

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. Michael Rappe, University of Hawaii, Hawaii Institute of Marine Biology, for Access to State Waters to Conduct Coral Microbial Community Characterization 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. Michael Rappe, assistant researcher, 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 would occur from June 1, 2008 through September 30, 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 thoroughly sample and characterize microbial communities from diverse coral species encountered in various health states throughout the

Papahānaumokuākea Marine National Monument. This would enable researchers to 1) assess the community structure (diversity and relative abundance) of microbes, particularly Bacteria, associated with different species of healthy and health-compromised (e.g. diseased or bleached) corals and reef water across the Monument, 2) determine if coral-associated microbial communities vary seasonally and/or geographically, 3) determine if coral-associated bacterial community assessments can be used to indicate a coral's health state and to predict its susceptibility to bleaching and/or disease, and 4) determine the extent to which microbial pathogens are present on Monument reefs.

To conduct this work, the applicant is requesting to sample up to 10 colonies/species/site (10 healthy colonies or 5 healthy colonies + 5 diseased/bleached colonies), taking three non-lethal sub-samples from each coral colony. A sub-sample consists of a 6-mm diameter, 6-mm deep core or fragment. Typically 1 - 3 species per site would be sampled, with an estimated 60 sites to be visited during the cruise. Five coral species would be sampled (table, rice, cauliflower, finger, and lobe corals), and the sampling strategy would focus on collecting from health-compromised coral colonies. Seawater samples would also be collected, and would be taken adjacent to sampled coral heads for comparison of coral-associated microbial (CAM) community composition between corals and the surrounding seawater environment.

Samples would be stored in the freezer on board the ship and then transported to HIMB for further processing and molecular analysis.

The applicant notes that the Rappé and Gates labs at HIMB are interested in collecting samples from health-compromised coral colonies and would collaborate on collecting samples through a combined sampling effort.

This research would help gain a solid understanding of the possible roles that Bacteria play in maintaining and/or destabilizing coral health, which is essential if managers are to effectively prevent disease from causing widespread harm to Hawaii's coral reef ecosystems.

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
- Anchoring a vessel
- 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

RESPONSE:

1. DAR and Monument staff have been working with HIMB researchers to address staff concerns and develop a Monument transport protocol. Currently, the protocol is subject to external peer review. The results of this review will be known by the May 23rd Land Board meeting. The method of storage and transport of coral being proposed by the applicant would be addressed in the Monument transport protocol.
2. The Applicant states that this research is currently being scheduled for presentation as part of the Hanauma Bay Lecture Series, and that he is open and interested in other public presentation opportunities.
3. 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, conditional on development of a peer-reviewed Monument transport protocol, 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, conditional on development of a peer-reviewed Monument transport protocol, 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 Michael Rappe, University of Hawaii, Hawaii Institute of Marine Biology.”

Respectfully submitted,



DAN POLHEMUS
Administrator

APPROVED FOR SUBMITTAL



LAURA H. THIELEN
Chairperson