapter 11-200 HAR, have been determined to be of probable minimal or no significant effect on the environment and exempt from the preparation of an environmental assessment.

\_\_\_\_\_  
William J. Aila, Jr.  
Chairperson, Board of Land and Natural Resources

\_\_\_\_\_  
Date