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
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. Christopher Winn and Dr. Samuel E. Kahng
Affiliation: Hawaii Pacific University

Permit Category: Research
Proposed Activity Dates: July 21, 2010 through August 19, 2010
Proposed Method of Entry (Vessel/Plane): vessel
Proposed Locations: The waters surrrounding several islands within the Monument including Nihoa, French Frigate, Pearl and Hermes, Midway and Kure Atoll

Estimated number of individuals (including Applicant) to be covered under this permit:
2
Estimated number of days in the Monument: 30

Description of proposed activities: (complete these sentences):

a.) The proposed activity would…
Collect approximately 300 ml water samples from the research vessel from the surface to depths of 1000 meters. These samples will be returned to Honolulu for the determination water column carbon chemistry.

b.) To accomplish this activity we would ….
Better understand the influence of the the coral benches within the monument on the surrounding ocean chemistry with the ultimate objective of better understanding how ocean acidification will affect the momument ecosystem.

c.) This activity would help the Monument by …
More clearly defining the potential impact of changes in ocean pH on the momument ecosystem

Other information or background:

Section A - Applicant Information

1. Applicant

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

Title: Associate Professor of Oceanography

1a. Intended field Principal Investigator (See instructions for more information):
Christopher D. Winn

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):

[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):
Mr. Robert Thompson
Mr. Coulson Lantz

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:
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 the impact of the calcium carbonate banks on the carbon chemistry of the surrounding ocean and to assess the impact of ocean acidification on the carbonate structures within the monument.

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.

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?
Water samples will be collected from the water column and will not affect 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 out 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. Our research will improve our understand 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 in month-long expeditions to the monument. Our visits will be 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.
We have great experience in this area of research, and have participated in research programs focusing on oceanic carbon chemistry for decades. Relavent 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 reseach on research cruises in virtually all of the world's oceans.

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 privide important insight into the impact of ocean acidification of the monument.

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:
Water samples will be collected from the research vessel using standard hydrograhic methods. Subsamples will be drawn from niskin bottles attached toa CTD rosette system and returned to Honolulu for analysis.

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:
sea water

Scientific name:

& size of specimens:
600 300 mL samples (180 liters)

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:
Water column above the substrate from the surface to 1000 meters and to roughly with 15 kilometers of any emergent reefs.

• 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 water column, 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

12a. List all specialized gear and materials to be used in this activity:
We will utilize the ship's CTD, rosette, winch and hydrowire for sample collection

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 chemcial is also used sparingly. We will use less than 50 milliliters during the entire month-long 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.

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