

State of Hawai'i
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawai'i 96813

December 14, 2007

Board of Land and
Natural Resources
Honolulu, Hawai'i

Request for Authorization and Approval to Issue a Papahānaumokuākea Marine National
Monument Conservation and Management Permit to the Monument Co-Trustee
Representatives of the U.S. Department of the Interior, U.S. Fish and Wildlife Service;
U.S. Department of Commerce, National Oceanic and Atmospheric Administration; and
State of Hawai'i Department of Land and Natural Resources, for Access to State Waters
to Conduct Conservation and Management Activities.

The Division of Aquatic Resources (DAR) hereby submits a request for your authorization and approval for issuance of a Papahānaumokuākea Marine National Monument Conservation and Management permit to the Monument Co-Trustee representatives of the U.S. Department of the Interior, U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration, U.S. Department of Commerce (NOAA); State of Hawai'i Department of Land and Natural Resources (DLNR), pursuant to chapter 13-60.5, Hawai'i Administrative Rules (HAR), § 187A-6, Hawai'i Revised Statutes (HRS), the Memorandum of Agreement for promoting coordinated management of the Northwestern Hawaiian Islands Marine National Monument as signed by the Co-Trustees on December 8, 2006, and all other applicable laws and regulations.

The Conservation and Management Permit, as described below, will allow entry and management 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,
- Laysan Island,
- Maro Reef,
- Gardner Pinnacles,
- Lisianski Island, Neva Shoal,
- Pearl and Hermes Atoll, and
- Kure Atoll State Seabird Sanctuary.

The activities covered under this permit will occur from January 1, 2008 through December 31, 2008.

INTENDED ACTIVITIES

This Monument Conservation and Management Permit Application is to allow Co-Trustee Representatives in the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and State Department of Land and Natural Resources (applicants) to conduct management activities for the conservation and management of the Hawaiian Islands National Wildlife Refuge, Midway Atoll National Wildlife Refuge, Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, Northwestern Hawaiian Islands State Marine Refuge, Kure Atoll Hawai'i State Seabird Sanctuary, and the Papahānaumokuākea Marine National Monument.

NOAA, U.S. Fish and Wildlife Service, and the state DLNR perform coordinated management of the Papahānaumokuākea Marine National Monument to ensure proper care, protection and preservation of historic, cultural, and scientific resources. Applicants are the Superintendents of the Monument for NOAA and U.S. Fish and Wildlife Service, and the Administrators of the Division of Aquatic Resources and the Division of Forestry and Wildlife for the State of Hawai'i, DLNR. While the Applicants will collaborate and coordinate on activities that support the management of the Monument, activities will also be conducted subject to agency authorities and written interagency approvals.

This application, indicated by Applicants as a renewal of existing permit activities, is intended to cover all activities necessary to effectively co-manage the Papahānaumokuākea Marine National Monument. Applicants describe the scope of activities in their application as follows:

- Operating vessels and aircraft to provide access for conservation and management activities
- Conducting surveillance of activities and enforcing laws
- Conducting surveys and monitoring to detect status and trends on targeted species, habitats, cultural resources, and contaminants. Activities may include but are not limited to placement, installation and maintenance of scientific devices and equipment; debris removal, and live and dead biological sample collection
- Natural, historic, and cultural resource protection, restoration and remediation (such as returning seized materials, rehabilitating native species, and eradicating invasive species)
- Conducting activities for targeted education and interpretation and products
- Providing emergency response and post-emergency management
- Field station operations, including supplying and supporting station operations and field camps through delivery and/or removal of supplies and people, maintaining facilities and equipment, and providing necessary assets for operations
- Ensuring safety of operations
- Providing opportunities for on-site staff maintenance of personnel health and fitness

These activities are being requested in order to fulfill trust duties by providing coordinated interagency management of the Monument ecosystems, preventing duplicate efforts, and gaining efficiencies. All of the above activities will be conducted by NOAA, U.S. Fish and Wildlife, and State of Hawai'i DLNR employees, contractors, volunteers or other Federal and State employees under the direction and administrative control of the applicants.

PROCEDURES

The above activities will be conducted by employees, contractors, and volunteers under the direction and control of the applicants. All activities conducted in the Monument shall be executed in accordance with Presidential Proclamation 8031 (Proclamation) and other federal and state laws (e.g., Endangered Species Act, Marine Mammal Protection Act, Migratory Bird Treaty Act, National Environmental Policy Act, etc.). Each applicant is bound by laws, regulations, and policies associated with their management jurisdictions in addition to the Proclamation. Therefore actions on the Hawaiian Islands National Wildlife Refuge and Midway Atoll National Wildlife Refuge are subject to Presidential Executive Order 1019 of February 3, 1909, and Presidential Executive Order 13022 of October 31, 1996, respectively, the National Wildlife Refuge System Administration Act of 1966, as amended, 16 U.S.C. §§ 668dd-ee, the Refuge Recreation Act of 1962, 16 U.S.C. § 460k-3, Title 50 Code of Federal Regulations, and the U.S. Fish and Wildlife Service Manual. Actions in the Northwestern Hawaiian Islands State Marine Refuge, Kure Atoll State Seabird Sanctuary must comply with chapter 13-60.5, HAR, and § 187A-6, HRS. Similarly, actions in the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve are must be in compliance with the Presidential Executive Orders 13178 (December 4, 2000) and 13196 (January 18, 2001). Presidential Proclamation 8031 recognizes the great cultural significance of the Northwestern Hawaiian Islands to Native Hawaiians and the applicants will ensure that activities conducted in the Monument will benefit the Native Hawaiian community and support or advance the perpetuation of traditional knowledge and ancestral connections to the area. Per the Memorandum of Agreement signed on December 8, 2006, the applicants will also consult with the Monument Management Board including the Office of Hawaiian Affairs, on avoiding, or mitigating potential cultural resource impacts.

REVIEW PROCESS:

The permit application was sent out for review and comment to the following scientific entities: Division of Aquatic Resources staff, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), and United States Fish and Wildlife Service Pacific Islands Regional 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 supported the acceptance of this application. A single reviewer recommended that periodic presentations regarding Monument activities to be given to the general public.

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

OHA notes that the applicants adequately addressed potential impacts to cultural, archaeological and historic resources in the Monument. OHA notes with appreciation that the applicants addressed relevant cultural and historic preservation laws, and demonstrated a balanced concern for the natural, cultural, and historic resources, as required by the Presidential Proclamation 8031. In addition, OHA noted that these applicants appropriately stated a continued intention to coordinate and consult with OHA in management of the Monument.

RESPONSE:

DAR staff has learned, through consultation with Monument staff, that various efforts are currently being made to inform and educate the public regarding activities occurring within the Monument. Reports from Monument expeditions, which include activity summaries and interviews with Permittees, are available online at www.hawaiiatolls.org. During 2007, Monument staff also partnered with local station KHNL to conduct and broadcast weekly interviews from the field in the NWHI. In addition, Monument staff are currently developing video highlights focused on ongoing Monument research and conservation activities which will be available to the public, as well considering a public lecture series.

STAFF OPINION:

DAR staff is of the opinion that Applicants have properly demonstrated valid justifications for their application and that they and their staff 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:

1. To prevent introduction of disease or the unintended transport of live organisms, the Permittee must comply with the disease and transport protocol attached to this permit.
2. Fishing is prohibited in State Marine Refuge waters except as authorized under State law for subsistence, traditional and customary practices by Native Hawaiians.
3. Conservation and management activities must cease if Hawaiian monk seals are present in the immediate vicinity.
4. Tender and dive vessels operating within the Monument are encouraged to operate at slow speed and with a bow lookout in shallow water coral reef areas in order to

- minimize prop or bow damage to three dimensional coral reef habitat or endangered monk seals or sea turtles.
5. Tenders and small vessels must be equipped with engines that meet EPA emissions requirements.
 6. Refueling of tenders and all small vessels must be done at the support ships and outside the confines of lagoons or near-shore waters.
 7. 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 of sale of any organism, by-products, or materials collected within the Monument for obtaining patent or intellectual property rights.
 8. The Permittees 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.
 9. Each of the authorized personnel who participate in any activities in the NWHI under this permit shall, prior to any of such activities, read and attest with signature to the full agreement of all the term and conditions of this Permit. The signature/declaration sheets shall be submitted to the Co-trustees along with the updated personnel list, if any, prior to departures to the NWHI.
 10. All vessel support activities within the NWHI State Marine Refuge as related to Permittee's activities in the NWHI State waters under this permit, except those directly related to emergency response actions, shall require separate permit(s) approved and granted by the Board based on separate application(s). All vessels to be permitted to carry out Permittee's activities shall be subject to all the applicable protocols with regard to disease control, invasive species prevention and anchoring.

RECOMMENDATION:


"That the Board authorize and approve, with stated conditions, a Conservation and Management Permit to Monument Co-Trustee Representatives U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration; and State of Hawai'i, Department of Land and Natural Resources."

Respectfully submitted,



for DAN POLHEMUS
Administrator

APPROVED FOR SUBMITTAL



LAURA H. THIELEN
Chairperson

Northwestern Hawaiian Islands Marine National Monument Permit Application

NOTE: This Permit Application (and associated Instructions) are for activities to be conducted in the Northwestern Hawaiian Islands Marine National Monument, including Hawaiian Islands National Wildlife Refuge, the Midway Atoll National Wildlife Refuge, Battle of Midway National Memorial, Northwestern Hawaiian Islands State Marine Refuge, Kure Atoll Hawaii State Seabird Sanctuary, and the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. The Co-Trustees are required to determine that issuing the requested permit is compatible with the findings of Presidential Proclamation 8031. Within this Application, please 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, historical and cultural resources of the NWHI Marine National Monument (Monument).

Summary Information

Applicant name:

Susan White, U.S. Fish and Wildlife Service
T. 'Aulani Wilhelm, National Oceanic and Atmospheric Administration
Dan Polhemus and Paul Conry, State of Hawai'i Department of Land and Natural Resources

Permit categories:

- Research – Please fill out Sections A-D (as applicable) and Appendix A
- Conservation and Management - Please fill out Sections A-D (as applicable) and Appendix A
- Education - Please fill out Sections A-D (as applicable) and Appendix B
- Native Hawaiian Practices - Please fill out Sections A-D (as applicable) and Appendix C
- Recreation (Midway ONLY) - Please fill out Sections A-D (as applicable) and Appendix D
- Special Ocean Use - Please fill out Sections A-D (as applicable) and Appendix E

Briefly describe permit activity:

This Monument Conservation and Management Permit Application is to allow the Co-Trustee Representative in the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and State of Hawai'i Department of Land and Natural Resources (applicants) to conduct management activities for the conservation and management of the Hawaiian Islands National Wildlife Refuge, Midway Atoll National Wildlife Refuge, Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, Northwestern Hawaiian Islands State Marine Refuge, Kure Atoll Wildlife Sanctuary, and the Papahānaumokuākea Marine National Monument.

- This application is for a RENEWAL of an existing permitted project.
- This application is for a NEW project.

When will the activity take place?

From: 1 January 2008 To: 31 December 2008

NOTE: INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED

Please Send Permit Applications to:
NWHI Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300

NWHI Monument Permit Application

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Honolulu, HI 96825

nwhipermit@noaa.gov

PHONE: (808) 397-2660 FAX: (808) 397-2662

**NOTE: SUBMITTAL VIA ELECTRONIC MAIL IS PREFERRED BUT NOT
REQUIRED. FOR ADDITIONAL SUBMITTAL INSTRUCTIONS, PLEASE SEE PG 7.**

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial):

White, Susan, Superintendent, Papahānaumokuākea Marine National Monument, U.S. Fish and Wildlife Service

Wilhelm, T. 'Aulani, Superintendent, Papahānaumokuākea Marine National Monument, National Oceanic and Atmospheric Administration

Polhemus, Dan, A., Administrator, Division of Aquatic Resources, State of Hawai'i Department of Land and Natural Resources

Conry, Paul, J., Administrator, Division of Forestry and Wildlife, State of Hawai'i Department of Land and Natural Resources

Title: See Above Information

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

Susan White, Superintendent,
Papahānaumokuākea Marine National Monument
P.O. Box 50167
Honolulu, HI 96850

T. 'Aulani Wilhelm, Superintendent,
Papahānaumokuākea Marine National Monument
6600 Kalaniana'ole Hwy, Suite 300
Honolulu, HI 96825

Dan Polhemus, Administrator
Division of Aquatic Resources
State of Hawai'i Department of Land and Natural Resources
1151 Punchbowl Street, Room 330
Honolulu, HI 96813

Paul Conry, Administrator
Division of Forestry and Wildlife
State of Hawai'i Department of Land and Natural Resources
1151 Punchbowl Street, Room 325
Honolulu, HI 96813

Phone:

Susan White, 808-792-9540

T. 'Aulani Wilhelm, 808-397-2660

Dan Polhemus, 808-587-0100

Paul Conry, 808-587-0166

Fax:

Susan White, 808-792-9540

Dan Polhemus, 808-587-0115

Paul Conry, 808-587-0160

Email:

Susan White, Susan_White@fws.gov

T. 'Aulani Wilhelm, Aulani.Wilhelm@noaa.gov

Dan Polhemus, Dan.A.Polhemus@hawaii.gov

Paul Conry, Paul.J.Conry@hawaii.gov

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

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

Susan White, Superintendent, Papahānaumokuākea Marine National Monument, U.S. Fish and Wildlife Service

T. 'Aulani Wilhelm, Superintendent, Papahānaumokuākea Marine National Monument, National Oceanic and Atmospheric Administration

Dan Polhemus, Administrator, Division of Aquatic Resources, State of Hawai'i Department of Land and Natural Resources

Paul Conry, Administrator, Division of Forestry and Wildlife, State of Hawai'i Department of Land and Natural Resources

4. Additional persons to be covered by permit:

The following positions/persons may enter the Monument for conservation and management activities listed in this application.

U.S. Fish and Wildlife Service -

Twenty-seven Honolulu Staff include Steve Barclay (Volunteer), Ann Bell (Outdoor Recreation Planner), Elizabeth Flint (Supervisory Wildlife Biologist), Ian Jones (Volunteer), Ken Foote (Information and Education Specialist), Sandra Hall (External Affairs Assistant), Jason Hanley (Invasive Species Coordinator), Dominique Horvath (Refuge Operations Specialist), Wendy James (Budget Technician), Jerry Leinecke (Deputy Project Leader), Patrick Leonard (Field Supervisor), James Maragos (Coral Reef Biologist), Barbara Maxfield (Chief of External Affairs and Visitor Services), Patricia Moriyasu (Budget Technician), Don Palawski (Refuge Manager), Charlie Quitugua (Refuge Zone Officer), Mark Ramano, Cynthia Rehkemper (Biological Science Technician), Mike Richardson (Fish and Wildlife Biologist), Stuart Sakurai (Administrative Officer), Gina Shultz (Assistant Field Supervisor), Barry Stieglitz (Project Leader), LeeAnn Woodward (Contaminants Specialist), 1 TBN Permit Coordinator, 1 TBN Logistics Manager, 1 TBN Wildlife Biologist, 1 TBN Refuge Manager. Nihoa Staff includes 4 TBN Biological Science Technicians or Volunteers. Thirty-four French Frigate Shoals Staff include David Zabriskie (Wildlife Refuge Specialist), 1 TBN Refuge Manager, 2 TBN Biological Science Technicians, 10 TBN Biological Science Volunteers, and 20 TBN Maintenance Staff and Contractors. Ten Laysan Island Staff include Christal Bechaver (Biological Science Technician), John Dvorak (Volunteer), Ann Humphrey (Volunteer), Jonathan Shore (Biological Science Technician), 4 TBN Biological Science Technicians and 6 TBN Biological Science Volunteers. Lisianski Staff includes 2 TBN Biological Science Technicians or Volunteers. Pearl and Hermes Staff includes 2 TBN Biological Science Technicians or Volunteers. Fifteen Midway Atoll NWR Staff includes Barry Christenson (Refuge Manager), Matthew Brown (Deputy Refuge Manager), John Klavitter (Wildlife Biologist), Peter Leary, Greg Shubert, John Miller, 1 TBN Refuge Officer, 1 TBN Visitor Services Manager, 2 TBN Park Rangers, 5 TBN Biological Science Technicians or Volunteers. Fifty-six Midway Atoll NWR Contractors include 5 Airport staff, 3 Fuel Farm staff, 3 Water Plant staff, 3 Generator staff, 3 Transportation staff, 8 Electricians staff, 5 Kitchen staff, 2 Hotel staff, 2 Communications/IT staff, 14 Public Works staff, 1 Grounds staff, 5 Administration staff, 1 Medical staff.

National Oceanic and Atmospheric Administration -

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Sean Corson (Acting Deputy Superintendent), Randall Kosaki (Research Coordinator), Andy Collins (Education and Technology Coordinator), Moani Pai (Administrative Officer), Field Operations Specialist, Program Coordinator, Information Technology Support Specialist, GIS Specialist, Policy Specialist, Mokupapapa Discovery Center Manager, Policy Program Manager, Policy Analyst, Constituent Outreach and Development Associate, Constituent Relations Associate, Resource Protection Specialist, Mokupapapapa Discovery Center Programs Coordinator, Research Support Specialist, Field Operations Specialist, Field Operations Coordinator, Program Associate, Special Agent, NOAA Fisheries,.

William Robinson (Regional Administrator), Michael Tosatto (Deputy Regional Administrator), Margaret Akamine (Program Officer).

State of Hawaii -

Athline Clark (Special Projects Manager), David Smith (Wildlife Manager), Cynthia Vanderlip (Kure Wildlife Sanctuary Manager), 1 TBN Monument Superintendent, Kerry Irish (Policy Coordinator), Wayne Haight (Research Coordinator), Danielle Carter (Permit Coordinator), 6 TBN Kure Wildlife Sanctuary Volunteers, 6 TBN Aquatic Biologists, 6 TBN Aquatic Nuisance Species Response Team staff, 5 TBN Biological Science Volunteers, 1 TBN Outreach and Education Specialist

Members of the Monument Management Board (MMB) and the Interagency Coordinating Committee (ICC) who are comprised of, but not limited to: Environmental Protection Agency (EPA), Department of Defense (DOD), US Coast Guard (USCG), U.S. Geological Survey Pacific Island Ecosystems Research Center, NOAA Office of Law Enforcement (OLE), USFWS OLE, DLNR Department of Conservation and Resource Enforcement (DOCARE), Office of Hawaiian Affairs (OHA) and State of Hawaii Department of Health (HDOH).

Other staff or contractors necessary for the permitted activities may enter the Monument for conservation and management activities. Invited media representatives may enter the Monument to provide public information of conservation and management activities. All personnel will be identified and information will be provided to the Monument permit coordinators prior to entry to the Monument.

The applicants shall ensure that any person assigned to any conservation and management activities allowed under this permit is qualified to perform in the assigned role and is limited to the scope of action set forth in this permit and all other applicable policies, protocols, permits, and regulations.

Section B: Project Information

5a. Project location(s):

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

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

Location Description:

This permit application encompasses all conservation and management activities that the permit applicants may conduct throughout the entire 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:*

The applicants propose activities that constitute management activities for the conservation and management of the Hawaiian Islands National Wildlife Refuge, Midway Atoll National Wildlife Refuge, Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, Northwestern Hawaiian Islands State Marine Refuge, Kure Atoll Wildlife Sanctuary, and the Papahānaumokuākea Marine National Monument. While the permit applicants will collaborate and coordinate on activities that support the management of the Monument, activities will also be conducted subject to agency authorities and written interagency approvals.

All activities conducted in the Monument shall be executed in accordance with Presidential Proclamation 8031 (Proclamation) and other federal and state laws (e.g. Endangered Species Act, Marine Mammal Protection Act, Migratory Bird Treaty Act, National Environmental Policy Act, Native American Graves Protection and Repatriation Act, National Historic Preservation Act, American Indian Religious Freedom Act, etc.). Each applicant is bound by laws, regulations, and policies associated with their management jurisdictions in addition to the Proclamation. Therefore actions on the Hawaiian Islands National Wildlife Refuge and Midway Atoll National Wildlife Refuge are subject to Presidential Executive Order 1019 of February 3, 1909, and Presidential Executive Order 13022 of October 31, 1996, respectively, the National Wildlife Refuge System Administration Act of 1966, as amended, 16 U.S.C. §§ 668dd-ee, the Refuge Recreation Act of 1962, 16 U.S.C. § 460k-3, Title 50 Code of Federal Regulations, and the U.S. Fish and Wildlife Service Manual. Actions in the Northwestern Hawaiian Islands State Marine Refuge, Kure Atoll Wildlife Sanctuary must comply with Hawaii Administrative Rules, §13-60.5, Hawaii Revised Statutes, § 187A-6. Similarly, actions in the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve are must be in compliance with the Presidential Executive Orders 13178 (December 4, 2000) and 13196 (January 18, 2001). Presidential Proclamation 8031 recognizes the great cultural significance of the Northwestern Hawaiian Islands to Native Hawaiians and the applicants will ensure that activities conducted in the Monument will benefit the Native Hawaiian community and support or advance the perpetuation of traditional knowledge and ancestral connections to the area. Per the Memorandum of Agreement signed on December 8, 2006, the applicants will also consult with the Monument Management Board including the Office of Hawaiian Affairs, on avoiding, or mitigating potential cultural resource impacts.

To accomplish the conservation and management of this ecosystem the permit applicants may carryout the following:

1) Operations

- *Law enforcement activities;
- *Field station operations to support on-site management and resource conservation;
- *Monument facilities, infrastructure, utilities, or equipment repair, maintenance, replacement, or removal;
- *Field Camp Supply and Support:
 - Delivery and removal of supplies, people, waste, and/or assets necessary for operations;
- *Operations and On-site Reviews:
 - Operations and on-site reviews by management, congressional, state, and personnel;
 - Conducting agency site visits and meetings for management planning and programmatic assessments
 - Conducting on-site management and reviews to gauge implementation and effectiveness of Monument management and programs;
- * Flight Operations:
 - Operating, maintaining, and using Henderson Airfield at Midway Atoll as identified by Congress, the Federal Aviation Administration, and the U.S. Fish and Wildlife Service. Operating, maintaining, and using the runway at Tern Island.
- *Vessel operations:
 - Operating vessels to provide access for conservation and management activities;
 - Anchoring of authorized vessels on non-coral substrate only. Anchors will be lowered into place. No coral will be disturbed in any anchoring operation; and
- *Sustenance Fishing:
 - Collecting only bottom fish and pelagic species for consumption in the Monument.
 - Sustenance fishing will not occur within Midway Atoll Special Management Area unless the U.S. Fish and Wildlife Service determines this activity to be compatible.

2) Human Physical Activities

*Personnel Fitness and Health Maintenance:

- Providing opportunities for on-site staff maintenance of personal health and fitness.
- Field staff and contractors are stationed in the Monument sometimes year-round. For physical and mental health they must take part in regular physical activity and exercise. Biking and jogging occur only at French Frigate Shoals and Midway.

3) Natural, Historic and Cultural Resource Protection, Restoration, and Remediation

*Habitat and Resource Protection and Restoration

- Activities such as: recovery actions for listed species, collection of species for propagation or translocation, propagating and out-planting or release of native species, invasive species control and eradication projects, removal of debris and trash and managing trust species;

*Providing Emergency Response, Injury Assessment, Mitigation, Restoration, and Monitoring and Post-Emergency Management:

- Activities as necessary for emergency response, injury assessment, mitigation, restoration, monitoring, and post-emergency management in coordination with appropriate federal and/or state resource agencies and as appropriate consistent with NOAA, FWS and State of Hawaii Damage Assessment and Restoration regulations, policies, and procedures (e.g. damage assessments, monitoring alien species, monitoring coral bleaching events, collection of bleached coral or alien species);

*Preserving Cultural or Historic Resources:

- Includes collection of post-contact artifacts as needed;
- Returning seized Monument resources to their natural environment in coordination with appropriate federal and/or state resource agencies, including the Office of Hawaiian Affairs, as appropriate;
- Maintenance preservation and perpetuation of Native Hawaiian cultural sites and practices per the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Archaeological Resources Protection Act, and applicable sections of the Hawaii Revised Statutes;

*Marine Mammal Unusual Mortality Event or Stranding Response:

- Activities in response to a marine mammal unusual mortality event or mass stranding or other urgent marine mammal response.

4) Resource Survey and Monitoring

*Surveys and monitoring of target species, habitats, or other resources to evaluate status and trends for management purposes:

- Activities such as placement, installation, and maintenance of scientific equipment, devices, markers; collecting biological, climatological, geological, or archaeological samples for study, education purposes, or museum collections, including collection of biological voucher specimens that cannot be visually identified on the spot and/or may represent new geographic records or new species.

5) Outreach and Education

*Education Activities:

- Collecting information and experiences from the Monument to develop agency web pages, Navigating Change projects, and other outreach projects, etc.
- Supporting environmental education workshops or classes.

7. As explained further in the instructions, please provide any 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, historical and cultural resources of the Monument:

1. The activity can be conducted with adequate safeguards for the natural, cultural and historic resources and ecological integrity of the Monument

All conservation and management activities conducted by the permit applicants 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. All agencies have field protocols and best management practices, many of which have been in place and time tested. These practices and procedures will minimize and/or eliminate disturbance to wildlife,

flora and habitats. Long and short-term monitoring data is used to inform management and conservation actions to maintain the ecological integrity of the Monument.

2. The activity will be conducted in a manner compatible with the management direction of the Proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument resources, qualities, and ecological integrity, any indirect, secondary or cumulative effects of the activity, and the duration of such effects

The activities requested are directed by Presidential Proclamation 8031 and other state and federal laws, regulations, and policies. The applicants will manage the Monument's natural, historic, and cultural resources, qualities, and ecological integrity in a way that will not diminish and will likely enhance them. Indirect, secondary, and cumulative effects of management activities are always considered.

3. There is no practicable alternative to conducting the activity within the Monument

On June 15, 2006, President Bush established the Papahānaumokuākea Marine National Monument by issuing Presidential Proclamation 8031 (71 FR 36443, June 26, 2006) under the authority of the Antiquities Act (16 U.S.C. 431). This proclamation designated that the Monument would be managed by Department of Commerce through NOAA, Department of the Interior through USFWS, and the State of Hawai'i through Department of Land and Natural Resources. These agencies are responsible for the conservation and management of the Monument and are working cooperatively and consulting with each other to administer the Monument.

The applicants have been directed to provide unified conservation and management of the lands and waters of the Monument; therefore there is no practicable alternative to conducting management activities outside the Monument.

4. The end value of the activity outweighs its adverse impacts on Monument resources, qualities, and ecological integrity

The end value is to gain knowledge which will allow educated management decisions and provide for long-term protection of the Monument. By taking appropriate management actions – from monitoring to habitat enhancement, to education – agencies will be able to anticipate needs, take appropriate action, and allow only activities that enhance the quality and integrity of the natural, historic, and cultural resources of the Monument.

The applicants will employ time-tested best management practices to minimize and mitigate adverse impacts. Long-term protection will outweigh any adverse impacts that may occur.

5. The duration of the activity is no longer than necessary to achieve its stated purpose

All conservation and management activities conducted by the permit applicants are conducted in the shortest possible window to prevent or eliminate disturbance to the natural, historic, and cultural resources of the Monument.

6. The applicant is qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct

Among the four permit applicants, their representative management, biological, interpretive, law enforcement, administrative, and maintenance staff expertise and knowledge of the ecosystem and locations range from microfauna to the macrofauna and all flora in between. These experts provide their knowledge and recommendations in all management decisions so that all impacts are minimized and mitigated if necessary.

7. The applicant has adequate financial resources available to conduct and complete the proposed activity and mitigate any potential impacts resulting from its conduct

The applicants have adequate financial resources available to conduct the proposed management activities. Federal funding is provided through congressional appropriation. State funding is provided through State of Hawai'i funding processes.

8. The methods and procedures proposed by the applicant are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument resources, qualities, and ecological integrity

The methods and procedures used in the conservation and management activities by the permit applicants are appropriate to achieve the proposed activity's goals. All activities proposed are required for effective management of the Monument and are conducted in a way that minimizes impact as required by law. Management activities assist the applicants to protect the Monument natural, historic, and cultural resources, qualities, and ecological integrity.

9. The applicant's vessel has been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of Proclamation 8031

All large vessels used by the applicants will be outfitted with a mobile transceiver unit approved by OLE as required by Proclamation 8031.

10. There are no other factors that would make the issuance of a permit for the activity inappropriate

There are no other factors that would make the issuance of a permit for the listed activities inappropriate.

8. Procedures:

The above activities will be conducted by employees, contractors, and volunteers under the direction and control of the applicants in accordance with Presidential Proclamation 8031 and all other applicable laws and regulations.

The applicants will abide by the following policies and procedures, among others that may be developed, when operating in the Monument:

1. Monument Disease and Introduced Species Prevention Protocols;
2. Hull, tender vessel, ballast water, and gear alien species inspection;
3. Rat-free inspection;
4. All USFWS refuge policies and procedures for conduct on the two wildlife refuges (HINWR and MANWR);
5. All policies and procedure's for conduct in Northwestern Hawaiian Islands Hawaii State Marine Refuge and Kure Atoll Wildlife Sanctuary;
6. Hawaii Administrative Rules, §13-60.5, the Hawaii Revised Statutes, § 187A-6; and
7. All other applicable state and federal laws and regulations.

Section C: Logistics

9. Other permits (list and attach documentation of all other related Federal or State permits):

Current Permits for Same Activities

1. Take of Endangered and Threatened Species, – USFWS – TE-702631, USFWS-TE-003483-21, USFWS-TE-739350-3
2. Federal Bird Banding Permit, – USGS – 22570
3. Marine Mammal Permit (Monk Seal – Research) – NOAA 848-1695-02
4. Depredation Permit – USFWS – MB097755-0 (Cattle Egret Control)
5. Communication systems (Broadcast/Receive Frequencies) at Midway are all licensed by FAA and FCC as appropriate. Contact refuge for additional information.
6. The USFWS is the Operator of Record of Henderson Airfield (Sand Island – Midway Atoll) and maintains its Certification as required in 14 CFR Part 139 (Federal Code of Regulations). The airfield is a certified ETOPS (emergency designation) airfield and is maintained with funding by both FAA and the USFWS. This includes UHF-VHF radio systems, AWOS (automated weather) and NDB (Non-directional Beacon) systems. Contact refuge for additional information.
7. Kure marine debris removal – DLNR/NWHI/07C001
8. DAR NWHI Ulua Fish Tagging Project – DLNR/NWHI/06R020
9. Coral Reef Ecosystem Reserve Management Activities – NWHICRER-2004-001
10. Monument Management Activities – NWHIMNM-2006-001

Previous Permits for Same Activities

1. HINWR Management Activities 2006 - DLNR.NWHI.06R022
2. HINWR Management Activities 2006 – NWHIMNM-2006-019
3. HINWR Management Activities 2007 – DLNR.NWHI.07S001
4. HINWR Management Activities 2007 – NWHIMNM-2007-002
5. MANWR Management Activities 2007 – NWHIMNM-2007-005
6. Kure marine debris removal –DLNR/NWHI/06R010

9a. For each of the permits listed, please identify any permit violations or any permit that was suspended, amended, modified or revoked for cause. Please explain the circumstances surrounding the violation or permit suspension, amendment, modification or revocation.

There are no permit violations to report.

10. Funding sources (Please attach copies of your budget, specific to proposed activities under this permit and include funding sources. Please see instructions for more information):

All activities will be conducted using allocated federal or state budgets as appropriate.

11. Time frame:

Activity start: Current

Activity completion: In perpetuity

Dates actively inside the Monument:

From: 1 January 2008

To: 31 December 2008

Please describe any limiting factors in declaring specific dates of the proposed activity at the time of application:

N/A

Personnel schedule in the Monument:

All personnel listed above may enter Monument to conduct the Conservation and Management activities listed in this permit application at any time between 1 January 2008 and 31 December 2008.

12. Please 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:

Federal and state agencies are self-insured.

13. Please check the appropriate box to indicate how personnel will enter the Monument:

Vessel

Aircraft

Provide Vessel and Aircraft information:

Any cargo vessel/aircraft used for regular Monument conservation and management activities will comply with required insurance, invasive species prevention, discharge, notification, and vessel monitoring system requirements and policies for the Monument. All documentation will be provided as vessels are selected and prepared to enter the Monument. All inspections will be completed no later than 2 weeks prior to entering the Monument.

14. What certifications/inspections do you have scheduled for your vessel? Please fill in scheduled date (attach documentation):

This information will be provided to the Monument permit coordinators as it becomes available.

Rodent free, Date:

Tender vessel, Date:

Ballast water, Date:

Gear/equipment, Date:

Hull inspection, Date:

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

Vessel name:

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):

Total number of ballast water tanks on ship:

Total fuel capacity:

Total number of fuel tanks on ship:

Marine Sanitation Device:

Type :

How will you comply with the 'No Discharge' regulations stipulated in Presidential Proclamation 8031? Describe in detail. If applicable, please attach schematics of the vessel's discharge and treatment systems:

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

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

VMS Email:

Inmarsat ID#:

16. Tender information:

On what workboats (tenders) will personnel, gear and materials be transported within the Monument? Please list the number of tenders/skiffs aboard and specific types of motors:

For work throughout the Monument and launched from various approved vessels the following workboats will be used:
Safeboat – NOAA
Boston Whaler – NOAA

For work at French Frigate Shoals that includes inter-islet transit the following workboats will be used:
17' Boston Whaler with one 50 horse power 4-stroke Honda engine and one 9.9 horse power 4-stroke Honda engine
17' Boston Whaler with one 50 horse power 4-stroke Honda engine and one 9.9 horse power 4-stroke Honda engine
19' Safeboat with two 60 horse power 4-stroke Mercury engines

For work at Midway Atoll that included inter-island transit the following workboats will be used:

16' Boston Whaler with one 50 horse power 4-stroke Honda engine
18' Boston Whaler with 75 horse power 4-stroke Honda engine
22' Awesome with two 90 horse power 4-stroke Honda engines
22' Glasspro with two 50 horse power 4-stroke Honda engines
22' Glasspro with two 70 horse power 4-stroke Johnson engines
22' Safeboat with two 70 horse power 4- stroke engines
25' Spill Response oil-skimmer – inboard/outboard Mercury
26' Boston Whaler with two 115 horse power 4-stroke Honda engines
26' Glacier Bay – two 130hp Honda (4-stroke)
31' Safeboat with two 225 horse power 4- stroke Honda engines
46' LCM (USN Landing Craft) – twin Detroit diesels

For work at Kure Atoll that included inter-island transit the following workboats will be used:

10' inflatable Avon with one 15 horse power 4-stroke engine
17' Power Cat with one 40 horse power 4-stroke Honda engine and one 25 horse power 4-stroke Yamaha engine

Section D: Additional Information for Land Based Operations

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

Personnel, gear, and materials will be moved on NOAA research vessels, University of Hawaii research vessels, authorized charter vessels, and aircraft (to Midway Atoll and Tern Island, French Frigate Shoals) as needed.

18. Room and board requirements on island:

Agency staff will be provided room and board as coordinated by the permit applicants on the islands within the Monument as appropriate. Agencies will pay fees at Midway Atoll National Wildlife Refuge as necessary for room and board costs.

19. Work space needs:

Agency staff will be provided work space as coordinated by the permit applicants on the islands within the Monument as appropriate.

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.

Signature

Date

PLEASE SEND ONE SIGNED APPLICATION VIA MAIL TO THE MONUMENT OFFICE BELOW:

NWHI 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
- Electronic and Hard Copy of Application with Signature
- 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
- Statement of information you wish to be kept confidential

Appendix A: Research OR Conservation and Management Application

NOTE: If land or marine archeological activities are involved, please 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, please contact the Monument office on the first page of this application.

1a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):

Collections will occur as necessary to support the management activities listed under Section B, Number 6. Collections will occur as needed in the following instances:

- Collecting species for propagation or translocation;
- Collecting post-contact artifacts as needed;
- Collecting biological, climatological, geological, or archaeological samples for study, management and education purposes, or museum collections;
- Collection of biological voucher specimens that cannot be visually identified on the spot and/or may represent new geographic records or new species.

Common name:

Scientific name:

& size of specimens:

Collection location:

Whole Organism Partial Organism

1b. What will be done with the specimens after the project has ended?

Collections and specimens will be processed and archived according to agency protocols and best management practices. Some material may be provided for educational materials or museum vouchers and studies. When practicable, and desirable, collections and specimens will be returned to the Monument at the location of collection.

1c. Will the organisms be kept alive after collection? Yes No

• Specific site/location:

• Is it an open or closed system? Open Closed

• 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?

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

Collected samples and specimens will be transported out of the Monument by approved aircraft or vessel unless used for management within the Monument. Appropriate media for preservation will be used, and are incident or specimen specific.

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

Collaborative activities are always a goal, and are incident specific. Collaboration opportunities will be sought out and will be entered into as opportunities present themselves.

4a. Gear and materials:

All gear and materials necessary for the activities listed in Section B, Number 6 are either available on location or will be provided by the acting agency as necessary. All gear and materials will be selected and treated according to invasive species and disease prevention protocols.

4b. Please list all Hazardous Materials you propose to take to and use within the Monument:

All hazardous materials necessary for the activities listed in Section B, Number 6 are either available on location or will be provided by the acting agency as necessary. Hazardous materials will not be stored or transported in the Monument in amounts greater than that needed to complete management activities. All U.S. Department of Transportation safety measures will be followed for storage and transport of hazardous materials within the Monument.

5. Fixed installations and instrumentation:

Fixed installations and instrumentation will be used in marine and terrestrial survey, monitoring, and conservation activities such as:

- Placement, maintenance, testing, and removal of measuring devices and related equipment;
- Placement of weighted floats and/or lines affixed directly to the seabed for the purposes of grounding response or benthic surveys;
- Setting of survey stakes;
- Coring the seabed to determine adequacy of the substrate of installation of moorings and permanent monitoring stations;
- Installation and maintenance of moorings, boundary buoys, and permanent monitoring stations;
- Placement of scientific equipment.

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

Samples and data will be analyzed as quickly as possible if they are collected, and publication of resulting information will follow. All data or a summary description will be provided in the permit reports as required by the permit resulting from this application.

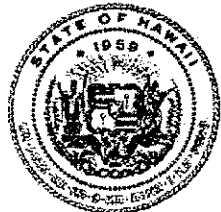
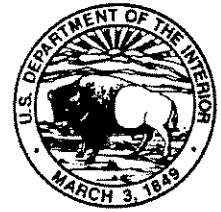
7. List all publications directly related to the proposed project:

N/A

DID YOU INCLUDE THESE?

Material Safety Data Sheets for Hazardous Materials

**PAPAHĀNAUMOKUĀKEA
MARINE NATIONAL MONUMENT
PERMIT**



Papahānaumokuākea Marine
National Monument
6600 Kalanianaʻole Hwy
Suite 300
Honolulu, HI 96825

Permittee:	Permit Number:	PMNM-200x-xxx
	Effective Date:	
	Expiration Date:	

Project Title: _____

This permit is issued for activities in accordance with Proclamation 8031 (“Proclamation”) establishing the Papahānaumokuākea Marine National Monument (“Monument”) under the Antiquities Act of 1906, 16 USC §§ 431-433 (“Antiquities Act”) and implementing regulations (50 CFR Part 404). All activities must be conducted in accordance with the Proclamation and the regulations (attached). No activity prohibited by the Proclamation or 50 CFR Part 404 is allowed except as specified below.

Subject to the terms and conditions of this permit, the National Oceanic and Atmospheric Administration (NOAA), the State of Hawai‘i, and the U.S. Fish and Wildlife Service (collectively, the Co-Trustees) hereby authorize the permittee listed above to conduct _____ activities within the Monument. All activities are to be conducted in accordance with this permit. The permit application is incorporated into this permit and made a part hereof; provided, however, that if there are any conflicts between the permit application and the terms and conditions of this permit, the terms and conditions of this permit shall be controlling.

PERMITTED ACTIVITY DESCRIPTION:

The following activities are authorized by this permit:

- 1.

No further disturbance of the cultural or natural resources of the Monument is allowed.

PERMITTED ACTIVITY LOCATION:

Other than entrance into the Monument, the permitted activities listed above are allowed at the following locations:

- 1.

GENERAL TERMS AND CONDITIONS:

In accordance with the Proclamation and applicable regulations, the permitted activities listed above are subject to the following general terms and conditions:

1. The permittee must sign and date this permit on the appropriate line below. Once signed and dated, the permittee must provide a signed original copy to the Monument official identified below. The permit becomes valid on the date the last Monument official signs the permit and shall remain valid for not more than one (1) year from that date.

Permit Coordinator
Papahānaumokuākea
Marine National Monument
6600 Kalaniana'ole Hwy. Suite 300
Honolulu, HI 96825

2. This permit is neither transferable nor assignable and must be carried by the permittee while engaging in any activity authorized by this permit. All other persons entering the Monument under the authority of this permit must provide the name of the permittee or the permit number to any authorized enforcement or management personnel upon request.
3. This permit may only be modified by written amendment approved by the Co-Trustees. Modifications to this permit must be requested in the same manner as the original request was made. Any modifications requested by the permittee, such as adding or changing personnel to be covered by the permit or to change the activities that are allowed, must be made in writing.
4. This permit is subject to suspension, modification, non-renewal, or revocation for violation of the Proclamation, implementing regulations, or any term or condition of the permit. Any verbal notification of a violation from an authorized Monument representative may require immediate cessation of activities within the Monument. The issuance of a permit shall not constitute a vested or property right to receive additional or future permits. This permit may, in the sole discretion of the Co-Trustees, be renewed or reissued. However, there is no right

to a renewal or re-issuance of a permit. Failure to fulfill permit requirements may affect consideration of future permit applications.

5. Permit terms and conditions shall be treated as severable from all other terms and conditions contained in this or any other ancillary permit. In the event that any provision of this permit is found or declared to be invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining terms or conditions of this permit.
6. This permit does not relieve the permittee of responsibility to comply with all federal, state and local laws and regulations. Activities under this permit may be conducted only after any other permits or authorizations necessary to conduct the activities have been obtained.
7. The permittee may be held liable for the actions of all persons entering the Monument under the authority of this permit.
8. All persons entering the Monument under the authority of this permit are considered under the supervision of the permittee and may be liable in addition to the permittee for any violation of this permit, the Proclamation and implementing regulations in conjunction with this permit. The permittee must ensure that all such persons have been fully informed of the permit terms and conditions prior to entry into the Monument. Each such person must provide written acknowledgment to the permittee, prior to entry into the Monument, that he/she has received a copy of the permit, agrees to abide by all applicable terms and conditions, and may be liable for violations of the permit. The permittee shall maintain all signed acknowledgments and submit them with the summary report described in General Condition #22.b.
9. Notification of entry into the Monument must be provided at least 72 hours, but no longer than one month, prior to the entry date. Any updates to the list of personnel must also be provided at least 72 hours before entering the Monument. Notification of departure from the Monument must be provided within 12 hours of leaving the Monument. Notification may be made via e-mail, or telephone by contacting: E-mail: nwhi.notifications@noaa.gov; Telephone: 1-866-478-6944; or 1-808-395-6944. No other methods of notification will be considered valid.
10. The permittee and any person entering the Monument under the authority of this permit shall, before entering the Monument, attend a cultural briefing or view designated cultural informational materials on Papahānaumokuākea regarding the region's cultural significance and Native Hawaiians' spiritual and genealogical connection to the natural and cultural resources. Persons entering the Monument at Midway Atoll may satisfy this requirement upon arrival.
11. All vessels (including tenders and dive boats), engines and anchor lines shall be free of introduced species prior to entry into the Monument. To ensure this, all

vessels, engines and anchor lines shall be inspected for potential introduced species prior to departing the last port before entering the Monument. No later than 24 hours prior to entry, the permittee shall provide the Monument Permit Coordinator with a report prepared by the individual conducting the inspection that: a) sets forth when and where the inspection occurred; b) identifies any introduced species observed, including where found; c) summarizes efforts to remove any species observed; and d) certifies the vessel as free of all introduced species. The Monument Permit Coordinator shall review the report and, based on the review, may delay the entry into the Monument until all concerns identified by the Monument Permit Coordinator have been addressed.

12. All hazardous materials, biohazards and sharps, must be pre-approved by the Co-Trustees. For purposes of this permit, "hazardous material" has the same meaning as the definition found at 49 CFR §105.5 (U.S. Department of Transportation). All hazardous materials, biohazards and sharps must be stored, used, and disposed of according to applicable laws and Monument-approved protocols. The permittee, or a designated individual entering the Monument under the authority of this permit must be properly trained in the use and disposal of all such materials proposed. Proof of appropriate training may be required by the Co-Trustees. No such material may be left in the Monument after the departure of the permittee unless it has been previously approved by Monument staff. Immediately after the project is complete the permittee must remove all such materials from the Monument. The permittee will be responsible for all costs associated with use, storage, transport, training, disposal, or HazMat response for these materials.
13. All equipment or supplies brought into the Monument, or structures of any kind built in the Monument by the permittee are the responsibility of the permittee. All materials that are brought to the Monument by the permittee must be removed by the permittee except as otherwise permitted. Any permanent structures, equipment, or supplies that require maintenance, are determined to be unserviceable, or are a safety hazard, must be immediately repaired or removed from the Monument by the permittee. No structures, equipment, or supplies may be left in the Monument following the completion of the project except as listed in the permit.
14. If Monument staff are present at the field site, the permittee must meet with them before beginning permitted activities. Even with a valid permit, authorized Monument staff may prohibit entry into any location(s) within the Monument as they may deem appropriate to conserve or manage resources, particularly in areas where cumulative impacts of permitted activities are concentrated.
15. In order to facilitate monitoring and compliance, any person entering the Monument under the authority of this permit, including assistants and ship's crew shall, upon request by authorized Monument enforcement personnel, promptly: a) allow access to and inspection of any vessel or facility used to carry out permit

activities; b) produce for inspection any sample, record, or document related to permit activities, including data, logs, photos, and other documentation obtained under, or required by, this permit; and c) allow inspection on board the vessel or at the permittee's premises of all organisms, parts of organisms, and other samples collected under this permit.

16. It is prohibited to possess or consume alcohol on any National Wildlife Refuge, other than Midway Atoll in accordance with refuge regulations. Any violations will result in immediate removal of the offender from the Monument at the individual's own cost. Offenders may not be readmitted to the Monument.
17. All persons entering the Monument under the authority of this permit are responsible for the cost of removing themselves from the Monument at the conclusion of the term of the permit or upon revocation or suspension of the permit. All such persons are also responsible for the cost of removing themselves from the Monument in the event of a necessary medical evacuation, emergency evacuation, including weather, or for the cost of any necessary search and rescue operation.
18. Except as expressly required by applicable law, the Co-Trustees are not liable for any damages to equipment or injuries to the permittee and persons entering the Monument under the authority of this permit. The permittee and any person entering the Monument under the authority of this permit shall release, indemnify, and hold harmless the National Oceanic and Atmospheric Administration, the Department of Commerce, the U.S. Fish and Wildlife Service, the Department of the Interior, the United States Government, the State of Hawai'i, and their respective employees and agents acting within the scope of their duties from and against any claims, demands, actions, liens, rights, subrogated or contribution interests, debts, liabilities, judgments, costs, and attorney's fees, arising out of, claimed on account of, or in any manner predicated upon the issuance of this permit or the entry into or habitation upon the Monument or as the result of any action of the permittee or persons participating in the activity authorized by this permit. In the event that a government employee, acting in his official capacity, is the permittee, or is entering the Monument under the authority of this permit, then he shall be subject to all applicable federal and State laws that pertain to claims by or against him predicated upon the issuance of this permit or entry into or habitation upon the Monument.
19. Monument managers or their designees may verbally require the permittee to modify or cease activities not identified in this permit if, in the opinion of the managers or designees, such action is necessary to limit disturbance to or protect Monument resources, to protect government equipment, or to ensure the safety of personnel. After providing such verbal instructions, the managers or designees will provide the permittee with a written modification, suspension or revocation to this permit at the earliest practicable opportunity. The failure to follow verbal instructions or modified permit terms, or to cease activities upon suspension or

revocation of this permit, may constitute a violation of this permit, the Proclamation, the regulations, or other applicable law.

20. Disturbance of any cultural or historic property, including but not limited to Native Hawaiian cultural sites, burials, archaeological deposits, and WWII structures and features, such as stone walls and mounds, stone uprights, bunkers, batteries, camp sites, hospitals, housing areas, and radio towers; or the disturbance or collection of any historic or cultural materials and artifacts, including but not limited to bottles, dishes, cartridges, hospital materials, carvings, human remains, or Native Hawaiian bone or stone implements, found within the Monument, including the sale or trade in such items, is prohibited.
21. All Monument resources within the jurisdiction of the State of Hawai‘i are held in trust under the Hawai‘i State Constitution, Article XI, Sec. 1. The State of Hawai‘i and the Government of the United States reserve ownership or control, as the case may be, of Monument resources, both living and nonliving, that may be taken or derived from those found in the Monument.
22. The permittee must satisfy the following reporting requirements:
 - a. For activities on State lands or within State waters, the permittee must submit a monthly report on the specified form.
 - b. The permittee must maintain a cruise log including, but not limited to: anchoring locations and small boat dive locations. The log must contain a description of cruise activities and the geographic locations of those activities. Within thirty (30) days after the end of the cruise or the expiration date of this permit, the permittee must submit the cruise log and a summary report of activities conducted under this permit. The permittee having authority over the vessel must maintain a vessel discharge log, which must be submitted with the cruise log.
 - c. Annual Report. The comprehensive annual report is a summary of all activities undertaken, including but not limited to: dates of all arrivals and departures from islands and atolls within the Monument, names of all persons involved in permitted activities, details of all specimens collected, handled, etc., any other pertinent information, GPS locations of all samples collected, transects, etc., results of work to date, copy of all data collected, and a proposed schedule of publication or production of final work. The report shall include a concise summary or abstract for use in Monument reports. Two hard copies and one electronic copy (Microsoft Word preferred, but not required), must be submitted to the Co-Trustees. The annual report is due by the end of the second week of January of the calendar year that follows the year that the permit was in effect or before a new permit is issued, whichever comes first. Subsequent annual reports are required each year until all data collected under research permits are fully analyzed.

- d. The permittee must debrief the Co-Trustees following the completion of all activities in the Monument covered under this permit. The permittee must schedule the debriefing upon submitting the annual report.
 - e. The permittee must submit two copies of any article, publication, or other product created as a result of the information gained or work completed under this permit, including materials generated at any time in the future following expiration of this permit.
 - f. Any publications and/or reports resulting from activities conducted under the authority of this permit must include the notation that the activity was conducted under permit number PMNM-200x-xxx. This requirement does not apply to publications or reports produced by the news media.
 - g. All required submissions (including plans, logs, reports, and publications) shall be provided to the Monument official at the address indicated in General Condition #1.
23. All data acquired or created in conjunction with this permit will be submitted with the summary report, and annual report. Photographic and video material is considered data. The permittee retains ownership of any data, (including but not limited to any photographic or video material), derivative analyses, or other work product, or other copyrightable works, but the Federal Government and the State of Hawai'i retain a lifetime, non-exclusive, worldwide, royalty-free license to use the same for government purposes, including copying and dissemination, and making derivative works. The permittee will receive acknowledgment as to its ownership of the data in all future use. This requirement does not apply to data acquired or created by the news media.
24. Because photographic or video material that is created for personal use (i.e., not specifically acquired or created in conjunction with this permit) could unintentionally collect data that is also valuable for management purposes, the Co-Trustees reserve the right to request copies of any such material and the permittee agrees to provide a copy of such material within a reasonable time. The Co-Trustees may use such material for management purposes.
25. Any question of interpretation of any term or condition of this permit will be resolved by the Co-Trustees.

Laura H. Thielen

Date

Chairperson

Department of Land and Natural Resources

State of Hawaii

T. 'Aulani Wilhelm
Superintendent
National Oceanic and Atmospheric Administration
Papahānaumokuākea Marine National Monument

Date

Susan White
Superintendent
U.S. Fish and Wildlife Service
Papahānaumokuākea Marine National Monument

Date

**Disease and Introduced Species Prevention Protocol
for Permitted Activities in the Marine Environment
Papahānaumokuākea Marine National Monument (Monument)¹**

I. Equipment and Dive Gear Disinfection

Equipment and gear is treated according to three levels that correspond to the potential for the spread of disease and/or introduced species.

General points applicable to all the levels and acceptable disinfection solutions are listed in part D.

A. Level One: Equipment in direct contact with diseased coral tissue or other diseased organisms

- Equipment: includes gloves, chisels, forceps, drill bits, shears, clippers, and spear tips, etc.
- Multiple sets of equipment: Use a disinfected set of equipment for diseased organisms and another disinfected set of equipment for non-diseased organisms at each dive site.
- Disinfect between uses: Use a disinfected set of equipment at each dive site.
- Disinfection method: 1) Remove any organic matter from the equipment. 2) Soak equipment for a minimum of ten minutes in a 1:32 dilution of commercial bleach in freshwater (1/2 cup bleach per gallon of freshwater), yielding a 1000 ppm dilution of sodium hypochlorite, or 3% free chlorine solution.
- Secure all samples: Seal all samples in bags or jars under water and place sample bags and jars in secure holding container.

B. Level Two: Benthic equipment not used to sample diseased coral tissue or other diseased organisms

- Benthic equipment: includes equipment that may contact the benthos such as reels, tape measures, goodie bags, transect lines, etc.
- Disinfect between sites: Use a disinfected set of equipment at each dive site.
- Disinfect equipment: 1) Remove any organic matter from the equipment. 2) Soak and or wipe equipment as specified for equipment type, below. See list of acceptable disinfection solutions in part D.

1. Non-porous equipment must be wiped and/or soaked. If wiping, use wipes in which the active ingredient is a quaternary ammonium compound (QAC). Acceptable wipes include Clorox® wipes or Lysol® wipes. If

¹ This protocol and a companion document, "Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment of the Papahānaumokuākea Marine National Monument Explanation," were accepted at the April 9, 2007 Monument Management Board Meeting.

soaking, soak for a minimum of ten minutes in an acceptable disinfectant solution.

2. Porous equipment must be soaked for a minimum of ten minutes in an acceptable disinfectant solution.

C. Level Three: All dive gear used in the Monument

- Dive gear includes any wetsuit, mask, fin, snorkel, BC, regulator, weight belt, booties, etc.
- Disinfect dive gear daily (if used): 1) Remove any organic matter. 2) Disinfect by submerging for a minimum of ten minutes in an acceptable disinfection solution, followed by a thorough fresh water rinse, and hanging to dry.
- Rinse after disinfection: Rinse all gear in close proximity to the face or skin, e.g. masks, regulators, gloves, etc. with potable water following disinfection.

D. General points applicable to all three levels

- Disinfect any equipment and gear at least daily if used. Also, only disinfected equipment and gear may be transported either direction between the Monument and the main Hawaiian islands or other point of origin/destination.
- Dispose of organic matter, used disinfection solution, and rinse according to the ship's solid waste disposal or other approved secure holding system.
- Acceptable Disinfection Solutions:
 1. Levels One, Two, and Three: a 1:32 dilution of commercial bleach in freshwater (1/2 cup bleach per gallon of freshwater), yielding a 1000 ppm dilution of sodium hypochlorite, or 3% free chlorine solution; and
 2. Levels Two and Three: For dive gear and level two equipment, the manufacturer's recommended disinfection strength dilution of QACs in "soft" (low concentration of calcium or magnesium ions) fresh water. An example of an acceptable QAC solution is Lysol® All Purpose Cleaner in a 6.6% Lysol in water dilution.
- Rinse after disinfection: All gear in close proximity to the face or skin, e.g. masks, regulators, gloves, should be rinsed with potable water following disinfection.

II. Cleaning Tender Vessels

- At least daily if tender vessel if used, inspect for and remove for any algal fragments or other organisms (dispose of organic matter and used solution according to the ship's solid waste disposal or other approved secure holding system).

- Rinse tender vessel internal and external surfaces with fresh water between islands, including during transits in either direction between the Monument and the main Hawaiian islands or other point of origin/destination.
- Allow tender vessel to dry before redeployment.

III. Disinfection of Shipboard Wet Laboratory

- At least daily if used, disinfect entire laboratory, including sinks, countertops, walls, doors, and floors.
- Acceptable Disinfection Solutions and Wipes:
 1. a 1:32 dilution of commercial bleach in freshwater (1/2 cup bleach per gallon of freshwater), yielding a 1000 ppm dilution of sodium hypochlorite, or 3% free chlorine solution;
 2. the manufacturer's recommended disinfection strength dilution of QACs in "soft" (low concentration of calcium or magnesium ions) fresh water. An example of an acceptable QAC solution is Lysol® All Purpose Cleaner in a 6.6% Lysol in water dilution. Also, commercially available wipes containing QACs (e.g. Clorox® wipes, Lysol® wipes) are acceptable; and
 3. 70-80% ethanol.
- Dispose of all materials generated during cleaning according to the ship's solid disposal or other secure holding system.
- The laboratory must be clean between islands, including during transits in either direction between the Monument and the main Hawaiian islands.

**Disease and Introduced Species Prevention Protocol
for Permitted Activities in the Marine Environment
Papahānaumokuākea Marine National Monument¹
Explanation**

I. Background and Context for Protocol

The Co-Trustees of the Papahānaumokuākea Marine National Monument (Monument) (State of Hawaii, Department of the Interior - Fish and Wildlife Service and the Department of Commerce - National Oceanic and Atmospheric Administration) recognize the importance of preventing any transmission of disease or introduction of species to the ecosystems of the Monument. Although protocols for cleaning equipment, ship laboratories, and vessels have been implemented, the Co-Trustees have determined that a standard protocol that would require specific cleaning and disinfecting methods would be advisable to protect against the likelihood of transmission. To this end, the Co-Trustees collaborated to develop the Disease and Introduced Species Prevention Protocol. This protocol will apply to Monument-permitted activities that include diving and the use of ship laboratories and tender vessels. The protocol is precautionary in its approach, wherein cleaning and disinfection requirements are commensurate with the potential for transmission.

The result of the collaboration, research, vetting, and revision is a protocol that adopts a precautionary approach to preventing the spread of disease and introduced species to or from the Monument. For example, there are three levels of disinfection for equipment and gear that correspond to the likelihood and potential risk of transmission. For example, in this approach, equipment that directly contacts diseased coral would be cleaned differently than equipment that contacts no coral. In implementing this precautionary approach, only the appropriate amount of cleaning agents (chemicals) is required and wear on equipment is minimized.

This protocol is not meant to apply to coral disease outbreaks (other protocols have been implemented in areas of the world where these outbreaks have occurred); coral disease outbreak protocols should be considered separately.

This protocol may be amended as more information becomes available regarding the efficacies of the treatment of dive gear, equipment, etc., as well as the modes of infection and transmission of disease and introduced species and other relevant information. To this end, this protocol should be reviewed at least annually.

¹ This document provides background for the “Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment of the Papahānaumokuākea Marine National Monument” (protocol). This document and the protocol were accepted at the April 9, 2007 Monument Management Board Meeting.

II. Investigation of Potential Disinfectants

Numerous chemicals were considered in our discussions of common disinfectants used in laboratory and scientific situations. After an initial brainstorming session to identify potential disinfectants, the group proceeded to investigate each likely candidate. The primary factor the group considered in the investigations of potential disinfectants was the efficacy of the disinfectant against bacteria and viruses. Other factors considered were: potential irritation to human skin and/or eyes; corrosiveness and subsequent potential damage to SCUBA-diving equipment and field gear, particularly critical life-support equipment such as regulators; ease of procurement and use; monetary cost of disinfection; feasibility of use in field situations, including aboard ships and small boats; and feasibility in terms of compliance with Monument regulations.

A. *Alcohols*

Pros:

- Effective disinfectants when used in 70-85% strength solutions¹

Cons:

- Relatively expensive
- Transporting large quantities of alcohol is dangerous due to its flammability
- Should not be used in closed areas due to the fire hazard
- Irritant to eyes and tissue⁴

Recommendation:

Alcohol may be an appropriate solution for rapid decontamination of small objects, but is not recommended as a disinfectant of dive gear.

B. *Phenols*

Pros:

- Effective disinfectant in the presence of organic material
- Low to moderate cost⁴

Cons:

- Ineffective against non-enveloped viruses and spores
- Corrosive
- Irritant to skin, eyes, and respiratory tract

Recommendation:

Not recommended as a disinfectant of dive gear.

C. *Iodine/Iodophor compounds*

Pros:

- Effective disinfectants - more effective than bleach in terms of sporicidal activity⁴
- Moderate in cost

Cons:

- Inactivated by organic materials
- Stains fabrics⁴

- Corrosive – known to break down rubber components of dive gear⁶
- Irritant to skin, eyes, and respiratory tract^{1,4}

Recommendation:

Not recommended as a disinfectant of dive gear.

D. *Chlorhexidine (biguanide compounds)*

Pros:

- Relatively non-irritating to tissues
- Low in cost

Cons:

- Less effective against bacteria, viruses, and fungi than other disinfectants⁴
- Extended contact time for effective disinfection required⁴
- Inactivated by hard or alkaline water

Recommendation:

Not recommended as a disinfectant of dive gear.

E. *Aldehydes (i.e. gluteraldehyde and formaldehyde)*

Pros:

- Extremely effective disinfectants
- Effective in the presence of organic materials⁴

Cons:

- Expensive
- Highly toxic to humans⁴
- Irritant to skin, eyes, and respiratory tract⁴

Recommendation:

Not recommended as a disinfectant of dive gear.

F. *Bleach (Sodium hypochlorite compounds)*

Pros:

- Extremely effective disinfectant
- Low in cost⁴

Cons:

- Corrosive – corrodes metals and deteriorates fabric⁴
- Irritant to skin and eyes
- Vapors are harmful to breathe^{1,3}
- Organic materials inactivate bleach - gear must be cleaned of organic matter before disinfection

Recommendation:

Bleach may be used for disinfection, but with caution. QACs (see below) are preferred for use with life-support gear, due to (their non-irritant and non-corrosive nature) corrosivity concerns.

G. *Quaternary ammonium compounds (contain NH₄)*

Pros:

- Wide germicidal range
- Low in cost^{1,4}
- Non-corrosive - will not damage lenses, plastics, rubber, or metal surfaces⁶
- Non-irritating to the skin, eyes, or respiratory tract
- Odorless¹

Cons:

- Inactivated by organic material - gear must be cleaned of organic matter before disinfection
- Efficacy limited by soaps and extremely hard water⁴
- Ineffective against non-enveloped viruses, spores, and fungi

Recommendation:

Quaternary ammonium compounds (QACs) are recommended as the disinfectant of choice for dive gear as long as appropriate precautions are used (cleaning of organic material, no mixing with soap or hard water salts). Based on information from the Navy and the Divers Alert Network, QACs are also recommended by UnderWater Commercial Diving Magazine as disinfectants.⁶

Note:

QACs are often listed on labels as a form of ammonium chloride, preceded by one of the following: alkyl aryl, benzyl, didecyl, ethylbenzyl, octyl, or a combination thereof. Commercial preparations of QACs intended for dive gear sterilization are available, such as SaniZide Plus, Advance TBE, and Confidence Plus.⁶ Laboratory sources of QACs include Roccal, Quats, Lysoquat, Multi-Quat, TKO, Utmost, D-128 and Zephiran. These are generally used in 0.1-2.0% dilutions. Lysol All Purpose Cleaner® (containing n-alkyl dimethyl benzyl ammonium chloride), utilized in 6.6%, 1.7%, or 0.86% strength, was equally effective in all dilutions at eliminating >99.9% of *Staphylococcus* bacteria.³

H. *Fresh Water and Drying Alone*

Pros:

- Fresh water rinse, followed by 18 hours of dry time, is extremely effective in reducing concentrations of coral disease-causing organisms on diver wetsuit material
- Fresh water is a successful method for killing invertebrate larvae and bursts the cells of marine dwelling algae and sponges by osmotic shock^{2,5}

Cons:

- Fresh water rinse, with one hour of drying time, has very limited efficacy in disinfection
- Fresh water rinse, followed by 18 hours of dry time, is not effective in reducing concentrations of human-disease causing *Staphylococcus* on diver wetsuit material³
- The 18 hours of drying time needed for effective disinfection is not feasible in shipboard diving situations

Recommendation:

Fresh water rinsing and drying is not recommended as an effective strategy against disease-causing organisms (due to the drying time needed), but is considered a useful strategy for control of alien species.

III. Protocol Explanation

A. Equipment and Dive Gear Disinfection

The following is a detailed explanation for the three tier approach to cleaning equipment and dive gear:

1. Level One: Equipment in direct contact with diseased coral tissue or other diseased organisms

First level equipment is equipment that is considered most likely to potentially contribute to the spread of disease between reefs or sites because this equipment directly contacts diseased coral tissue. Therefore, very stringent protocols are recommended for first level equipment. This protocol requires two sets of clean equipment (one set for healthy corals, and one set for diseased corals) to be carried and employed if sampling diseased or healthy coral on any given dive. This will prevent the likelihood that disease could spread between corals from sampling with the same equipment on any one dive. Sampling equipment must be thoroughly cleaned and disinfected or a new set of clean gear must be used on any subsequent dive. Furthermore, all samples must be sealed in bags or jars before surfacing (under water) and placed in a secure secondary-containment vessel in the small boat.

The protocol requires physical removal of any organic matter from the equipment, followed by a chemical cleaning for disinfection. Physical cleaning is required because organic matter may limit the efficacy of bleach solutions.⁴ Disinfection is achieved by soaking gear for ten minutes in a 1:32 dilution of commercial bleach in freshwater (1/2 cup bleach per gallon of freshwater), yielding a 1000 ppm dilution of sodium hypochlorite, or 3% free chlorine solution.

This disinfection methods achieve >99.9% elimination of disease-causing bacteria. Fresh disinfection solutions are required to be prepared at least once per day and transported safely aboard small boats in an enclosed container. All used disinfection solutions and any disinfection wipes used to remove organic matter must be disposed of properly and in accordance with Monument regulations and the ship's marine sewage disposal system requirements.

2. Level Two: Benthic equipment not used to sample diseased coral or other diseased organisms

Second level benthic equipment is equipment that is likely to contact the benthos, and was assessed to be of very low risk for disease transmission, and of moderate risk for

introduction of species. As a general best practice, wherever possible, SCUBA divers place benthic equipment on bare rock or sand, avoiding any contact with live corals. Occasionally, however, second level equipment contacts live coral. For example, transect lines sometimes contact live coral. As this equipment is unlikely to contact diseased corals (the incidence of diseased corals on reefs of the Monument is generally very low (prevalence: $0.38 \pm 0.07\%$; mean \pm stder; range = 0-3.38%⁷), and many lesions are generally observable with the naked eye, so equipment contact with diseased corals can be avoided), the protocol requires a level of treatment that is appropriate to achieve disinfection.

Second level equipment must be either wiped or soaked between dives and at the end of each dive day. Second level equipment that is porous, such as goodie bags, must be soaked. Second level nonporous equipment, such as clipboards, may be either soaked or wiped. To achieve a proper soak, the equipment must be submerged in the disinfection solution for a minimum of 10 minutes. Acceptable disinfectants include:

- a solution of the manufacturer's recommended disinfection strength dilution of QACs in "soft" (low concentration of calcium or magnesium ions) fresh water. (Lysol All Purpose Cleaner® in a 6.6% Lysol in water dilution is an appropriate disinfection solution); and
- wipes in which the active ingredient is QACs (e.g., Clorox® wipes or Lysol® wipes).

As cleaning is required at conclusion of each dive day (see below), and transit between atolls is accomplished at night, the protocol will ensure that gear is clean upon arrival to a new island or atoll.

3. Level Three: All dive gear used in the Monument

Third level dive gear is gear that is exceedingly unlikely to make contact with corals. This gear was assessed as a very low risk in terms of disease transmission or introduction of species. As such, this gear is not required to be treated between dive sites if the dives occur within the same day, but must be treated at the end of each dive day. Each dive day, this gear is required to be inspected for any organic matter and all organic matter removed, followed by disinfection and hanging to dry. Any organic matter removed must be disposed of in accordance with Monument regulations and the ship's marine sewage disposal system requirements. Acceptable disinfection solutions include:

- a 1:32 dilution of commercial bleach in freshwater (1/2 cup bleach per gallon of freshwater), yielding a 1000 ppm dilution of sodium hypochlorite, or 3% free chlorine solution; and
- the manufacturer's recommended disinfection strength dilution of QACs in "soft" (low concentration of calcium or magnesium ions) fresh water. (Lysol All Purpose Cleaner® in a 6.6% Lysol in water dilution is an appropriate disinfection solution).

- All gear in close proximity to the face or skin, e.g. masks, regulators, gloves, should be thoroughly rinsed with potable water following disinfection.³

While bleach may be used for disinfection of sampling equipment, QACs are the recommended disinfectant for third-level gear, as it is gear that is likely to contact human skin. As stated above, QACs at the manufacturer's recommended disinfection concentrations are considered neither corrosive nor damaging to gear, nor irritating to human skin, eyes, or respiratory tract.

B. Cleaning Tender Vessels

Tender vessels were assessed to be extremely unlikely vectors for transport of disease organisms. Tenders are hauled aboard the ship daily, rinsed with fresh water and dried between dive days. Drying of this nature was found to be as effective as bleach in the destruction of *Serratia marcescens*, a coral disease-causing pathogen.³ To prevent the spread of introduced species (alien algae or other species), the protocol requires all tender vessels used in any given day to be inspected for organic matter and all organic matter removed. After inspection, the vessels must be rinsed with fresh water and allowed to dry. Any organic matter removed must be disposed of in accordance with Monument regulations and the ship's marine sewage disposal system requirements.

C. Disinfection of Shipboard Wet Laboratory

The protocol requires shipboard wet laboratories to be disinfected (if they have been used) at least daily or when moving between islands/atolls. Use, refers to all practices and procedures occurring in the laboratory space involving sampling tools and equipment, dive gear, as well as live and/or non-fixed biological specimens, utilized for marine field data acquisition. As the wet laboratories are enclosed spaces, QACs are recommended for this cleaning in order to avoid potential health effects associated with the inhalation of bleach fumes. The protocol allows hard, non-porous surfaces to be cleaned by wiping with disinfecting wipes (e.g., Clorox® wipes, Lysol® wipes). Porous laboratory gear must be soaked, and floors, walls, and other surfaces may be cleaned with the following acceptable disinfectant solutions:

- a 1:32 dilution of commercial bleach in freshwater (1/2 cup bleach per gallon of freshwater), yielding a 1000 ppm dilution of sodium hypochlorite, or 3% free chlorine solution;
- QACs (e.g. 6.6% Lysol Disinfectant All Purpose Cleaner® in fresh water) in fresh water; and
- 70-80% ethanol.

A QAC dilution (as detailed above) may be used for mopping the floor, or soaking non-porous laboratory gear for a minimum of ten minutes. Any organic matter removed from laboratory equipment and refuse from disinfection must be disposed of in accordance with Monument regulations and the ship's marine sewage disposal system requirements.

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