

Papahānaumokuākea Marine National Monument
EDUCATION 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: Misaki Takabayashi

Affiliation: University of Hawaii at Hilo, Marine Science Department

Permit Category: Education

Proposed Activity Dates: April 12th-19th, 2010 (flexible between March-May 2010)

Proposed Method of Entry (Vessel/Plane): Plane

Proposed Locations: Midway

Estimated number of individuals (including Applicant) to be covered under this permit: 14

Estimated number of days in the Monument: 7

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...
be an essential component of a course, "Kū ula: Integrated Sciences in Hawai'i", offered at University of Hawai'i at Hilo.

b.) To accomplish this activity we would
compare the ecological frameworks between Midway Atoll and Hawai'i Island for their alignment with Native Hawaiian worldview of kinship and connectivity between man and environment. Thirteen University of Hawai'i at Hilo undergraduate and graduate level students will be exposed to the environment of Midway which currently receives minimal human impacts. Students will collect observation-based data at Midway to compare with respective data on Hawai'i Island for their individual projects.

c.) This activity would help the Monument by ...
promoting university education (especially at University of Hawai'i) framed within the Native Hawaiian worldview and linking cultural research and significance to marine resource management. The proposed field experience on Midway is consistent with Presidential Proclamation 8031 to: provide for carefully regulated educational and scientific activities, and

enhance visitation in a special area around Midway atoll. In addition, the Ku'ula course will be an excellent venue to advance traditional Native Hawaiian knowledge in the area of marine resource management and conservation.

Other information or background: UH Hilo Marine Science Department and NOAA Papahānaumokuākea Marine National Monument are collaborating on the development of the course, Kū'ula: Integrated Sciences in Hawai'i. NOAA is providing financial support towards the field experience component of the curriculum.

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Takabayashi, Misaki

Title: Assistant Professor

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

Misaki Takabayashi

2. Mailing address (street/P.O. box, city, state, country, zip): UH Hilo, Marine Science

[REDACTED]

Phone:

[REDACTED]

Fax:

[REDACTED]

Email:

[REDACTED]

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

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

University of Hawai'i at Hilo

Marine Science Department

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, Teacher; Jane Doe, Videographer):

14 students (undergraduates and graduates) at UH Hilo

2 Papahānaumokuākea Marine National Monument employees

-names to be determined at a future date

Section B: Project Information

5a. Project location(s):

<input type="checkbox"/> Nihoa Island	<input type="checkbox"/> Land-based	<u>Ocean Based</u>	
<input type="checkbox"/> Necker Island (Mokumanamana)	<input type="checkbox"/> Land-based	<input type="checkbox"/> Shallow water	<input type="checkbox"/> Deep water
<input type="checkbox"/> French Frigate Shoals	<input type="checkbox"/> Land-based	<input type="checkbox"/> Shallow water	<input type="checkbox"/> Deep water
<input type="checkbox"/> Gardner Pinnacles	<input type="checkbox"/> Land-based	<input 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 checked="" type="checkbox"/> Midway Atoll	<input checked="" type="checkbox"/> Land-based	<input checked="" 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			

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

Location Description:

NOAA Papahānaumokuākea Marine National Monument will sponsor chartered flights to and from Midway Atoll

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:*

Papahānaumokuākea is a name recently given to the islands included in the Monument. Imbedded in the name is the concept of genealogy of islands and many things Hawai'i. One of the concepts born of the name that pertains to the UH-Hilo course "Kū'ula: Integrated Sciences in Hawai'i" is the kinship between organisms and environment. This kinship is appreciated if the idea that the kanaka's genealogical roots originate from the land is understood. The origin of life forms including the kanaka can be traced to Papahānaumoku and Wākea. Another Hawaiian concept that is highlighted in the Kū'ula course is that younger siblings have the responsibility of taking care of older siblings. These concepts will form the backbone of the Kū'ula course and will be incorporated into resource management. What better place to experientially learn these concepts than the kupuna islands of Hawai'i?

By researching the literature and other resources, students in this class will discover what islands in Papahānaumokuākea meant to ancient Hawaiians. Once there, students will learn first hand what the recovering ecosystems of Midway can mean to the resource management of today and the future. Specifically, each student will carry out her or his own project comparing a component of the ecosystems between Midway and Hawai'i Island. They will incorporate their experience and project outcomes from Papahānaumokuākea to their learning in the entire semester-long course.

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 students of this course are Marine Science majors/minors or Master's students in the Tropical Conservation Biology and Ecosystem Science program at University of Hawai'i at Hilo. They have received adequate training in imposing minimal impact on

the environment on the main Hawaiian islands. Most of the students come from Hawai'i, and to help further ensure that students taking this course have some level of Native Hawaiian cultural awareness, intermediate level 'ōlelo Hawai'i is a pre-requisite of this class. Nonetheless, we will receive an orientation by NOAA staff to train us further on the cultural, natural, and historic backgrounds and living with the environment of the Monument before we leave Hilo. Two NOAA staff will accompany us on the visit, and they will assist the FWS Monument staff at Midway in providing safeguards for the cultural, natural and historic resources and ecological integrity of the Monument. There will be no stepping on coral, no touching of artifacts, no disturbance of wildlife.

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 will work with the Monument staff to maintain the impact of our visit at a minimum. Our ecological surveys of shallow water benthic invertebrates and reef fishes will have minimal impact to the ecological integrity of the Monument and will add to the data archives. Students' research on cultural and historic aspects of the environment within the Monument that will be done prior to the trip will be incorporated into the reports, copies of which will be submitted to the Monument management. Also, participants will donate 4 hrs to the refuge by assisting FWS staff with native bunch grass propagation in greenhouse or by hand pulling the invasive plant, *Verbesina enceloides*.

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.

As stated in "6. Purpose" above, living with the environment of Papahānaumokuākea will give students the experience and realization that no other place in the world can give. Also, comparative examination of the environment and its inhabitants of the main Hawaiian islands and the Monument, and consideration of Native Hawaiian cultural resource management in both places are the key purposes of the Kū'ula course.

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

This course is part of the electives for Marine Science undergraduate degree or Tropical Conservation Biology and Ecosystem Science graduate degree at University of Hawai'i at Hilo. This is the first time this course is being offered, and I plan to offer it every two years. Most, if not all, of these students enrolled in this course (currently at full enrollment capacity) aspire to be future managers of natural and cultural resources in Hawai'i. This experience will stay with them for the rest of their lives and have an overwhelming impact on their future decisions as well as on their family and friends once they come back to their home on Main Hawaiian Islands.

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

The duration of our requested visit is just long enough to appreciate the cultural and historic background of the Monument and experience and survey a few shallow water environments of Midway Atoll. We would like to request talks by NOAA and FWS staff about the cultural, natural, and historic aspects of the Monument as well as the conservation efforts they are undertaking prior to initiating our projects.

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

As an assistant professor in Marine Science Department at University of Hawai'i at Hilo, I have taught field- and classroom-based courses in Hawai'i on how to conduct ecological surveys. The Uluākea project of the Kīpuka Native Hawaiian Student Center at University of Hawai'i at Hilo in which I am a participant, has given me fundamental training on culture, history, and worldviews of Hawai'i in addition to learning Hawaiian language and hula over the last few years. Many of the students enrolled in this class are my interns from the Keaholoa Native Hawaiian Science Technology Engineering and Math Internship Program that strives to promote science in culturally significant ways, and I have learned much from these students as well.

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. The Kū ula course will be organized and financially supported by a multi-partner collaboration between University of Hawai'i at Hilo Kīpuka Native Hawaiian Student Center, Keaholoa Native Hawaiian STEM Program, NSF Louis Storks Alliance on Minority Participation internship program, Marine Science Department, National Fish and Wildlife Foundation, and NOAA Papahānaumokuākea National Monument.

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.

We will be collecting no-take, non-destructive, observation-based observations on terrestrial and shallow water flora and fauna. This should impose minimal impacts on the integrity 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?

N/A

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

There are no such other factors.

8. Procedures/Methods:

1. Observation-based ecological surveys will be conducted on land and in shallow water.

2. We will request NOAA and FWS briefing and scientists to share their knowledge of the islands in Papahānaumokuākea. Participating students will keep online WebBlogs via <http://weblog.uhh.hawaii.edu> server which will be accessible to the public.

3. Participants will donate >4 hrs to the refuge by assisting FWS staff with native bunch grass propagation in greenhouse or by hand pulling the invasive plant, *Verbesina encelooides*.

4. Participants will keep a weblog while they are on Midway and share their experiences and findings with the UHH community and the public by giving presentations at UHH Senior Seminar Series and NOAA Mokuapāpapa Discovery Center in Hilo after their return to Hilo.

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):

No collection of specimens will occur in the sky, on the land or in the sea.

Common name:

Scientific name:

& size of specimens:

Collection location:

Whole Organism Partial Organism

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

N/A

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

N/A

• Specific site/location:

N/A

• 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 be transported out of the Monument?

N/A

11. Is your proposed activity based on a State Department of Education Standards Based Curriculum? If so, describe:

N/A

12. If applicable, describe how you are collaborating with others in any way to reduce duplicative activities in the Monument or elsewhere?

This is the only class offered in Marine Science Department at University of Hawai'i at Hilo that has a component involving a visit to the Monument. Participating students will keep online WebBlogs via <http://weblog.uhh.hawaii.edu> server which will be accessible to the public. Participants will share their experiences and findings with the UHH community and the public by giving presentations at UHH Senior Seminar Series and Mokupāpapa Discovery Center in Hilo.

13. What materials, products or deliverables will be developed as a result of your proposed activity? Provide a time line for write-up and publication of information or production of educational materials:

Each of 14 students will submit a report on her/his research project, as well as a reflective essay on her/his experience at Papahānaumokuākea. Copies of these reports will be submitted to the Papahānaumokuākea Marine Monument management agencies. In addition, participating students will keep online WebBlogs via <http://weblog.uhh.hawaii.edu> server which will be accessible to the public. Also, the participants will share their experiences and findings with the UHH community and the public by giving presentations at UHH Senior Seminar Series and Mokupāpapa Discovery Center in Hilo.

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

N/A

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

N/A

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

N/A

17. List all Applicants' publications/references directly related to the proposed project:

The first 6 in the below list are public presentations at Hawaii Conservation Conference 2009 given by the Kū'ula students who worked at Midway in November 2008.

1. Ulu Ching, Camille Barnett, Pelika Bertelmann, Kim Morishige 2009. Ko Kua Uka, Ko Kua Kai (Those Of The Land, Those Of The Sea). Abstracts of Hawaii Conservation Conference, Honolulu, HI July 27-30, 2009

2. Makani Gregg, Lucas Mead 2009. Hinahēle: Coral Reef Zonations. 2009. Abstracts of Hawaii Conservation Conference, Honolulu, HI July 27-30, 2009
3. Jonatha Giddens, Roxie Sylva 2009. What a Traditional Hawaiian Legend has to Teach Us About Reef Fish Management Today: Comparing Uhu (Scaridae) Age-Structure and Abundance Between Midway Atoll and Puako, West Hawai'i. Abstracts of Hawaii Conservation Conference, Honolulu, HI July 27-30, 2009.
4. Shauna Kehaunani Tom, Mark Kaleoaloha Manuel 2009. Nā Opihi o Hawai'i Nei: A Study of Opihi, an Endemic Hawaiian Limpet (Cellana spp.) In The Hawaiian Archipelago. Abstracts of Hawaii Conservation Conference, Honolulu, HI July 27-30, 2009.
5. Nakoa Goo 2009. Native Plants of Pihemanu: Observations from a Hawaiian Perspective. Abstracts of Hawaii Conservation Conference, Honolulu, HI July 27-30, 2009.
6. Pelika Bertelmann, Kehau Tom 2009. 'Ōlelo Nolleau: Pili iā Pihemanu a Collection of Wise or Entertaining Proverbs on the Subject of Midway Atoll. Abstracts of Hawaii Conservation Conference, Honolulu, HI July 27-30, 2009.
7. Takabayashi, M., Makekau-Whittaker, K., Makuakane-Lundin, G., Gregg, T.M. (2007). Uluākea - Bringing Hawai'i Worldview into College Classrooms, an Example with Marine Science Curriculum. National Indian Education Association. Honolulu, HI.
8. Inglis, K. Takabayashi, M., Ramos, C.M., Makekau-Whittaker, K. (2008). The Uluākea Process: Applying a Hawai'i-based Perspective to University Education. Kamehameha Schools Research Conference on Native Hawaiian Well-Being. O'ahu, Hawai'i.

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