

Papahānaumokuākea Marine National Monument
EDUCATION Permit Application

NOTE: *This Permit Application (and associated Instructions) are to propose activities to be conducted in the Papahānaumokuākea Marine National Monument. The Co-Trustees are required to determine that issuing the requested permit is compatible with the findings of Presidential Proclamation 8031. Within this Application, provide all information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Papahānaumokuākea Marine National Monument (Monument).*

ADDITIONAL IMPORTANT INFORMATION:

- Any or all of the information within this application may be posted to the Monument website informing the public on projects proposed to occur in the Monument.
- In addition to the permit application, the Applicant must either download the Monument Compliance Information Sheet from the Monument website OR request a hard copy from the Monument Permit Coordinator (contact information below). The Monument Compliance Information Sheet must be submitted to the Monument Permit Coordinator after initial application consultation.
- Issuance of a Monument permit is dependent upon the completion and review of the application and Compliance Information Sheet.

INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED

Send Permit Applications to:
NOAA/Inouye Regional Center
NOS/ONMS/PMNM/Attn: Permit Coordinator
1845 Wasp Blvd, Building 176
Honolulu, HI 96818
nwhipermit@noaa.gov
PHONE: (808) 725-5800 FAX: (808) 455-3093

SUBMITTAL VIA ELECTRONIC MAIL IS PREFERRED BUT NOT REQUIRED. FOR ADDITIONAL SUBMITTAL INSTRUCTIONS, SEE THE LAST PAGE.

Papahānaumokuākea Marine National Monument Permit Application Cover Sheet

This Permit Application Cover Sheet is intended to provide summary information and status to the public on permit applications for activities proposed to be conducted in the Papahānaumokuākea Marine National Monument. While a permit application has been received, it has not been fully reviewed nor approved by the Monument Management Board to date. The Monument permit process also ensures that all environmental reviews are conducted prior to the issuance of a Monument permit.

Summary Information

Applicant Name: Timothy Brown

Affiliation: Aquarist; Mokupapapa Discovery Center, Papahānaumokuākea Marine National Monument

Permit Category: Education

Proposed Activity Dates: January 1, 2015 - December 31, 2015

Proposed Method of Entry (Vessel/Plane): Vessel and plane

Proposed Locations: Nihoa Island, Mokumanamana, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Laysan Island, Lisianski Island, Neva Shoal, Pearl and Hermes Atoll, Midway Atoll, and Kure Atoll

Estimated number of individuals (including Applicant) to be covered under this permit: 8

Estimated number of days in the Monument: 24

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...
involve the collection and removal of a limited number of target live fishes and corals from the Papahānaumokuākea Marine National Monument. These specimens will be collected with extreme care by trained and highly experienced professional biologists. Accidental by-catch and incidental mortalities will be avoided by targeting select specimens, and extreme care will be taken to not damage the habitat. It is the goal of Mokupapapa staff and PMNM field team to collect specimens and return them alive and in good condition to the Mokupapapa Discovery Center, where they will be maintained and put on public display in an exhibit highlighting the fauna and ecosystem of the Papahānaumokuākea Marine National Monument.

b.) To accomplish this activity we would
use SCUBA and snorkeling techniques within the Papahānaumokuākea Marine National Monument, specifically around the islands of Midway Atoll, French Frigate Shoals, Maro Reef, and Pearl and Hermes Atoll, but also including other islands/reefs

within the Monument. A small boat or vessel will be used to reach those few collecting sites where direct access from NOAA research ship Hi'ialakai is not possible. The target organisms will be collected by trained and experienced biologists using non-destructive and non-lethal collecting methods, namely handnets, barrier nets, geological picks, small hand tools, fishkeeps and other small collection containers. Specimens will be targeted individually to avoid the accidental capture or incidental mortality of unwanted specimens that can occur during non-targeted netting activities.

For fishes, to minimize post capture trauma, emphasis will be placed on collecting smaller, juvenile specimens so as to avoid the stress-related issues that sometimes occur with larger specimens during transportation and introduction to captivity. Additionally, this protocol aims to, whenever possible, avoid the removal of larger, reproductively mature animals from the population.

For corals, priority will be given to collecting fragments which have become detached naturally from parent colonies. Fragmentation of intact colonies will be undertaken only when naturally occurring fragments are not plentiful or available, and will be done with utmost care so as to minimize impact to the parent colony. Mokupapapa and PMNM field divers are highly experienced and extremely competent in this procedure and any deleterious effects from sampling will be minimal and short lived.

c.) This activity would help the Monument by ...

presenting a living reef habitat representative of that found in the Monument to our 60,000 visitors annually. Mokupapapa is the only public facet of the Papahānaumokuākea Marine National Monument and the aquarium exhibit is dynamic living tool to underline the education and conservation message of PMNM. The Center is free and open 5 days a week to the public with special educational programs for visiting school groups from pre-k through university level on an almost daily basis.

Visiting Mokupapapa results in increased public awareness, and detailed knowledge of the Monument. Furthermore, it will also give rise to an improved understanding of the unique nature of the marine faunas found there, and why it is so important to preserve and protect them.

Other information or background:

In 2003, the Mokupāpapa Discovery Center (MDC) was established to interpret the natural science, culture and history of the Northwestern Hawaiian Islands and surrounding marine environment. Since most people will never have the opportunity to visit these remote islands, our facility on the bayfront in Hilo, Hawai'i serves to "bring the place to the people" and spur greater public awareness of the region and ocean conservation issues.

Housed in Hilo's historic, century old Koehnen Building, Mokupāpapa features a 3,500 gallon saltwater aquarium, interactive educational exhibits, lifesize models of wildlife found in the Northwestern Hawaiian Islands, artwork inspired by those islands and Hawaiian culture, and many interpretive panels in both Hawaiian and English. The beauty of the historic Koehnen building has been preserved and refreshed to show off its majesty, including a koa wood staircase, Hawaiian hardwood floors, and high ceilings.

In our new facility, the nature and culture of the Northwestern Hawaiian Islands come alive as never before, transporting visitors to this remote ocean wilderness where predators rule the reefs, the skies teem with swooping, screeching seabirds, and the Native Hawaiian chanting of the Kumulipo (a Hawaiian creation chant) sets the mood for exploration and learning.

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Brown, Timothy, C

Title: Aquarist, Mokupapapa Discovery Center

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

Randall Kosaki, Ph.D.
Deputy Superintendent, Research and Field Operations
NOAA Papahānaumokuākea Marine National Monument



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

Phone:
Timothy Brown
Aquarist
Mokupapapa Discovery Center,
Papahanoumokuakea Marine National Monument



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

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

Mokupapapa Discovery Center,
Papahanoumokuakea Marine National Monument, NOAA

4. Additional persons to be covered by permit. List all personnel roles and names (if known at time of application) here (e.g. John Doe, Teacher; Jane Doe, Videographer):
Timothy Brown- Aquarium Biologist/Scientific Diver, NOAA affiliate
NOAA PMNM field team TBD: Randall Kosaki, Richard Pyle, Brian Greene, Robert Whitton, Jason Leonard, Brian Hauk, and Christian Clark.

Section B: Project Information

5a. Project location(s):

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

Ocean Based

Remaining ashore on any island or atoll (with the exception of Midway & Kure Atolls and Field Camp staff on other islands/atolls) between sunset and sunrise.

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

Location Description:

PMNM and NOAA affiliates will conduct SCUBA/snorkeling activities in various marine habitats from intertidal to <100 meters depth around the various project locations. Collaborative collecting efforts with additional Bishop Museum, FWS, NOAA staff, and other TBD collectors, may be necessary around the islands of the Monument

5b. Check all applicable regulated activities proposed to be conducted in the Monument:

- Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving Monument resource
- Drilling into, dredging, or otherwise altering the submerged lands other than by anchoring a vessel; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands
- Anchoring a vessel
- Deserting a vessel aground, at anchor, or adrift
- Discharging or depositing any material or matter into the Monument
- Touching coral, living or dead
- Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument
- Attracting any living Monument resource
- Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)
- Subsistence fishing (State waters only)

Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

6. Purpose/Need/Scope *State purpose of proposed activities:*

The Papahānaumokuākea Marine National Monument is the largest single area dedicated to conservation in the United States and is home to more than 7,000 marine species, a quarter of which are found nowhere else on Earth. The region holds the largest, healthiest, and most pristine coral reef system in the United States.

Its geographic remoteness and restrictions on public access mean that most people in their lifetime will not be able to visit the Papahānaumokuākea National Monument, and so will be unable to gain an appreciation for our country's largest Marine National Monument. At Mokupāpapa, the nature and culture of the Northwestern Hawaiian Islands come alive with detailed educational exhibits; transporting visitors to this remote ocean wilderness and utilizing a living coral reef display to bring the monument to the people.

To create an exhibit that represents the Monument accurately, certain signature species of fishes and invertebrates will need to be collected and transported back to Mokupāpapa Discovery Center for public display. These signature species are highly abundant around the NWHI, but are limited in numbers or totally absent around the Main Hawaiian Islands. As such, removal of a few specimens of these species from the Main Hawaiian Islands may mean extirpation from that habitat. In contrast, the collection of a limited number of specimens of these target species from the NWHI where they are abundant would be insignificant. It is on this reasoning that our request to collect from the NWHI is based.

*Considering the purpose of the proposed activities, do you intend to film / photograph federally protected species? Yes No

For a list of terrestrial species protected under the Endangered Species Act visit:

<http://www.fws.gov/angered/>

For a list of marine species protected under the Endangered Species Act visit:

<http://www.nmfs.noaa.gov/pr/species/esa/>

For information about species protected under the Marine Mammal Protection Act visit:

<http://www.nmfs.noaa.gov/pr/laws/mmpa/>

7. Answer the Findings below by providing information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Monument:

The Findings are as follows:

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

This activity will be conducted in a manner that does not impinge upon the cultural, natural and historical resources and ecological integrity of the Monument. Ultimately, this project will result in an increased attention and appreciation toward the cultural and natural resources and ecological integrity of the Monument. The living organisms collected during this activity will be displayed in the aquarium exhibit at Mokupapapa Discovery Center in Hilo, HI. In addition to experiencing a living visual underwater image of the Monument through this exhibit, guests will be presented with educational graphics and video presentations that discuss the resources and importance of the Monument.

The primary goal of Mokupapapa is to educate the public about the Monument. It is our goal to promote the cultural and natural resources and ecological aspects of the NWHI, and not detract from them. Of particular relevance in regard is our sampling time frame and ecologically sensitive protocols. Sampling will last no longer than is necessary to collect the desired species. Non-lethal and non-destructive capture methods will be used to ensure that only the targeted organisms are collected, and that these are treated with the greatest care possible. Care will be taken to ensure that the environment they are removed from is not harmed in the process. A small boat or vessel will be used to reach those few collecting sites where direct access from NOAA research ship Hi'ialakai is not possible. Only specimens which are easily replaced or can regrow in a minimal amount of time will be collected. Wherever possible, juvenile fishes will be collected, thereby avoiding the removal of larger, sexually mature specimens which help repopulate the reefs. Collected coral fragments will preferentially consist of naturally detached fragments; only if these are unavailable will small fragments be removed directly from parent colonies. Should fragment removal be necessary, it will be done in a manner that will not affect the long-term growth or wellbeing of the coral: PMNM field biologists are highly experienced divers in the NWHI coral reef environment. If coral fragments are taken directly from parent colonies, to minimize collection pressure on any single colony, several different colonies will be sampled. No activities will be performed in the vicinity of known shipwrecks or other cultural resources. If and such resources are discovered during the course of our activities, their location(s) will be noted and reported. Collection activities will cease immediately, and will be moved to another location.

b. How will the activity be conducted in a manner compatible with the management direction of this proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument cultural, natural and historic resources, qualities, and ecological integrity, any indirect, secondary, or cumulative effects of the activity, and the duration of such effects? Only the minimum number of target organisms (i.e. fishes and corals) necessary to achieve our goals will be removed, and no other organisms will be damaged or collected. Together with the careful, precise and ecologically-sensitive collection methods used by the experienced biologists involved, these actions will ensure that any

short term impact of removal will be minimal, and that long term impact will be undetectable. The protocols used in this project should ensure that there are no short term or long term effects on the cultural historic resources of the Monument, which will remain intact and essentially unchanged.

c. Is there a practicable alternative to conducting the activity within the Monument? If not, explain why your activities must be conducted in the Monument.

As noted in the Proclamation, the Monument is home to thousands of species, many of which may not be found anywhere else on Earth. This is true even between the Main Hawaiian Islands and the NWHI. The fish and coral species are listed on this permit application because they very rare or absent in the MHI but common or abundant in the NWHI. There is not a practicable alternative to collection from within the monument; removing a few live specimens from the populations of the NWHI, where these animals are relatively common, would have insignificant or undetectable impact to the ecosystem.

In contrast, these species even found only very rarely, if at all, in the Main Hawaiian Islands, and often this is from isolated sightings of individuals in remote or deep locations, and does not represent the large breeding populations found in the NWHI. If collection were even possible in the MHI, there would be an impact to local populations as these animals are very rare. The probability of rapid and successful population replenishment following removal of a small number of specimens is almost assured in the waters of the Monument, but highly uncertain in the waters of the Main Hawaiian Islands.

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

The minimal and brief effect this activity might have pales in comparison to the benefits brought to the Monument. Mokupapapa Discovery Center is the only public aspect of the Monument; and for visitors, being able to view a living part of the Monument in the aquarium exhibit makes a powerful and lasting impact. Having live animals that most people will never get to see in their lifetimes in their natural environment, separated from them by only a thin sheet of acrylic, is guaranteed to grab the viewer's attention and stimulate their interest. The public will develop an appreciation of the importance of the Papahānaumokuākea Marine National Monument and the need to preserve it for future generations.

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

Duration of the September NOAA Biogeographic cruise is from September 6- 30th. SCUBA collection operations will occur in the presence of a support vessel, often the main ship Hi'ialakai when able. GPS locations may be used to pinpoint areas previously surveyed and known to be home to the target fish and/or coral species. Previous experience from the PMNM field team in the NWHI will maximize the efficiency of the collection process and reduce the duration of the time needed within the Monument for collection purposes.

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

The PMNM field and research team is highly experienced in coral reef diving activities in and around the monument, and has provided support for previous fish and coral collection activities for such prestigious institutions as the Waikiki Aquarium. The aquarium exhibit at Mokupapapa in Hilo can provide a potential source of captive propagated corals to further conservation efforts such as coral reef renourishment, and a genetic depository for future coral research without increasing impact to wild coral populations within the monument

g. Provide information demonstrating that you have adequate financial resources available to conduct and complete the activity and mitigate any potential impacts resulting from its conduct. Funding is provided by NOAA PMNM

h. Explain how your methods and procedures are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument cultural, natural and historic resources, qualities, and ecological integrity.

The PMNM field team has seasoned field operational biologists who are extremely skilled in research diving in the NWHI- including organism collection. This wealth of experience and expertise enables them to use non-lethal and non-destructive fishing practices which ensure that the animals collected are treated with the greatest care possible and that the environment they are removed from is not harmed in the process.

A small boat or vessel will be used to reach collecting sites where direct access from NOAA research ship Hi'ialakai is not possible. The impact on the natural resources of the Monument will be minimized by selecting specimens which are easily replenished or can regrow with a minimal amount of time and/or energy. Juvenile fishes will be collected when possible, thus preventing the taking of larger, sexually mature specimens, whose reproductive efforts serve to replenish populations. When possible, collected coral fragments will consist of naturally detached fragments. When naturally occurring fragments are not available, small fragments may be removed directly from parent colonies, and if/when this is done, it will be in a manner that will not affect the long-term growth of the coral. If coral fragments are taken directly from parent colonies, several different colonies may be used to prevent any one coral from becoming too stressed. NOAA biologists are highly experienced and competent in this technique. The minimum number of organisms needed will be removed through this activity, and those that are removed will be selectively chosen, thereby avoiding the unnecessary physical damage and death that often occurs to specimens that are captured incidentally as bycatch. While a small number of natural resources (i.e. fishes and corals) will be removed from the Monument, the effect will be short term only; the lasting effect of their removal will be invisible and the cultural, natural and historic resources, and ecological integrity of the Monument will remain intact.

i. Has your vessel been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of Presidential Proclamation 8031?

NOAA vessels are equipped with the NOAA OLE Monitoring System

j. Demonstrate that 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 activity inappropriate.

8. Procedures/Methods:

Midway Atoll Collection Sites: NOAA staff

A small boat or vessel will be used to reach collecting sites where direct access from NOAA research ship Hi'ialakai is not possible. Extreme care will be taken to ensure ecologically or culturally sensitive areas are not disturbed during our activities.

Locations have been noted from previous diving where areas are known to contain desired specimens, this knowledge will reduce the amount of time spent in the water for collection purposes.

Non-destructive and non-lethal collection techniques will be used. Collecting tools including hand-nets, barrier nets, geological picks, small hand tools such as chisels and wire cutters, fish keeps, various small collecting containers, and mesh collection bags will be used for the collection of fish and corals. Fish will be placed in various keeps and will be gradually raised through the water column. Procedures with which field staff are experienced in will be used to acclimate fish from deeper locations to more shallow depths to prevent the onset of barotrauma. Fish will be temporarily fasted during shipboard transportation to clean out their digestive tract and facilitate the desired conditions for shipping to lessen the likelihood of water fouling during transit.

Fish and corals will be shipped via aircraft from Midway to Honolulu and on to Hilo. Fish will be packaged individually in bags about 1/3 full of seawater; while corall fragments may be packaged together or individually based on fragment size or species. Once placed in bags, all excess air will be removed from the bag and oxygen will be pumped into the bag until full. All fish will be double bagged and banded to prevent accidental puncture or collapse of the bag. Bags will then be placed into styrofoam boxes with plastic liners, and heat packs will be secured to the inside lids of the boxes (if necessary) to maintain proper temperatures within the boxes. The styrofoam boxes will be placed within cardboard boxes, sealed, and be ready for transit.

The number of coral fragments per bag will depend on the size and quantity of the fragments. Plastic strips will be wrapped around the corals to provide cushioning from the vibrations of transit and to prevent individual fragments from contacting each other. In addition, plastic strips will line the insides of each bag to further prevent damage to individual fragments and also to prevent puncturing of the bags. Corals will be bagged according to genus/species, with different corals being packaged separately. Sufficient seawater will be placed in each bag to cover the corals, then the excess air will be

removed and the bag refilled with oxygen until full. All corals will be double bagged and banded to prevent puncture or collapse of the bag. All bagged corals will be placed into styrofoam boxes with plastic liners, and heat packs will be secured to the inside lids of the boxes (if necessary) to maintain proper temperatures within the boxes. The styrofoam boxes will be placed within cardboard boxes, sealed, and be ready for transit.

Other islands/collection sites outside of the Midway Atoll waters:

NOAA staff and PMNM field team will be used to collect various fish/corals not found within the marine habitats surrounding Midway Atoll. Target species of coral include those which are uncommon or absent from the Main Hawaiian Islands, or those which cannot be visually identified and/or may represent new geographic records or new species. The priority will remain on collecting small (5-15 cm) naturally dislodged coral fragments of these corals. If fragments are to be taken directly from parent colonies, these fragments should be removed in a manner which is least invasive and minimizes the long term affect on the coral's growth. Only corals exhibiting excellent health characteristics will be collected. Coral which appears to be unhealthy will not be collected. Coral fragments can be brought to the water surface via collection bags or specialized keeps where they will then be maintained aboard the Hi'ialakai or other support vessels (TBD). Coral fragments will be placed into specialized holding tanks aboard the vessel.

Extreme care will be taken to follow the protocols established by the Monument concerning the discharge of water from these holding tanks/coolers. As such, holding systems are designed to be able to operate as closed, re-circulating systems with specialized filtration equipment to eliminate the need for a constant flow-through supply of fresh seawater and the subsequent outfall while within the monument.

To ensure the health of fish and coral fragments during shipboard transportation, special holding systems have been designed to maintain optimal water quality parameters. These include dedicated pumps to circulate the animal's seawater through filtration and temperature control equipment. Water changes will be necessary to dilute the accumulation of waste material within the animal's water but these will be greatly reduced through the use of foam fractionating filters and water quality assesments will determine the amount of water that actually needs to be replaced within this system. It is estimated that the total volume of the holding system will need to be replaced at least twice daily, depending on water quaity assessment and bio-load. Discharge water will drain into the ballast tanks (or other marine sanitation device) of the vessel during this time. Once outside the SPA's, an open, flow-through type circulation is preffered to use in conjunction with filtration equipment to ensure the dilution of organic waste products from fish respiration/excretion and thus optimal animal health.

The Mokupapapa aquarium biologist, a NOAA affiliate and experienced scientific diver, will assist with specimen collection and will personally transport the live animals back to Mokupapapa via air transit from Midway. These fish/corals would be prepared for shipping as described above. This would allow room for additional fish/corals to be collected on the return trip (if needed) and these specimens could be transported via

ship under the protocols of water exchanges described above utilizing these custom shipboard holding tanks.

Fish/corals will not be disposed of once collected and placed into holding aboard the vessel(s). Any fish/corals that become terminally stressed during transit, or which die, will be retained and properly quarantined/preserved as stated by guidelines set forth by the Monument. Diseased individuals will be removed from main holding system and placed in an ancillary quarantine system where treatment/medication will be determined according to symptoms. No animals, once collected and onboard ship, will be placed back into the ecosystem. PMNM field agents will work with Monument officials to ensure all fish and coral collection/transportation guidelines are met and followed.

NOTE: If land or marine archeological activities are involved, contact the Monument Permit Coordinator at the address on the general application form before proceeding.

9a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):

Common name:
Please see attached Species Collection List.

Scientific name:

& size of specimens:

Collection location:

Whole Organism Partial Organism

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

The intent of this project is to bring the specimens collected back to the Mokupapapa Discovery Center where they will be placed in dedicated quarantine systems and eventually on display. Once through the quarantine process and treated successfully for any diseases or ailments they might have, they will be placed in the 3,500 gallon Aquarium Exhibit.

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

Specimens will be kept alive while on the ship in holding systems and afterwards on Big Island in a 3500 gallon aquarium exhibit at Mokupapapa Discovery Center

- Specific site/location:
aquarium exhibit at Mokupapapa Discovery Center

- Is it an open or closed system? Open Closed

- Is there an outfall? Yes No

The outfall disposes of system water only during periodic scheduled water exchanges or flushing procedures. This discharge water enters a sanitary sewer line and does not flow untreated to the ocean.

- Will these organisms be housed with other organisms? If so, what are the other organisms?
Yes: other species of non-predatory reef organisms naturally co-habiting within their environment in the NWHI coral reefs but also commonly found in the MHI.

- Will organisms be released?

No

10. If applicable, how will the collected samples be transported out of the Monument?

Fish and corals will be carefully boxed then transported by plane out of Midway Atoll when possible. In addition to these fish and corals, some specimens may be transported via vessel (ie. Hi'ialakai) back to Honolulu. (see 8.Procedures/Methods for further details)

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

N/A

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

N/A

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

Mokupapapa Discovery Center is the direct means of applying the mission statement of the Monument to "Bring the place to the people". For its 60,000 (and growing) annual visitors, the experience of "seeing" a part of the Monument through the aquarium exhibit would do much more to interest and educate them than any book or video. Having live animals that most people will never get to see in their lifetimes in a naturalistic

environment, separated from them by only a thin sheet of acrylic, is guaranteed to grab guests' attention and stimulate their interest. The primary function of Mokupapapa is to increase public awareness of the Monument, and to educate the public of the importance of the Papahānaumokuākea Marine National Monument and the need to preserve it for future generations. Additionally, our education programs for school age children, which have permanent staff and continuous programs on Oahu, Kauai and Big Island, incorporate accurate scientific and cultural information about the Monument, while activities at Mokupapapa use the aquarium exhibit as a dynamic living tool to underline the education and conservation message. Mokupapapa Discovery Center recently celebrated its grand "Re-Opening" in a much larger location in Downtown Hilo this March with the unveiling of its new, larger aquarium exhibit.

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

Collecting gear would include, but not be exclusive to, SCUBA gear, monofilament handnets, monofilament barrier fence nets, mesh bags, hypodermic needles used for prevention of barotrauma in collected fish, various sized holding containers for fishes and coral, geological picks, and various hand held tools. Holding tanks may consist of collapsible "kiddie" pools modified to our uses, coolers, various water pumps and air pumps that may be portable or "fixed". Other specialized gear would be shipping materials to transport the organisms. These would be plastic bags of various sizes, insulated boxes consisting of styrofoam and cardboard, rubberbands, packing tape, and oxygen bottle(s).

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

N/A

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

N/A

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

<http://www.bigislandvideonews.com/2014/03/15/video-new-mokupapapa-discovery-center-opens/>

With knowledge of the penalties for false or incomplete statements, as provided by 18 U.S.C. 1001, and for perjury, as provided by 18 U.S.C. 1621, I hereby certify to the best of my abilities under penalty of perjury of that the information I have provided on this application form is true and correct. I agree that the Co-Trustees may post this application in its entirety on the Internet. I understand that the Co-Trustees will consider deleting all information that I have identified as “confidential” prior to posting the application.

Signature

Date

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

NOAA/Inouye Regional Center
NOS/ONMS/PMNM/Attn: Permit Coordinator
1845 Wasp Blvd, Building 176
Honolulu, HI 96818
FAX: (808) 455-3093

DID YOU INCLUDE THESE?

- Applicant CV/Resume/Biography
- Intended field Principal Investigator CV/Resume/Biography
- Electronic and Hard Copy of Application with Signature
- Statement of information you wish to be kept confidential
- Material Safety Data Sheets for Hazardous Materials