

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

May 23, 2008

Board of Land
and Natural Resources
Honolulu, Hawaii

Request for Authorization and Approval to Issue a Papahānaumokuākea Marine National Monument Research Permit to Dr. Ruth Gates, University of Hawaii, Hawaii Institute of Marine Biology, for Access to State Waters to Conduct Coral-Endosymbiont 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 Dr. Ruth Gates, associate researcher professor, University of Hawaii, Hawaii Institute of Marine Biology, 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 research activities to occur in the Papahānaumokuākea Marine National Monument (Monument), including the NWHI State Marine Refuge and the waters (0-3 nautical miles) surrounding the following sites:

- Nihoa Island,
- Necker Island (Mokumanamana),
- French Frigate Shoals,
- Gardner Pinnacles,
- Maro Reef
- Laysan Island,
- Lisianski Island, Neva Shoal,
- Pearl and Hermes Atoll,
- Kure Atoll State Seabird Sanctuary

The activities covered under this permit will occur from June 1, 2008 through August 31, 2008.

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

INTENDED ACTIVITIES

The purpose of these activities is to identify and monitor biological indicators of coral disease and/or bleaching and assess the diversity of coral-endosymbionts in Papahānaumokuākea.

Specifically, the applicant would characterize the diversity of symbiotic dinoflagellates (Symbiodinium) harbored by corals and examine morphological traits in healthy, diseased and bleached corals in order to identify biological traits that correlate with health state.

To perform these activities, the applicant would sample coral colonies and other marine invertebrates and single-celled protists that harbor the same dinoflagellate symbionts as well as the surrounding reef waters and sediment to determine the molecular diversity of coral endosymbionts. These activities would be performed using SCUBA from small boat operations launched from the NOAA Ship HI'IALAKAI.

A maximum of 30 coral colonies (5 species; 10 healthy, 20 unhealthy) would be sampled from reefs surrounding each atoll. This number is much greater than what the actual "take" number will be, as the occurrence of bleaching and disease in all the listed species at all atolls is extremely rare, and all atolls would not be visited during the cruise. The sample taken from each coral is a very small biopsy (<1cm). The impact of this sampling is significantly less damaging to the coral than marine organisms that feed on coral in the area (e.g. parrot fish). The sampling impacts are thus extremely minimal and pose no significant threat to the survival of the colony sampled.

A total of 5 colonies per marine invertebrate species, 20 Foraminifera, 20 5L water samples, and 20 1ml sediment samples from reefs surrounding each atoll would also be sampled. For marine invertebrate, a clipping of one of the tentacles would be taken which is non-lethal and has almost no effect to the organism. Analysis of the microscopic foraminiferan hosts involves taking the entire organism (which is approximately 1- 5 mm in size). The removal of the few specimens for this analysis would have no effect on the populations of these microorganisms, which are very abundant (>1,000,000 per m²)

For a detailed sample list and the collection sites, see F-6d.

Samples would be stored in tubes containing DNA preservation buffer that destroys living material. These samples would be transported to the HIMB upon return to Honolulu.

The applicant notes that samples that overlap with the Rappe, Toonen, and Karl lab would be shared.

This research would help identifying biological indicators of disease, revealing the diversity of coral-endosymbionts in Papahānaumokuākea, and developing capacity to predict the effects of global climate change on coral reef ecosystems in the monument.

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
- Touching coral, living or dead
- Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

REVIEW PROCESS:

The permit application was sent out for review and comment to the following scientific 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), and United States Fish and Wildlife Service Pacific Islands NW Refuge Complex Office. The Office of Hawaiian Affairs (OHA), and the Kaho'olawe Island Reserve Commission (KIRC) were also consulted.

Comments received from the scientific community are summarized as follows:

Scientific reviews support the acceptance of this application.

No concerns were raised during review. It should be noted that although the applicant is requesting to collect diseased coral, she provided a storage and transport protocol specific to her work that reviewers found satisfactory. See F-6e.

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

Cultural reviews support the acceptance of this application.

No concerns were raised, but the following suggestion was made:

1. A ho'o kupu, Wai (fresh water) or awa (liquid form) should be offered at the site of first sampling.

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.

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

If so, please summarize past permits:

- The applicant was granted permits DLNR/NWHI/06R006 and PMNM-2007-041 to conduct similar work in 2006 and 2007.

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

RESPONSE:

1. A cultural briefing was given to HIMB staff and researchers by the cultural reviewer who made this request. That briefing included a discussion on how best to incorporate and implement this practice into Monument activities that require the taking of samples.

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 the following special instructions and conditions, which are in addition to the Papahānaumokuākea Marine National Monument Conservation and Management Permit General Conditions. The following special conditions have been vetted through the legal counsel of the Co-Trustee agencies.

1. 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.
2. 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.
3. To prevent introduction of disease or the unintended transport of live organisms, the permittee must comply with the disease and transport protocols attached to this permit.
4. Tenders and small vessels must be equipped with engines that meet EPA emissions requirements.
5. 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
6. No fishing is allowed in State Waters except as authorized under State law for subsistence, traditional and customary practices by Native Hawaiians.

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:

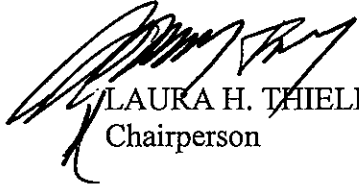
“That the Board authorize and approve, with stated conditions, a Research Permit to Dr. Ruth Gates, University of Hawaii, Hawaii Institute of Marine Biology.”

Respectfully submitted,



DAN POLHEMUS
Administrator

APPROVED FOR SUBMITTAL



LAURA H. THIELEN
Chairperson